KHATOD® OPTOELECTRONIC

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EUROTRONIKS reserves the right to make changes at any time in order to supply the best products possible.

KHATOD® OPTOELECTRONIC

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STANDARD ON INQUIRY:

- Reverse polarity
- Led's terminals preformation
- Minor or major led's terminals lenght
- Plastic color
- Plastic material on specific
- Straight version
- Depht led's

CUSTOM PRODUCT = 0 COST

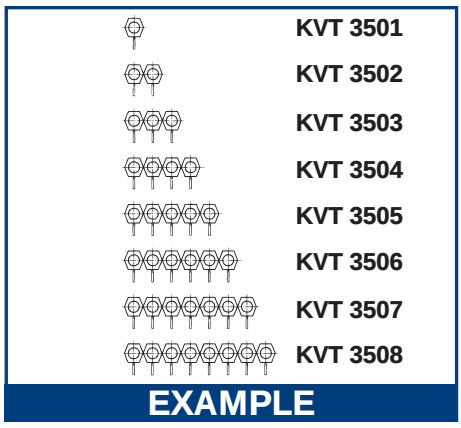
- Assure you the right partner in order to develop together new plans.

INSIDE THIS CATALOGUE is shown only the super-standard production.
A lot of 1.300 devices, which are not shown, are available on inquiry.

KHATOD® OPTOELECTRONIC

PLASTIC HOLDER, SEPARABLE ARRANGEABLE IN ROWS

AVAILABLE STRAIGHT VERSION



EXAMPLE



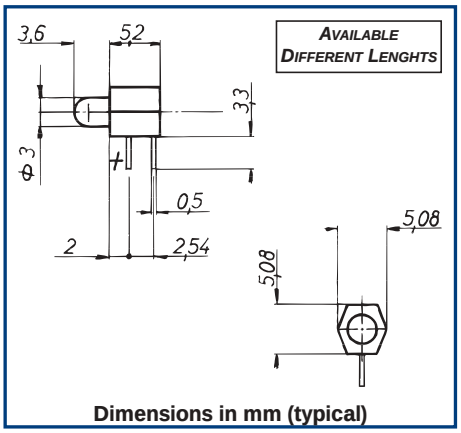
KVT 3508



KVT 3501

SERIES KVT 3501 — Ø 3 mm LED

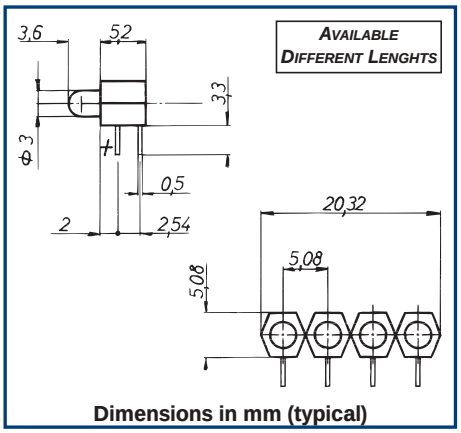
TYPE (1 LED)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KVT 3501 - R	RED	700	5	10	120	2,0	2,5		25
KVT 3501 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KVT 3501 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KVT 3501 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
KVT 3501 - B	RED/GREEN	625/565	12,5	20	120	2,0	2,5		25
KVT 3501 - I	IPER RED	660	100	20	120	1,85	2,5	+ 100	30
LOW CURRENT									
KVT 3501 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KVT 3501 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KVT 3501 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KVT 3501 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KVT 3504 — Ø 3 mm LED

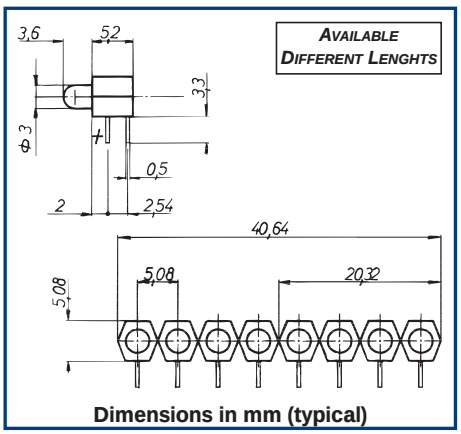
TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KVT 3504 - R	RED	700	5	10	120	2,0	2,5		25
KVT 3504 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KVT 3504 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KVT 3504 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
KVT 3504 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KVT 3504 - I	IPER RED	660	100	20	120	1,85	2,5	+ 100	30
KVT 3504 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
KVT 3504 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KVT 3504- YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KVT 3504 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KVT 3504 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KVT 3508 — Ø 3 mm LED

TYPE (8 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KVT 3508 - R	RED	700	5	10	120	2,0	2,5		25
KVT 3508 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KVT 3508 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KVT 3508 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
KVT 3508 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KVT 3508 - I	IPER RED	660	100	20	120	1,85	2,5	+ 100	30
KVT 3508 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
KVT 3508 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KVT 3508- YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KVT 3508 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KVT 3508 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

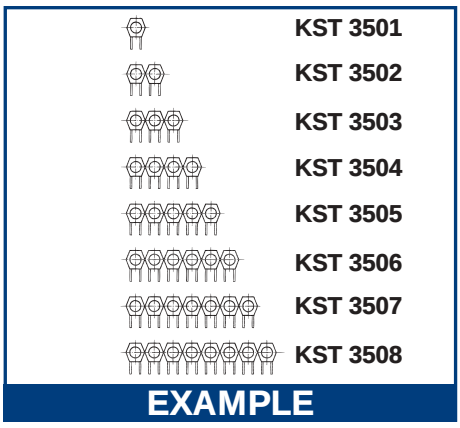
OPTIONS AVAILABLE

- 5V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST

KHATOD® OPTOELECTRONIC

PLASTIC HOLDER, SEPARABLE ARRANGEABLE IN ROWS

AVAILABLE STRAIGHT VERSION



EXAMPLE



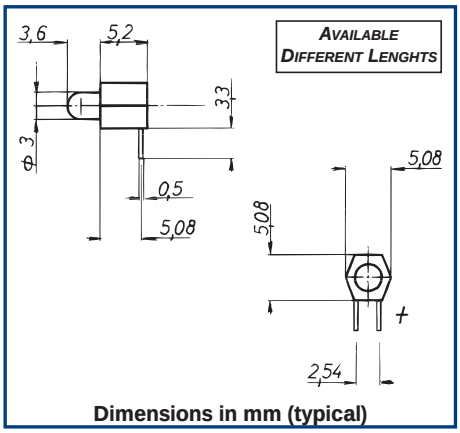
KST 3508



KST 3501

SERIES KST 3501 — Ø 3 mm LED

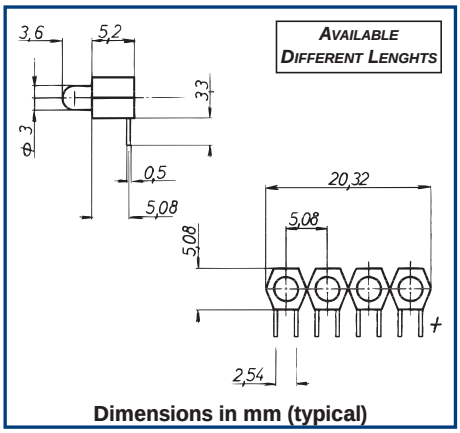
TYPE (1 LED)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KST 3501 - R	RED	700	5	10	120	2,0	2,5		25
KST 3501 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KST 3501 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KST 3501 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
KST 3501 - B	RED/GREEN	625/565	12,5	20	120	2,0	2,5		25
KST 3501 - I	IPER RED	660	100	20	120	1,85	2,5	+ 100	30
LOW CURRENT									
KST 3501 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KST 3501 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KST 3501 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KST 3501 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KST 3504 — Ø 3 mm LED

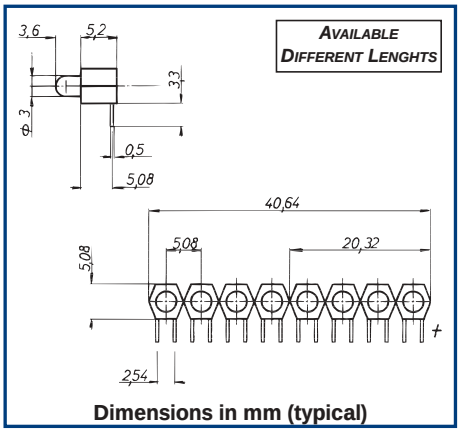
TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KST 3504 - R	RED	700	5	10	120	2,0	2,5		25
KST 3504 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KST 3504 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KST 3504 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
KST 3504 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KST 3504 - I	IPER RED	660	100	20	120	1,85	2,5	+ 100	30
KST 3504 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
KST 3504 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KST 3504- YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KST 3504 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KST 3504 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KST 3508 — Ø 3 mm LED

TYPE (8 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KST 3508 - R	RED	700	5	10	120	2,0	2,5		25
KST 3508 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KST 3508 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KST 3508 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
KST 3508 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KST 3508 - I	IPER RED	660	100	20	120	1,85	2,5	+ 100	30
KST 3508 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
KST 3508 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KST 3508- YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KST 3508 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KST 3508 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

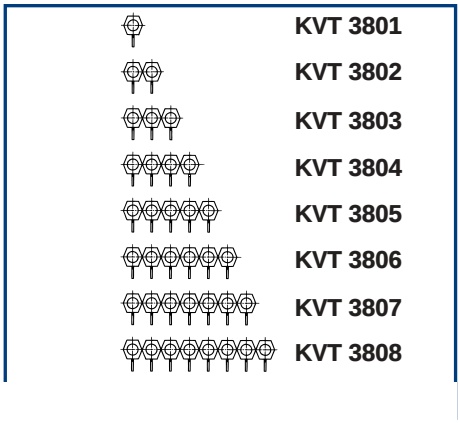
- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- 5V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST

PLASTIC HOLDER, SEPARABLE ARRANGEABLE IN ROWS

AVAILABLE STRAIGHT VERSION





KVT 3804

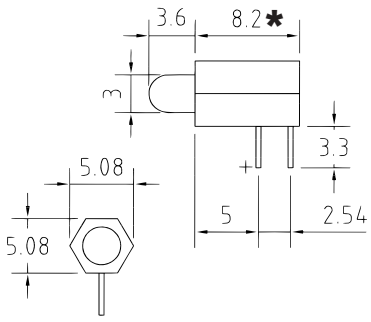


KVT 3801

SERIES KVT 3801 — Ø 3 mm LED

TYPE (1 LED)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KVT 3801 - R	RED	700	5	10	120	2,0	2,5		25
KVT 3801 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KVT 3801 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KVT 3801 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
KVT 3801 - B	RED/GREEN	625/565	12,5	20	120	2,0	2,5		25
KVT 3801 - I	IPER RED	660	100	20	120	1,85	2,5	+ 100	30
LOW CURRENT									
KVT 3801 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KVT 3801 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KVT 3801 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KVT 3801 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA

*** AVAILABLE DIFFERENT LENGHTS**

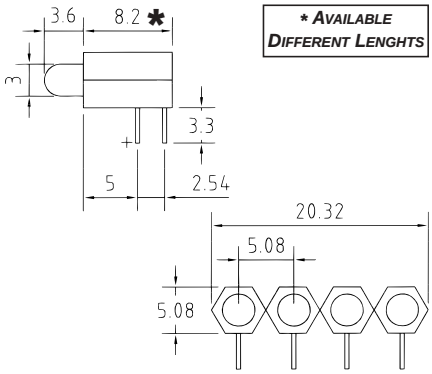


Dimensions in mm (typical)

SERIES KVT 3804 — Ø 3 mm LED

TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KVT 3804 - R	RED	700	5	10	120	2,0	2,5		25
KVT 3804 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KVT 3804 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KVT 3804 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
KVT 3804 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KVT 3804 - I	IPER RED	660	100	20	120	1,85	2,5	+ 100	30
KVT 3804 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
KVT 3804 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KVT 3804- YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KVT 3804 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KVT 3804 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA

*** AVAILABLE DIFFERENT LENGHTS**

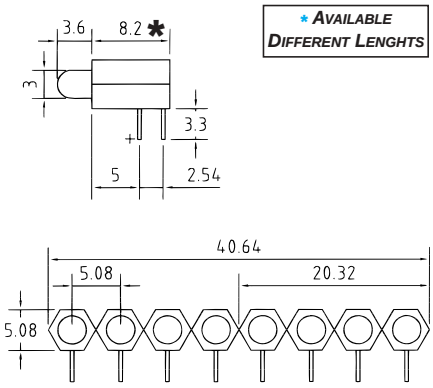


Dimensions in mm (typical)

SERIES KVT 3808 — Ø 3 mm LED

TYPE (8 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KVT 3808 - R	RED	700	5	10	120	2,0	2,5		25
KVT 3808 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KVT 3808 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KVT 3808 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
KVT 3808 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KVT 3808 - I	IPER RED	660	100	20	120	1,85	2,5	+ 100	30
KVT 3808 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
KVT 3808 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KVT 3808- YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KVT 3808 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KVT 3808 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA

*** AVAILABLE DIFFERENT LENGHTS**



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

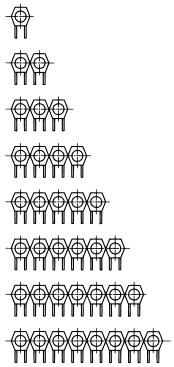
OPTIONS AVAILABLE

- 5V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST

KHATOD® OPTOELECTRONIC

PLASTIC HOLDER, SEPARABLE ARRANGEABLE IN ROWS

AVAILABLE STRAIGHT VERSION



KST 3801
KST 3802
KST 3803
KST 3804
KST 3805
KST 3806
KST 3807
KST 3808



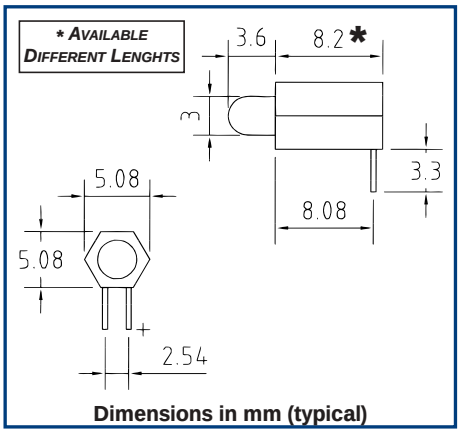
KST 3808



KST 3801

SERIES KST 3801 — Ø 3 mm LED

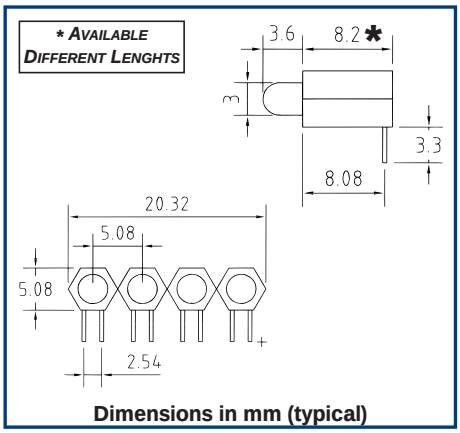
TYPE (1 LED)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KST 3801 - R	RED	700	5	10	120	2,0	2,5		25
KST 3801 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KST 3801 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KST 3801 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
KST 3801 - B	RED/GREEN	625/565	12,5	20	120	2,0	2,5		25
KST 3801 - I	IPER RED	660	100	20	120	1,85	2,5	+ 100	30
LOW CURRENT									
KST 3801 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KST 3801 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KST 3801 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KST 3801 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KST 3804 — Ø 3 mm LED

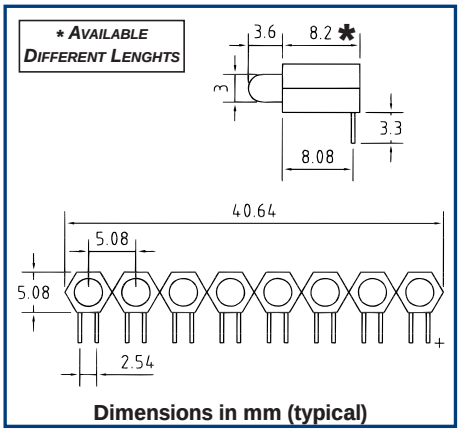
TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KST 3804 - R	RED	700	5	10	120	2,0	2,5		25
KST 3804 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KST 3804 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KST 3804 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
KST 3804 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KST 3804 - I	IPER RED	660	100	20	120	1,85	2,5	+ 100	30
KST 3804 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
KST 3804 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KST 3804- YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KST 3804 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KST 3804 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KST 3808 — Ø 3 mm LED

TYPE (8 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KST 3808 - R	RED	700	5	10	120	2,0	2,5		25
KST 3808 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KST 3808 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KST 3808 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
KST 3808 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KST 3808 - I	IPER RED	660	100	20	120	1,85	2,5	+ 100	30
KST 3808 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
KST 3808 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KST 3808- YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KST 3808 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KST 3808 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- 5V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST

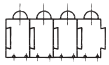
KHATOD® OPTOELECTRONIC

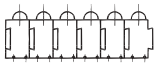
SNAP TOGETHER DESIGN

AVAILABLE STRAIGHT VERSION


KSM 3802


KSM 3803


KSM 3804


KSM 3806

EXAMPLE



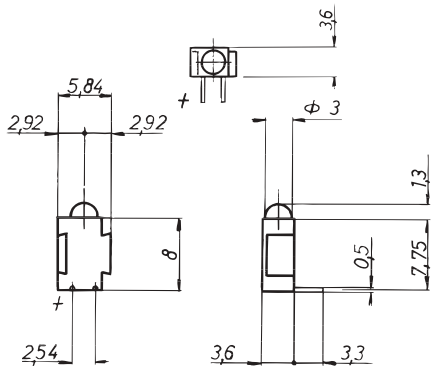
KSM 3804



KSM 380

SERIES KSM 380 — Ø 3 mm LED

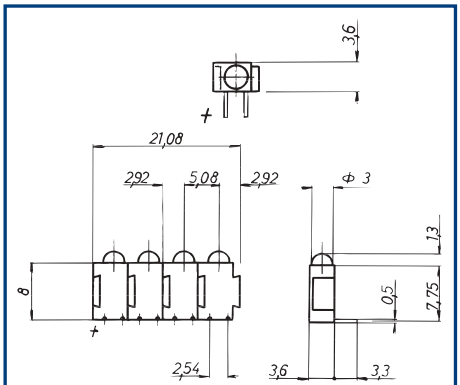
TYPE (1 LED)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KSM 380 - R	RED	700	5	10	120	2,0	2,5		25
KSM 380 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KSM 380 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KSM 380 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
KSM 380 - B	RED/GREEN	625/565	12,5	20	120	2,0	2,5		25
KSM 380 - I	IPER RED	660	100	20	120	1,85	2,5	+ 100	30
LOW CURRENT									
KSM 380 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KSM 380 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KSM 380 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KSM 380 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KSM 3804 — Ø 3 mm LED

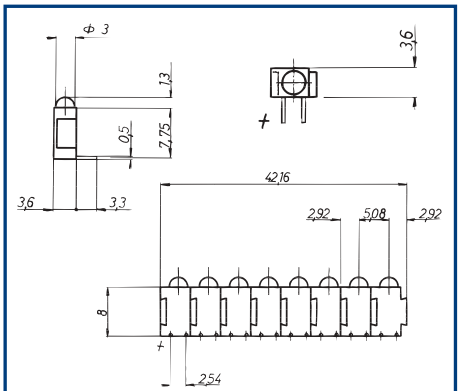
TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KSM 3804 - R	RED	700	5	10	120	2,0	2,5		25
KSM 3804 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KSM 3804 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KSM 3804 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
KSM 3804 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KSM 3804 - I	IPER RED	660	100	20	120	1,85	2,5	+ 100	30
KSM 3804 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
KSM 3804 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KSM 3804- YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KSM 3804 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KSM 3804 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KSM 3808 — Ø 3 mm LED

TYPE (8 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KSM 3808 - R	RED	700	5	10	120	2,0	2,5		25
KSM 3808 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KSM 3808 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KSM 3808 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
KSM 3808 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KSM 3808 - I	IPER RED	660	100	20	120	1,85	2,5	+ 100	30
KSM 3808 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
KSM 3808 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KSM 3808- YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KSM 3808 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KSM 3808 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- **HOUSING: BLACK, UL94 V-0**
- **SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.**
- **FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3**
- **CLIMATE: DIN 40040**
- **TERMINATIONS: □ 0,5 mm leads**
- **Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours**

OPTIONS AVAILABLE

- **5V & 12 V INTEGRATED RESISTOR**
- **BICOLOUR/TRICOLOUR & BIPOLAR**
- **BLUE OR WHITE LEDs**
- **ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS**
- **LED CASE: WATER CLEAR - TRANSPARENT - WHITE**
- **FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST**

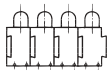
KHATOD® OPTOELECTRONIC

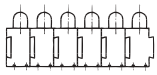
SNAP TOGETHER DESIGN

AVAILABLE STRAIGHT VERSION


KSM 382


KSM 383


KSM 384


KSM 386

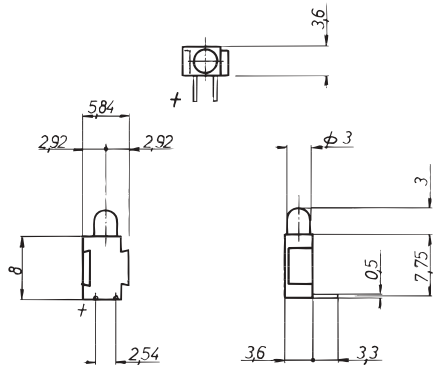
EXAMPLE


KSM 384


KSM 38

SERIES KSM 38 — Ø 3 mm LED

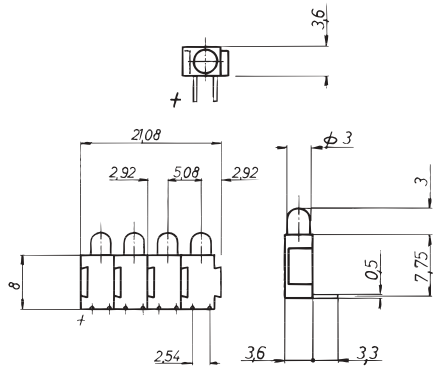
TYPE (1 LED)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KSM 38 - R	RED	700	5	10	120	2,0	2,5		25
KSM 38 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KSM 38 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KSM 38 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
KSM 38 - B	RED/GREEN	625/565	12,5	20	120	2,0	2,5		25
KSM 38 - I	IPER RED	660	100	20	120	1,85	2,5	+ 100	30
LOW CURRENT									
KSM 38 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KSM 38 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KSM 38 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KSM 38 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KSM 384 — Ø 3 mm LED

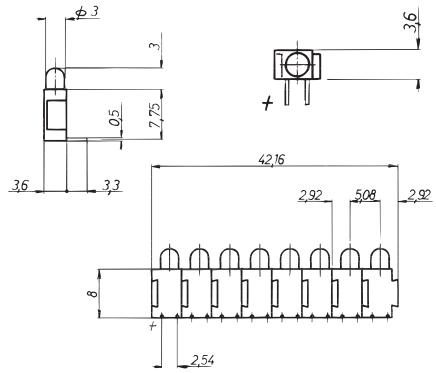
TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KSM 384 - R	RED	700	5	10	120	2,0	2,5		25
KSM 384 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KSM 384 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KSM 384 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
KSM 384 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KSM 384 - I	IPER RED	660	100	20	120	1,85	2,5	+ 100	30
KSM 384 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
KSM 384 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KSM 384- YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KSM 384 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KSM 384 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KSM 388 — Ø 3 mm LED

TYPE (8 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KSM 388 - R	RED	700	5	10	120	2,0	2,5		25
KSM 388 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KSM 388 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KSM 388 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
KSM 388 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KSM 388 - I	IPER RED	660	100	20	120	1,85	2,5	+ 100	30
KSM 388 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
KSM 388 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KSM 388- YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KSM 388 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KSM 388 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

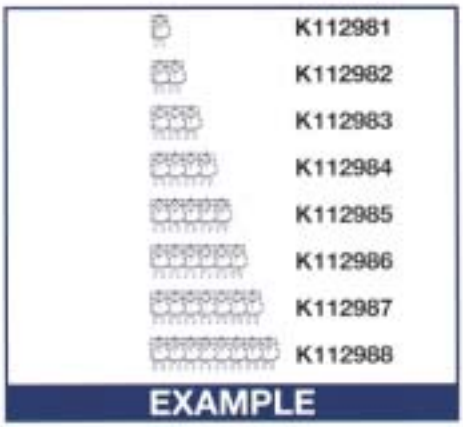
MATERIAL SPECIFICATION

- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- 5V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST

SNAP TOGETHER DESIGN



EXAMPLE



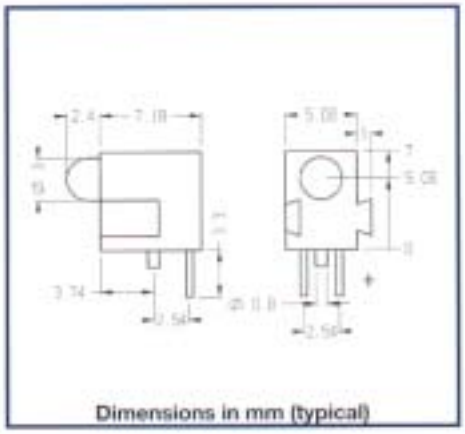
K112981



K112985

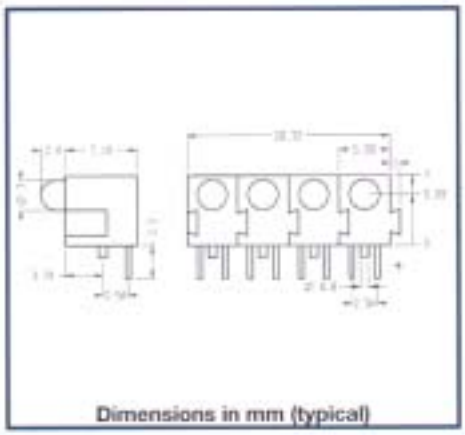
SERIES K112981 — Ø 3 mm LED

TYPE (1 LED)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
K112981 - R	RED	700	5	10	120	2,0	2,5		25
K112981 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
K112981 - G	GREEN	565	12,5	10	120	2,2	2,5		25
K112981 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
K112981 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5	+ 100	25
K112981 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
K112981 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
K112981 - YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
K112981 - GL	GREEN	565	2	2	120	1,9	2,5	+ 100	7,5
K112981 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



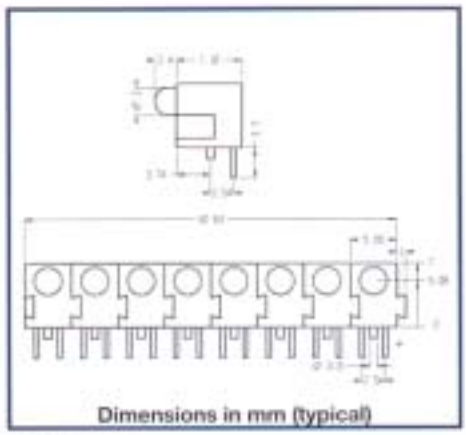
SERIES K112984 — Ø 3 mm LED

TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
K112984 - R	RED	700	5	10	120	2,0	2,5		25
K112984 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
K112984 - G	GREEN	565	12,5	10	120	2,2	2,5		25
K112984 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
K112984 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5	+ 100	25
K112984 - I	IPER RED	660	100	20	120	1,85	2,5		30
K112984 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
K112984 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
K112984- YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
K112984 - GL	GREEN	565	2	2	120	1,9	2,5	+ 100	7,5
K112984 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



SERIES K112988 — Ø 3 mm LED

TYPE (8 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
K112988 - R	RED	700	5	10	120	2,0	2,5		25
K112988 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
K112988 - G	GREEN	565	12,5	10	120	2,2	2,5		25
K112988 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
K112988 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5	+ 100	25
K112988 - I	IPER RED	660	100	20	120	1,85	2,5		30
K112988 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
K112988 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
K112988 - YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
K112988 - GL	GREEN	565	2	2	120	1,9	2,5	+ 100	7,5
K112988 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



MATERIAL SPECIFICATION

- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- 5V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs ♦ SPECIAL LEDs ON REQUEST

KHATOD® OPTOELECTRONIC

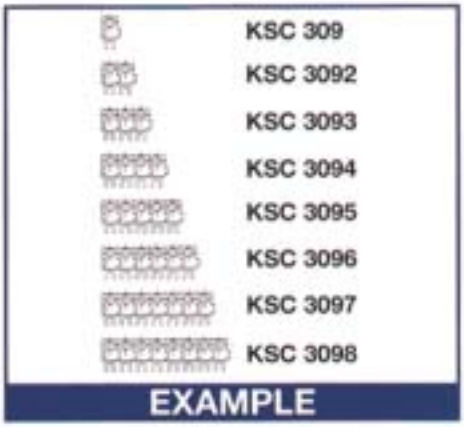
SNAP TOGETHER DESIGN



KSC 309



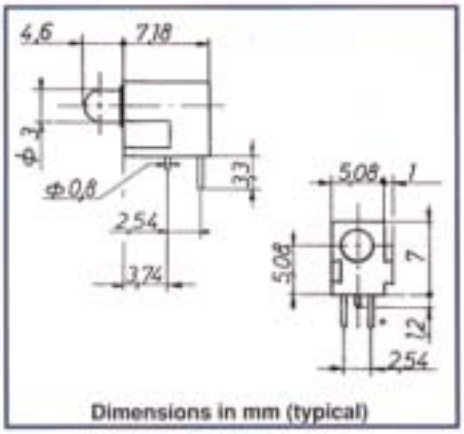
KSC 3094



EXAMPLE

SERIES KSC 309 — Ø 3 mm LED

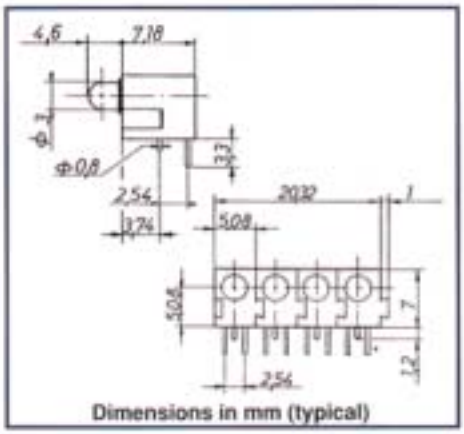
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KSC 309 - R	RED	700	5	10	120	2,0	2,5		25
KSC 309 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KSC 309 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KSC 309 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KSC 309 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KSC 309 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KSC 309 - RL	RED	625	2	2	120	1,8	2,5		7,5
KSC 309 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KSC 309 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KSC 309 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

SERIES KSC 3094 — Ø 3 mm LED

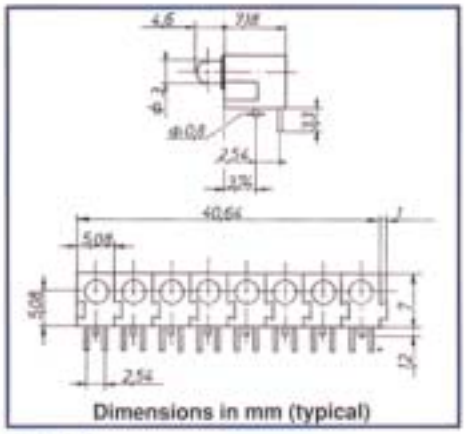
TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KSC 3094 - R	RED	700	5	10	120	2,0	2,5		25
KSC 3094 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KSC 3094 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KSC 3094 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KSC 3094 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KSC 3094 - I	IPER RED	660	100	20	120	1,85	2,5		30
KSC 3094 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
KSC 3094 - RL	RED	625	2	2	120	1,8	2,5		7,5
KSC 3094 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KSC 3094 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KSC 3094 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

SERIES KSC 3098 — Ø 3 mm LED

TYPE (8 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KSC 3098 - R	RED	700	5	10	120	2,0	2,5		25
KSC 3098 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KSC 3098 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KSC 3098 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KSC 3098 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KSC 3098 - I	IPER RED	660	100	20	120	1,85	2,5		30
KSC 3098 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
KSC 3098 - RL	RED	625	2	2	120	1,8	2,5		7,5
KSC 3098 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KSC 3098 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KSC 3098 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

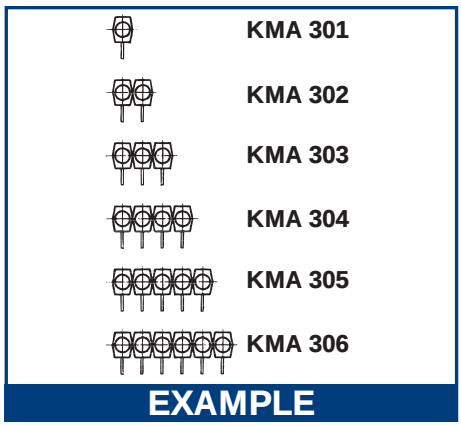
OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST

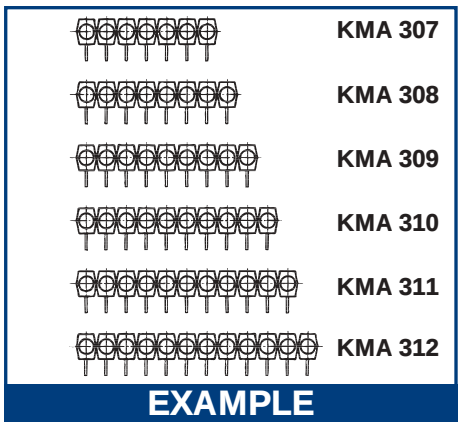
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PLASTIC HOLDER, SEPARABLE ARRANGEABLE IN ROWS

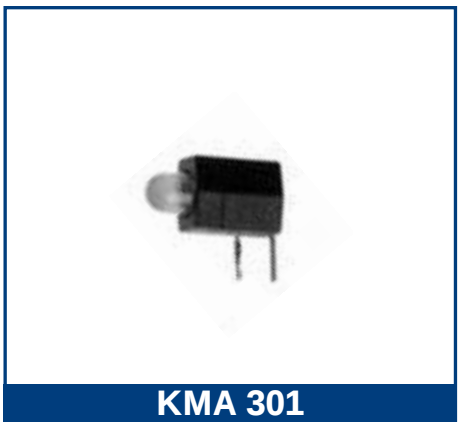
AVAILABLE STRAIGHT VERSION



EXAMPLE



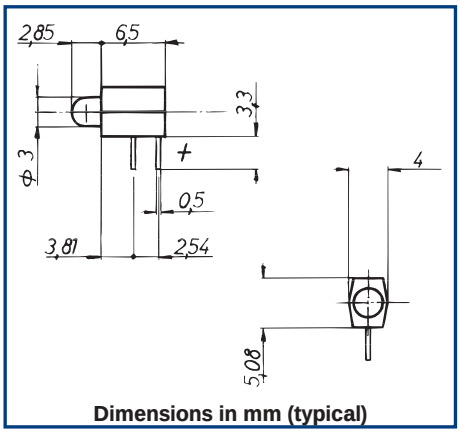
EXAMPLE



KMA 301

SERIES KMA 301 — Ø 3 mm LED

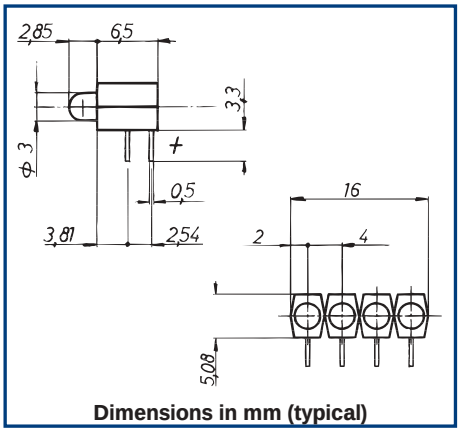
TYPE (1 LED)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KMA 301 - R	RED	700	5	10	120	2,0	2,5		25
KMA 301 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KMA 301 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KMA 301 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
KMA 301 - B	RED/GREEN	625/565	12,5	20	120	2,0	2,5		25
KMA 301 - I	IPER RED	660	100	20	120	1,85	2,5	+ 100	30
LOW CURRENT									
KMA 301 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KMA 301 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KMA 301 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KMA 301 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KMA 304 — Ø 3 mm LED

TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KMA 304 - R	RED	700	5	10	120	2,0	2,5		25
KMA 304 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KMA 304 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KMA 304 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
KMA 304 - B	RED/GREEN	625/565	12,5	20	120	2,0	2,5		25
KMA 304 - I	IPER RED	660	100	20	120	1,85	2,5	+ 100	30
LOW CURRENT									
KMA 304 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KMA 304 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KMA 304 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KMA 304 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

PART NUMBERS EXAMPLES MULTICOLOURED AND NUMBER OF LED:

KMA 3 .../ R / G / Y / S - L

- KMA 3 — SERIES
- .../ — NUMBER OF LEDS
- R — LED ❶ COLOUR (RED)
- G — LED ❷ COLOUR (GREEN)
- Y — LED ❸ COLOUR (YELLOW)
- S — LED ❹ COLOUR (SUPER RED)
- L — LOW CURRENT (IF INQUIRED)

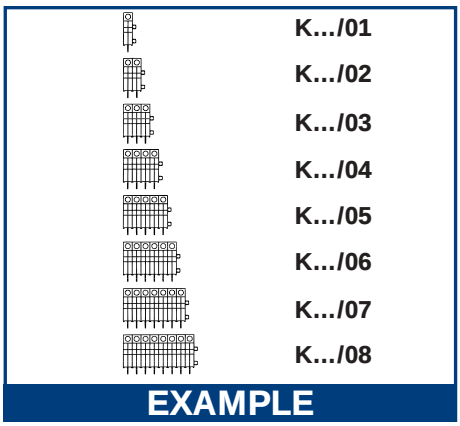
MULTICOLOURED: indicate colours from left to right - see drawing

MATERIAL SPECIFICATION

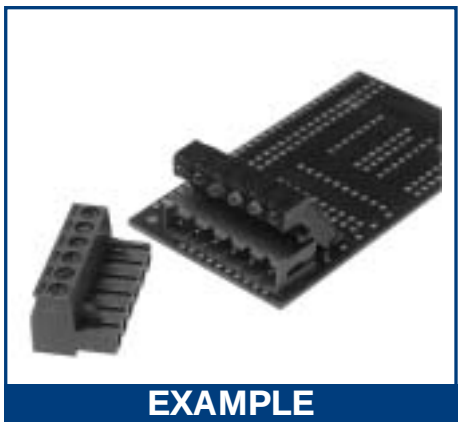
- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure:
  - standard 100.000 hours
  - low current 250.000 hours

OPTIONS AVAILABLE

- 5V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST
- STRAIGHT VERSION



EXAMPLE



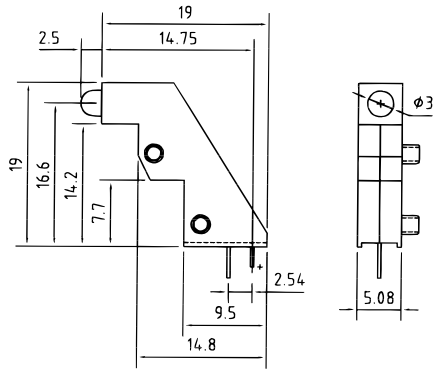
EXAMPLE



KAD/01

SERIES KBG/01 (5,08 mm Pitch) Ø 3 mm LED

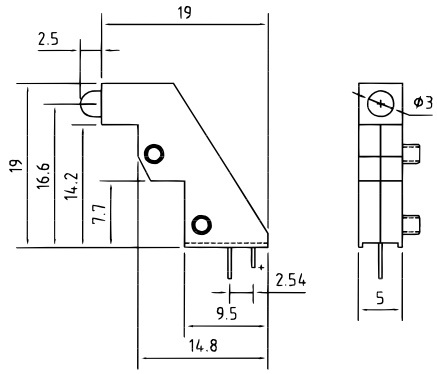
TYPE (1 led)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KBG/01 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KBG/01 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KBG/01 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KBG/01 - S	SUPER RED	625	20	10	120	2,0	2,5		30
KBG/01 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KBG/01 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KBG/01 - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
KBG/01 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KBG/01 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
KBG/01 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KAD/01 (5 mm Pitch) Ø 3 mm LED

TYPE (1 LED)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KAD/01 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KAD/01 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KAD/01 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KAD/01 - S	SUPER RED	625	20	10	120	2,0	2,5		30
KAD/01 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KAD/01 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KAD/01 - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
KAD/01 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KAD/01- GL	GREEN	565	2	2	120	1,9	2,5		7,5
KAD/01 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

PART NUMBERS EXAMPLES MULTICOLOURED AND NUMBER OF LED

K...../ .../ R / G / Y / S - L

- K...../ — SERIES
- .../ — ... = Number leds; 3 = 3 LEDs; 2 = 2 LEDs
- R — LED ❶ COLOUR (RED)
- G — LED ❷ COLOUR (GREEN)
- Y — LED ❸ COLOUR (YELLOW)
- S — LED ❹ COLOUR (SUPER RED)
- L — LOW CURRENT (IF INQUIRED)

MULTICOLOURED: indicate colours from left to right

MATERIAL SPECIFICATION

- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure:
  - standard 100.000 hours
  - low current 250.000 hours

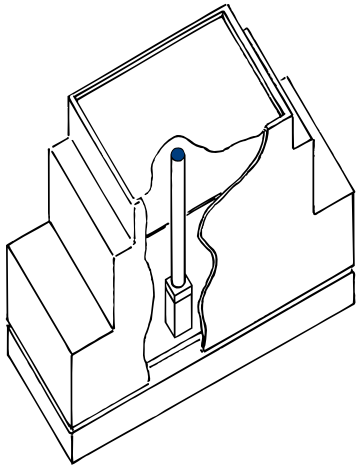
OPTIONS AVAILABLE

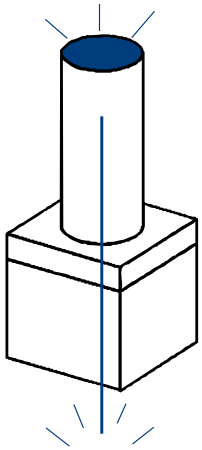
- 5V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST

KHATOD® OPTOELECTRONIC

3 mm Round. Light Transporters, for Ø 3 mm Led arrangeable in rows. (Single)

One of many applications





ORDERING CODE:

KNT - XXX - PX

IS THE SERIES	INSERT YOUR LENGTH OF SERIES KT	INSERT YOUR LED CODE: P…

Type	*Length*	*Material*	*Operating temperature °C*
KT02	L = 2 mm	WATER CLEAR UL94-VO	-60°C +125°C
KT04	L = 4 mm		
KT054	L = 5,4 mm		
KT06	L = 6 mm		
KT085	L = 8,5 mm		
KT10	L = 10 mm		
KT13	L = 13 mm		
KT15	L = 15 mm		
KT17	L = 17 mm		
KT20	L = 20 mm		
KT30	L = 30 mm		
KT37	L = 37,9 mm		
KT40	L = 40 mm		
KT50	L = 50 mm		
Your length	L = ...mm		

HOLDER

Type	*Temperat. Range*	*Deflected Temp.*	*Flamabitity*	*Material*
KNT	-60°C + 125°C	152°C	UL-94-V0	PA 6.6

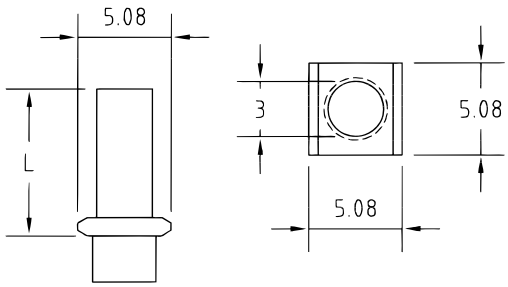
LED

				IF 20mA			
Code	*Size*	*Case*	*Emited Color*	*mcd (TYP)*	*V (TYP)*	*Peak*	*Operat. temp.*
P1	Ø3mm	WATER CLEAR	Red	100	2.0	635	-30°C +85°C
P2	Ø3mm		Green	100	2.2	568	
P3	Ø3mm		Yellow	90	2.1	585	
P4	Ø3mm		Bi-color red/green	30	2.2	635/568	
P5	Ø3mm		Blue	60	5.1	430	

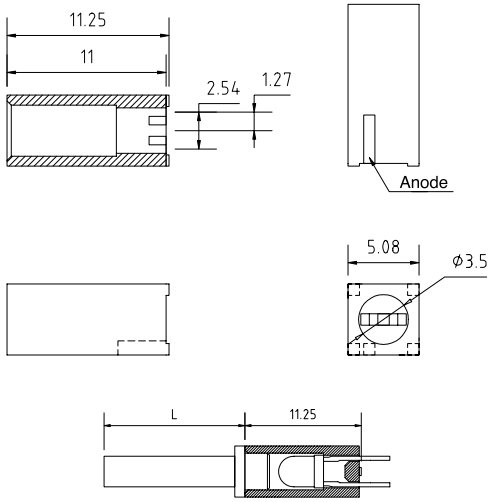
OPTIONS AVAILABLE

- Other standard lengths - from 1 to 50 mm
- Right angle
- Different shapes and lengths
- Low current (2 mA)
- Led from 10mcd to 3.000mcd
- 5V & 12V integrated resistor
- White LEDs
- Ultrabright-Infrared & Phototransistor
- Blinking LEDs
- Bicolor 3 Leads
- Special LEDs on request

Dimensions in mm (typical) KT



Dimensions in mm (typical) KNT

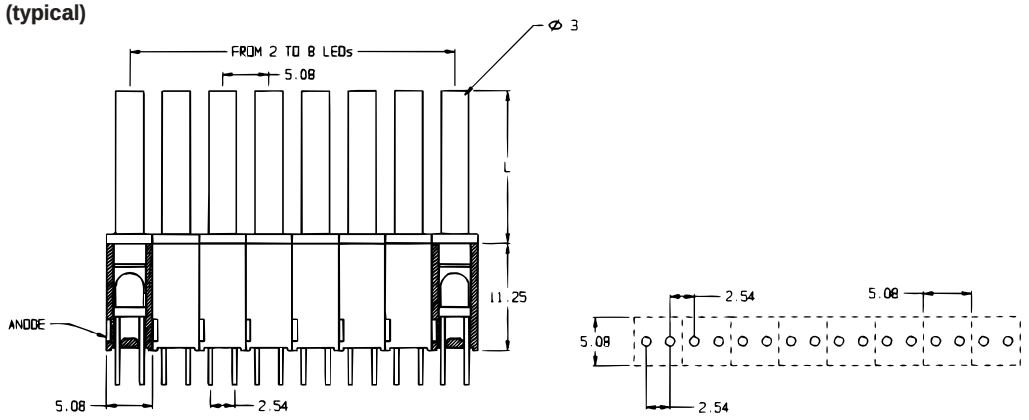


KHATOD® OPTOELECTRONIC

3 mm Round. Light Transporters, for Ø 3 mm Led arrangeable in rows. (Multi-Led)

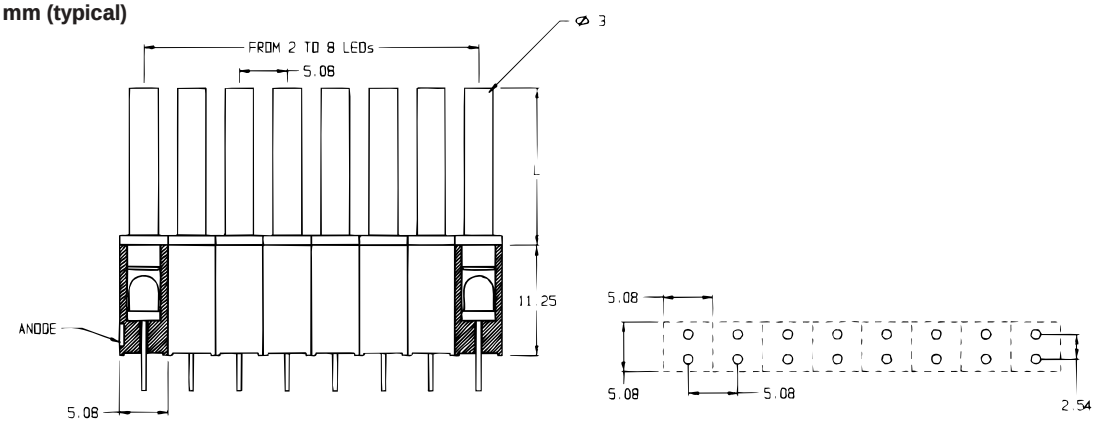
Dimensions in mm (typical)

333



Dimensions in mm (typical)

111



ORDERING CODE:

KNT	-	X	-	XXX	-	PX	-	XXX
IS THE SERIES		NUMBER OF LEDS		INSERT YOUR LENGTH * OF SERIES KT		INSERT YOUR LED CODE: P…		TYPE OF MOUNTING: • 333 • 111

MULTICOLOURED: INDICATE COLOURS FROM LEFT TO RIGHT IN P…
RIGHT ANGLE: INDICATE **RA** (ONLY IN VERSION 333)

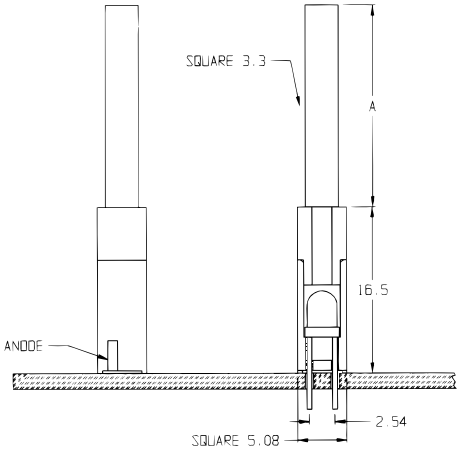
Number Leds		*Lenght L (series KT)*
2	-	2 ÷ 50 mm
3	-	2 ÷ 50 mm
4	-	2 ÷ 15 mm
5	-	2 ÷ 15 mm

*

Number Leds		*Lenght L (series KT)*
6	-	2 ÷15 mm
7	-	2 ÷15 mm
8	-	2 ÷15 mm
• SPECIAL LENGHT ON REQUEST		

3,3mm Square. Light Transporter for Ø 3 mm Led. (Single)

Dimensions in mm (typical)



OPTICAL SPACER: KCLA

Code	*Lenght A (mm)*	*Code*	*Lenght A (mm)*	*Code*	*Lenght A (mm)*	*Code*	*Lenght A (mm)*
D050	5,0	**D300**	30,0	**D550**	55,0	**D800**	80,0
D075	7,5	**D325**	32,5	**D575**	57,5	**D825**	82,5
D100	10,0	**D350**	35,0	**D600**	60,0	**D850**	85,0
D125	12,5	**D375**	37,5	**D625**	62,5	**D875**	87,5
D150	15,0	**D400**	40,0	**D650**	65,0	**D900**	90,0
D175	17,5	**D425**	42,5	**D675**	67,5	**D925**	92,5
D200	20,0	**D450**	45,0	**D700**	70,0	**D950**	95,0
D225	22,5	**D475**	47,5	**D725**	72,5	**D975**	97,5
D250	25,0	**D500**	50,0	**D750**	75,0	**D1000**	100
D275	27,5	**D525**	52,5	**D775**	77,5	**DXXX**	your length (from 5 to 100mm)

ORDERING CODE:

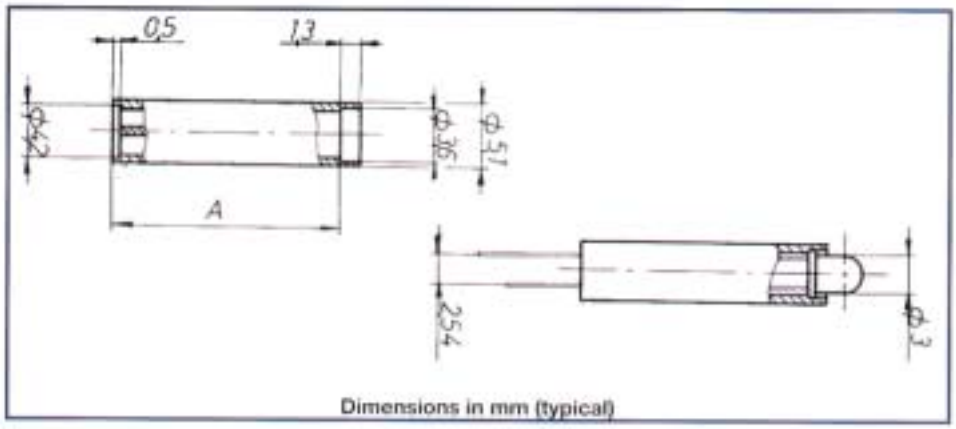
KCLA	-	DXXX	-	PX
IS THE SERIES		LENGHT A		INSERT YOUR LED CODE: P…

KHATOD® OPTOELECTRONIC

SPACER



KVD 03



Dimensions in mm (typical)

SPACER VARIABLE LENGHT — Ø 3 mm LED

WITHOUT LED	LENGHT - A	WITH LED (TECHNICAL DATA SEE PAGE ON THE SIDE)		
TYPE		RED TYPE	GREEN TYPE	YELLOW TYPE
KVD-03-035	A = 3.5 mm	KVD-03-035/R	KVD-03-035/G	KVD-03-035/Y
KVD-03-045	A = 4.5 mm	KVD-03-045/R	KVD-03-045/G	KVD-03-045/Y
KVD-03-055	A = 5.5 mm	KVD-03-045/R	KVD-03-045/G	KVD-03-055/Y
KVD-03-065	A = 6.5 mm	KVD-03-065/R	KVD-03-065/G	KVD-03-065/Y
KVD-03-075	A = 7.5 mm	KVD-03-075/R	KVD-03-075/G	KVD-03-075/Y
KVD-03-085	A = 8.5 mm	KVD-03-085/R	KVD-03-085/G	KVD-03-085/Y
KVD-03-095	A = 9.5 mm	KVD-03-095/R	KVD-03-095/G	KVD-03-095/Y
KVD-03-102	A = 10.2 mm	KVD-03-102/R	KVD-03-102/G	KVD-03-102/Y
KVD-03-110	A = 11.0 mm	KVD-03-110/R	KVD-03-110/G	KVD-03-110/Y
KVD-03-120	A = 12.0 mm	KVD-03-120/R	KVD-03-120/G	KVD-03-120/Y
KVD-03-130	A = 13.0 mm	KVD-03-130/R	KVD-03-130/G	KVD-03-130/Y
KVD-03-140	A = 14.0 mm	KVD-03-140/R	KVD-03-140/G	KVD-03-140/Y
KVD-03-150	A = 15.0 mm	KVD-03-150/R	KVD-03-150/G	KVD-03-150/Y
KVD-03-160	A = 16.0 mm	KVD-03-160/R	KVD-03-160/G	KVD-03-160/Y
KVD-03-170	A = 17.0 mm	KVD-03-170/R	KVD-03-170/G	KVD-03-170/Y
KVD-03-200	A = 20.0 mm	KVD-03-200/R	KVD-03-200/G	KVD-03-200/Y
KVD-03-230	A = 23.0 mm	KVD-03-230/R	KVD-03-230/G	KVD-03-230/Y

OTHER SIZES OR INTERMEDIATE SIZES UPON REQUEST

MATERIAL SPECIFICATION

- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- DEFLECTION TEMPERATURE: 152°C
- HARDNESS (ROCKWELL): R 112
- AMBIENT TEMPERATURE: -55° to +105°C
- STORAGE TEMPERATURE: -55° to +105°C

OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST

CIRCUIT BOARD INDICATORS



KUS 389



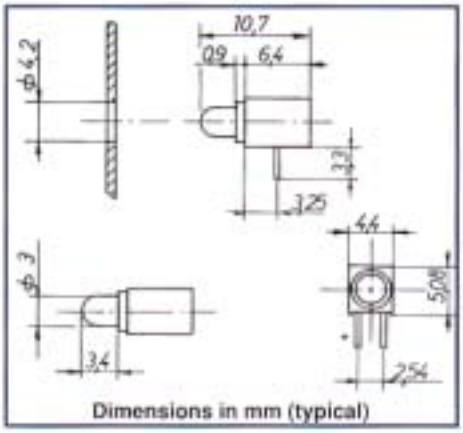
KUS 388



KUS 387

SERIES KUS 389 — Ø 3 mm LED

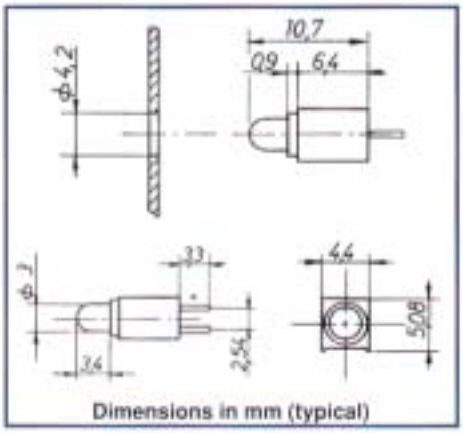
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA) TYP.	FORWARD VOLTAGE (IF=20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KUS 389 - R	RED	700	5	10	120	2,0	2,5		25
KUS 389 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KUS 389 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KUS 389 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KUS 389 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KUS 389 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KUS 389 - RL	RED	625	2	2	120	1,8	2,5		7,5
KUS 389 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KUS 389 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KUS 389 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

SERIES KUS 388 — Ø 3 mm LED

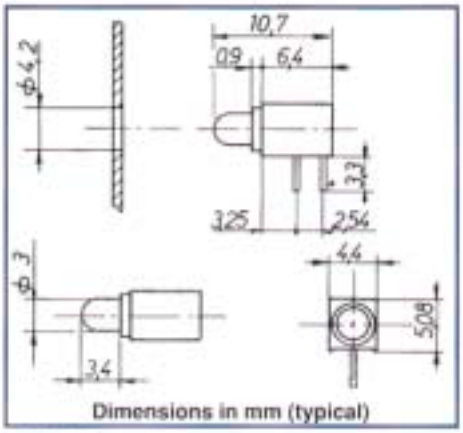
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA) TYP.	FORWARD VOLTAGE (IF=20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KUS 388 - R	RED	700	5	10	120	2,0	2,5		25
KUS 388 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KUS 388 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KUS 388 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KUS 388 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KUS 388 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KUS 388 - RL	RED	625	2	2	120	1,8	2,5		7,5
KUS 388 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KUS 388 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KUS 388 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

SERIES KUS 387 — Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA) TYP.	FORWARD VOLTAGE (IF=20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KUS 387 - R	RED	700	5	10	120	2,0	2,5		25
KUS 387 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KUS 387 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KUS 387 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KUS 387 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KUS 387 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KUS 387 - RL	RED	625	2	2	120	1,8	2,5		7,5
KUS 387 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KUS 387 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KUS 387 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST

CIRCUIT BOARD INDICATORS



KDE 373



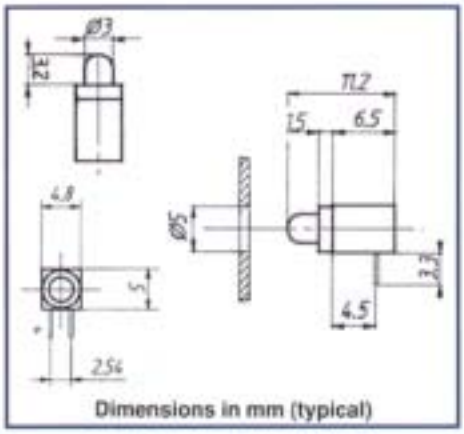
KDE 374



KDE 375

SERIES KDE 373 — Ø 3 mm LED

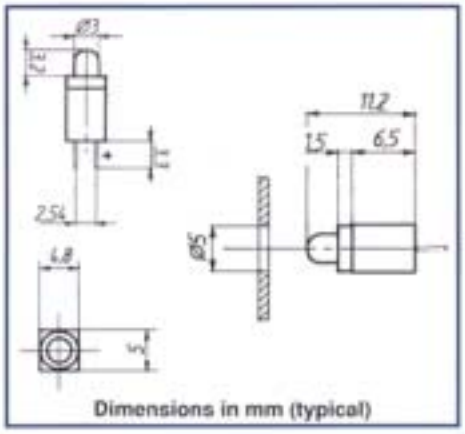
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF	TYP.	MAX		
KDE 373 - R	RED	700	5	10	120	2,0	2,5		25
KDE 373 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KDE 373 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KDE 373 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KDE 373 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KDE 373 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDE 373 - RL	RED	625	2	2	120	1,8	2,5		7,5
KDE 373 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KDE 373 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KDE 373 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KDE 374 — Ø 3 mm LED

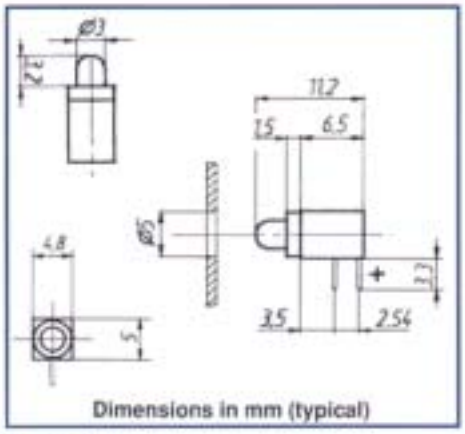
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF	TYP.	MAX		
KDE 374 - R	RED	700	5	10	120	2,0	2,5		25
KDE 374 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KDE 374 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KDE 374 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KDE 374 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KDE 374 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDE 374 - RL	RED	625	2	2	120	1,8	2,5		7,5
KDE 374 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KDE 374 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KDE 374 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KDE 375 — Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF	TYP.	MAX		
KDE 375 - R	RED	700	5	10	120	2,0	2,5		25
KDE 375 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KDE 375 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KDE 375 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KDE 375 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KDE 375 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDE 375 - RL	RED	625	2	2	120	1,8	2,5		7,5
KDE 375 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KDE 375 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KDE 375 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: · standard 100.000 hours · low current 250.000 hours

OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST

CIRCUIT BOARD INDICATORS



KDE 370



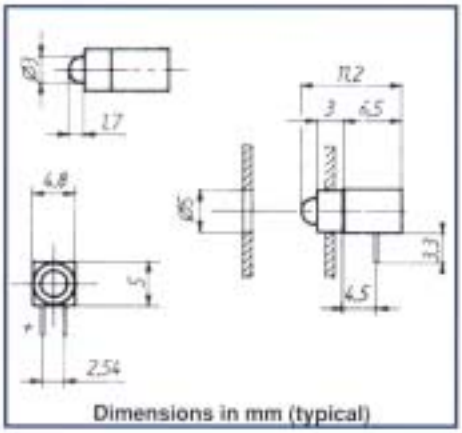
KDE 371



KDE 372

SERIES KDE 370 — Ø 3 mm LED

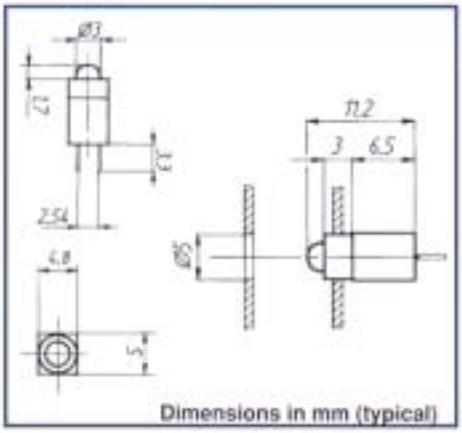
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KDE 370 - R	RED	700	5	10	120	2,0	2,5		25
KDE 370 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KDE 370 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KDE 370 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KDE 370 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KDE 370 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDE 370 - RL	RED	625	2	2	120	1,8	2,5		7,5
KDE 370 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KDE 370 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KDE 370 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

SERIES KDE 371 — Ø 3 mm LED

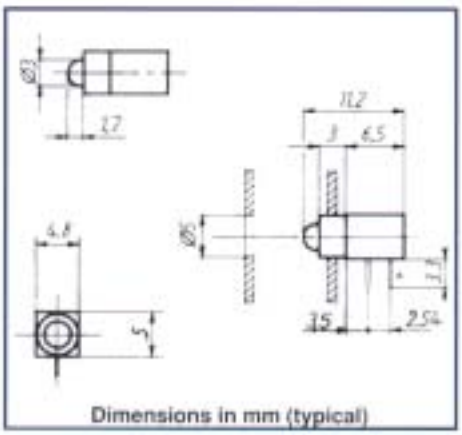
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KDE 371 - R	RED	700	5	10	120	2,0	2,5		25
KDE 371 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KDE 371 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KDE 371 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KDE 371 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KDE 371 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDE 371 - RL	RED	625	2	2	120	1,8	2,5		7,5
KDE 371 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KDE 371 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KDE 371 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

SERIES KDE 372 — Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KDE 372 - R	RED	700	5	10	120	2,0	2,5		25
KDE 372 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KDE 372 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KDE 372 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KDE 372 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KDE 372 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDE 372 - RL	RED	625	2	2	120	1,8	2,5		7,5
KDE 372 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KDE 372 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KDE 372 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST

CIRCUIT BOARD INDICATORS



KDE 33



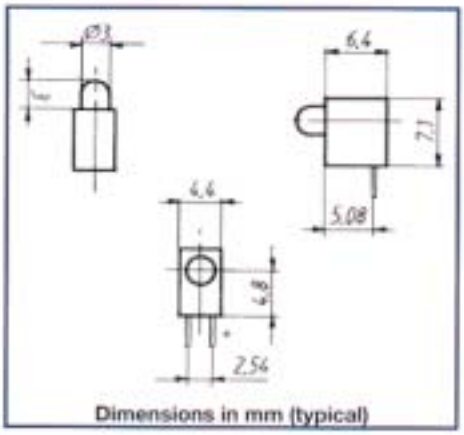
K 34



KHLMP 3.101

SERIES KDE 33 — Ø 3 mm LED

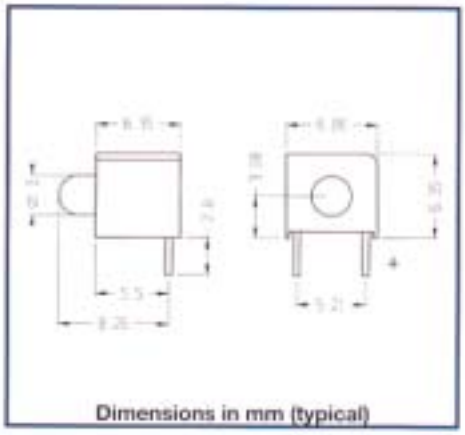
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KDE 33 - R	RED	700	5	10	120	2,0	2,5		25
KDE 33 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KDE 33 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KDE 33 - S	SUPER RED	625	20	10	120	2,0	2,5		30
KDE 33 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5	+ 100	25
KDE 33 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDE 33 - RL	RED	625	2	2	120	1,8	2,5		7,5
KDE 33 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KDE 33 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KDE 33 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES K 34 — Ø 3 mm LED

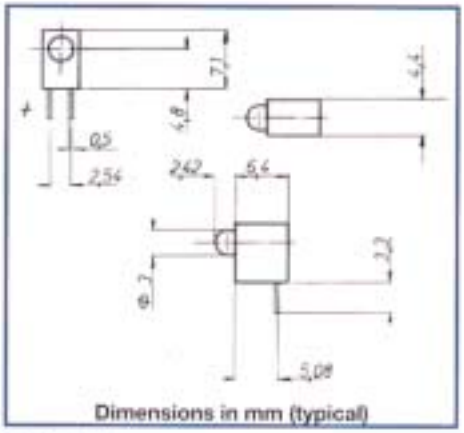
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	PEAK	TYP.	IF		TYP.	MAX		
K 34 - R	RED	700	3,5	10	120	2,1	2,5	- 55	25
K 34 - G	GREEN	565	6	10	120	2,2	2,5	to	25
K 34 - Y	YELLOW	590	20	10	120	2,1	2,5	+ 100	30
K 34 - S	SUPER RED	625	20	10	120	2,0	2,5		30
LOW CURRENT									
K 34 - RL	RED	635	1,8	2	50	1,8	2,2	- 55	7
K 34 - YL	YELLOW	583	1,6	2	50	1,9	2,7	to	7
K 34 - GL	GREEN	567	1,6	2	50	1,8	2,2	+ 100	7
5 & 12 VOLT									
K 34 - R5	RED	625	8	10	120	5	7,5		10
K 34 - Y5	YELLOW	590	8	10	120	5	7,5	- 55	10
K 34 - G5	GREEN	565	8	10	120	5	7,5	to	10
K 34 - R12	RED	625	8	10	120	12	15		14
K 34 - G12	GREEN	565	8	10	120	12	15	+ 100	14
K 34 - Y12	YELLOW	590	8	10	120	12	15		14
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KHMLP 3.101 — Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	PEAK	TYP.	IF		TYP.	MAX		
KHLMP 3.101 - R	RED	635	7	10	60	2,2	3	- 55	30
KHLMP 3.101 - Y	YELLOW	583	7	10	60	2,2	3	to	30
KHLMP 3.101 - G	GREEN	565	7	10	60	2,3	3	+ 100	25
LOW CURRENT									
KHLMP 3.101 - RL	RED	635	1,8	2	50	1,8	2,2	- 55	7
KHLMP 3.101 - YL	YELLOW	583	1,6	2	50	1,9	2,7	to	7
KHLMP 3.101 - GL	GREEN	567	1,6	2	50	1,8	2,2	+ 100	7
5 & 12 VOLT									
KHLMP 3.101 - R5	RED	625	8	10	120	5	7,5		10
KHLMP 3.101 - Y5	YELLOW	590	8	10	120	5	7,5	- 55	10
KHLMP 3.101 - G5	GREEN	565	8	10	120	5	7,5	to	10
KHLMP 3.101 - R12	RED	625	8	10	120	12	15		14
KHLMP 3.101 - G12	GREEN	565	8	10	120	12	15	+ 100	14
KHLMP 3.101 - Y12	YELLOW	590	8	10	120	12	15		14
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

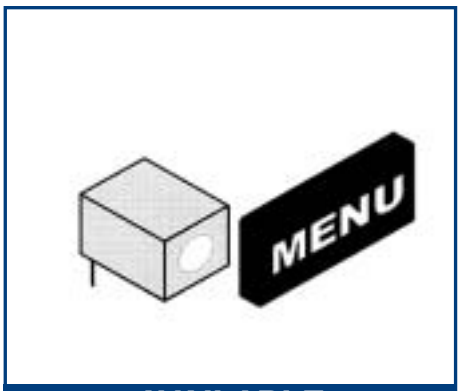
- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs • SPECIAL LEDs ON REQUEST

KHATOD® OPTOELECTRONIC

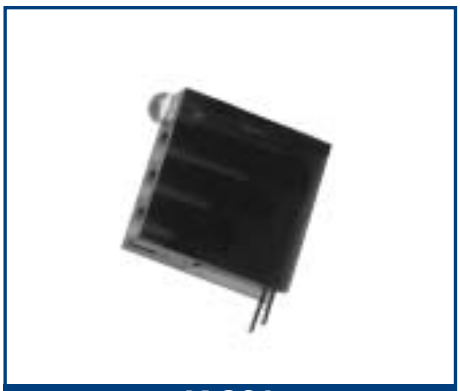
CIRCUIT BOARD INDICATORS



AVAILABLE



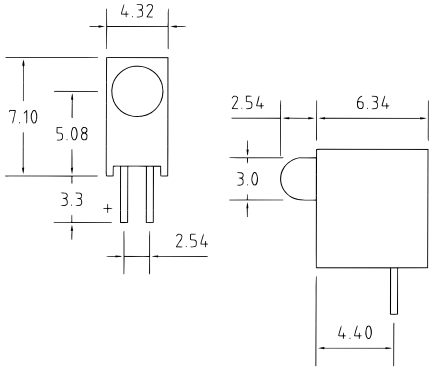
KDE 335



K 361

SERIES K 351 — Ø 3 mm LED

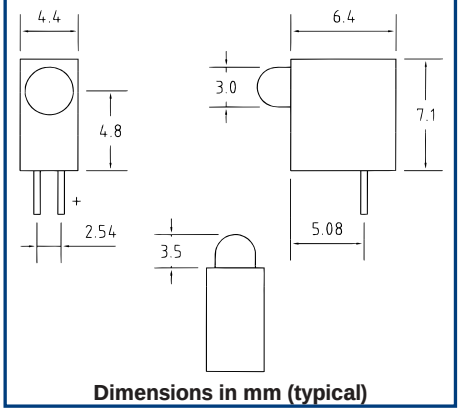
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
K 351 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
K 351 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
K 351 - G	GREEN	565	12,5	10	120	2,2	2,5		25
K 351 - S	SUPER RED	625	20	10	120	2,0	2,5		30
K 351 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
K 351 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
K 351 - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 351 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
K 351 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
K 351 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KDE 335 — Ø 3 mm LED

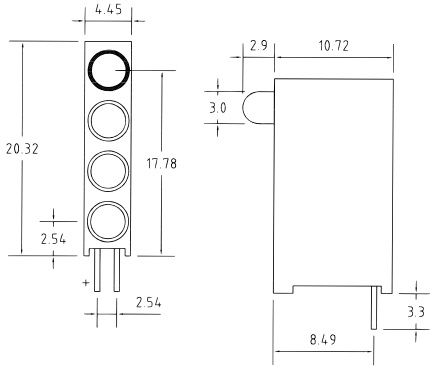
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KDE 335 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KDE 335 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KDE 335 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KDE 335 - S	SUPER RED	625	20	10	120	2,0	2,5		30
KDE 335 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KDE 335 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDE 335 - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
KDE 335 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KDE 335 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
KDE 335 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES K 361 — Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
K 361 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
K 361 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
K 361 - G	GREEN	565	12,5	10	120	2,2	2,5		25
K 361 - S	SUPER RED	625	20	10	120	2,0	2,5		30
K 361 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
K 361 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
K 361 - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 361 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
K 361 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
K 361 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- 5V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST

CIRCUIT BOARD INDICATORS



KUS 30



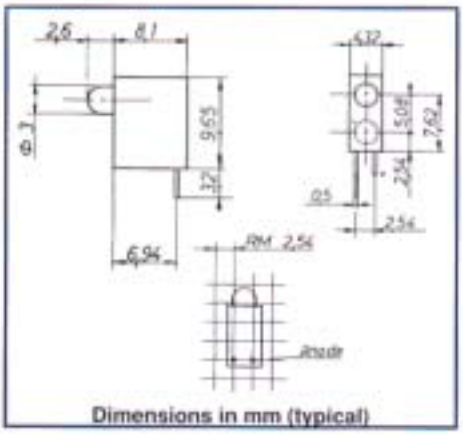
KUS 31



KDE 38

SERIES KUS 30 — Ø 3 mm LED

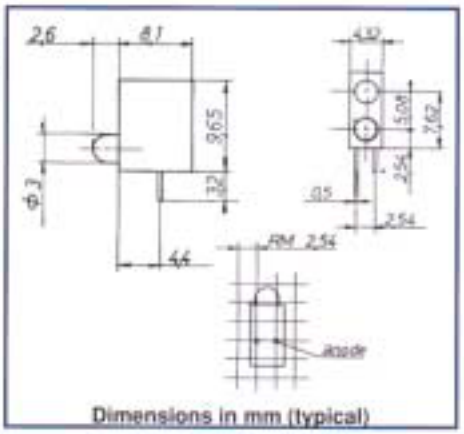
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KUS 30 - R	RED	700	5	10	120	2,0	2,5		25
KUS 30 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KUS 30 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KUS 30 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KUS 30 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KUS 30 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KUS 30 - RL	RED	625	2	2	120	1,8	2,5		7,5
KUS 30 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KUS 30 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KUS 30 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

SERIES KUS 31 — Ø 3 mm LED

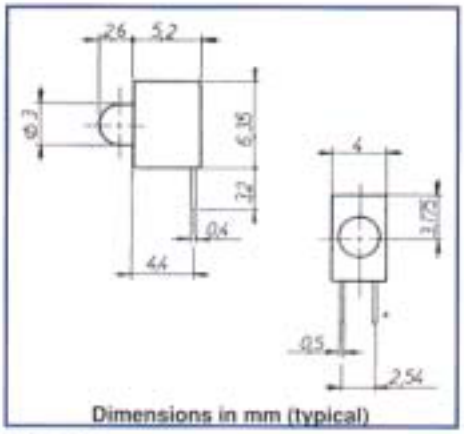
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KUS 31 - R	RED	700	5	10	120	2,0	2,5		25
KUS 31 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KUS 31 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KUS 31 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KUS 31 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KUS 31 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KUS 31 - RL	RED	625	2	2	120	1,8	2,5		7,5
KUS 31 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KUS 31 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KUS 31 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

SERIES KDE 38 — Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KDE 38 - R	RED	700	5	10	120	2,0	2,5		25
KDE 38 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KDE 38 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KDE 38 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KDE 38 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KDE 38 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDE 38 - RL	RED	625	2	2	120	1,8	2,5		7,5
KDE 38 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KDE 38 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KDE 38 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST

CIRCUIT BOARD INDICATORS



K 444



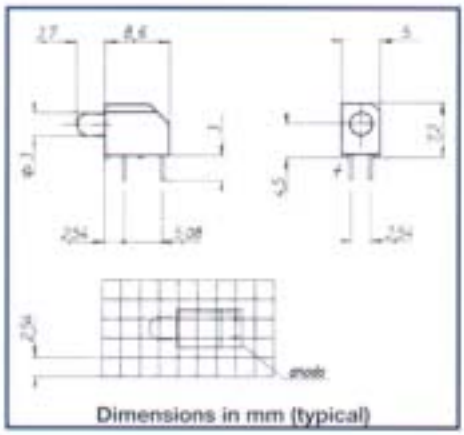
K 465



KTP 301

SERIES K 444 — Ø 3 mm LED

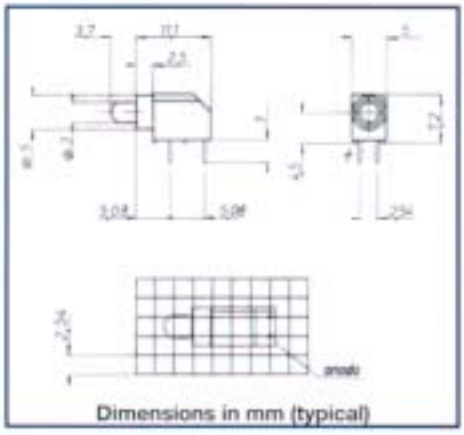
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
K 444 - R	RED	700	5	10	120	2,0	2,5	- 55	25
K 444 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
K 444 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
K 444 - S	SUPER RED	625	20	10	120	2,0	2,5		30
K 444 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5	+ 100	25
K 444 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
K 444 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
K 444 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
K 444 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
K 444 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES K 465 — Ø 3 mm LED

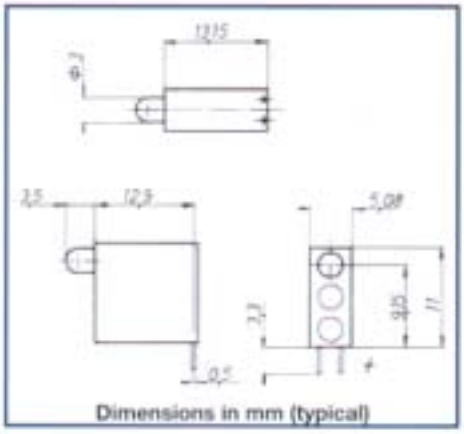
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
K 465 - R	RED	700	5	10	120	2,0	2,5	- 55	25
K 465 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
K 465 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
K 465 - S	SUPER RED	625	20	10	120	2,0	2,5		30
K 465 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5	+ 100	25
K 465 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
K 465 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
K 465 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
K 465 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
K 465 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KTP 301 — Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KTP 301 - R	RED	700	5	10	120	2,0	2,5	- 55	25
KTP 301 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KTP 301 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KTP 301 - S	SUPER RED	625	20	10	120	2,0	2,5		30
KTP 301 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5	+ 100	25
KTP 301 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KTP 301 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KTP 301 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KTP 301 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KTP 301 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- 5V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs • SPECIAL LEDs ON REQUEST

CIRCUIT BOARD INDICATORS



KDE 34



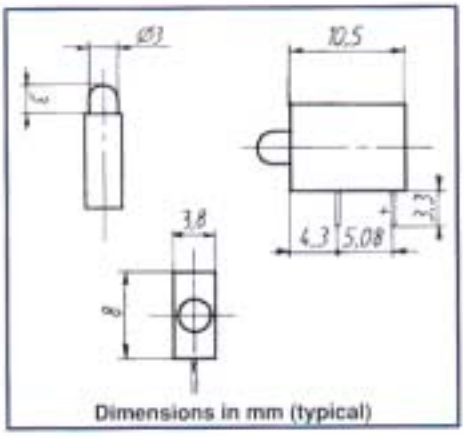
KDE 35



KDE 36

SERIES KDE 34 — Ø 3 mm LED

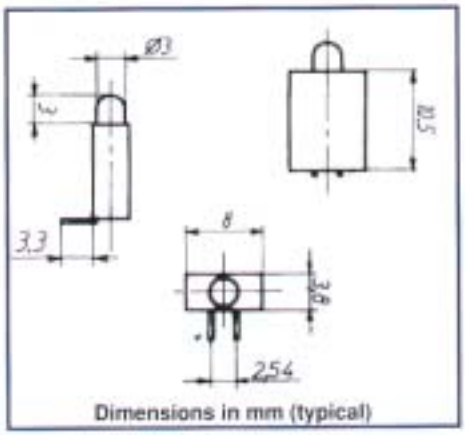
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KDE 34 - R	RED	700	5	10	120	2,0	2,5		25
KDE 34 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KDE 34 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KDE 34 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KDE 34 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KDE 34 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDE 34 - RL	RED	625	2	2	120	1,8	2,5		7,5
KDE 34 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KDE 34 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KDE 34 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

SERIES KDE 35 — Ø 3 mm LED

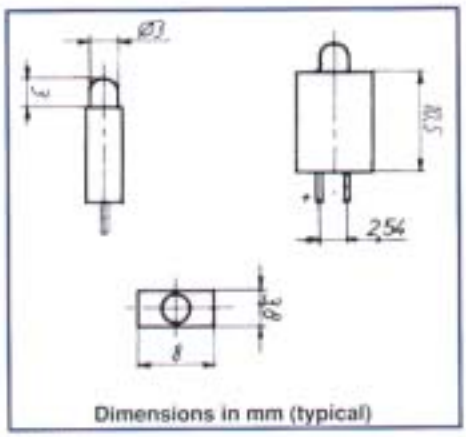
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KDE 35 - R	RED	700	5	10	120	2,0	2,5		25
KDE 35 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KDE 35 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KDE 35 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KDE 35 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KDE 35 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDE 35 - RL	RED	625	2	2	120	1,8	2,5		7,5
KDE 35 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KDE 35 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KDE 35 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

SERIES KDE 36 — Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KDE 36 - R	RED	700	5	10	120	2,0	2,5		25
KDE 36 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KDE 36 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KDE 36 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KDE 36 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KDE 36 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDE 36 - RL	RED	625	2	2	120	1,8	2,5		7,5
KDE 36 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KDE 36 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KDE 36 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST

SNAP TOGETHER DESIGN



K 190



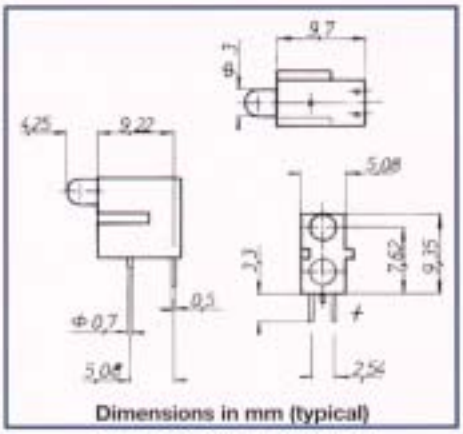
K 191



KTP 300

SERIES K 190 — Ø 3 mm LED

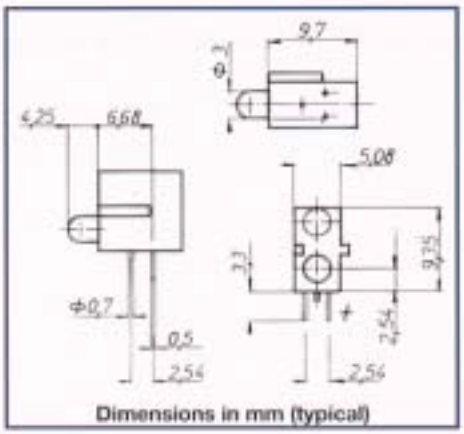
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
K 190 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
K 190 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
K 190 - G	GREEN	565	12,5	10	120	2,2	2,5		25
K 190 - S	SUPER RED	625	20	10	120	2,0	2,5		30
K 190 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
K 190 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
K 190 - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 190 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
K 190 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
K 190 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES K 191 — Ø 3 mm LED

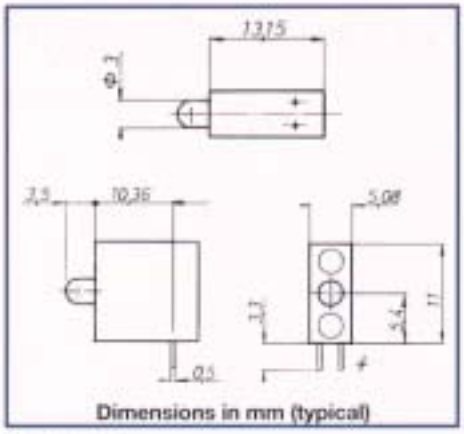
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
K 191 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
K 191 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
K 191 - G	GREEN	565	12,5	10	120	2,2	2,5		25
K 191 - S	SUPER RED	625	20	10	120	2,0	2,5		30
K 191 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
K 191 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
K 191 - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 191 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
K 191 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
K 191 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KTP 300 — Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KTP 300 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KTP 300 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KTP 300 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KTP 300 - S	SUPER RED	625	20	10	120	2,0	2,5		30
KTP 300 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KTP 300 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KTP 300 - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
KTP 300 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KTP 300 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
KTP 300 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- 5V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST

KHATOD® OPTOELECTRONIC

UNIT COMBINABLE *(acc DIN 41494) with cover for 15 KV - ESD*



KDE 30



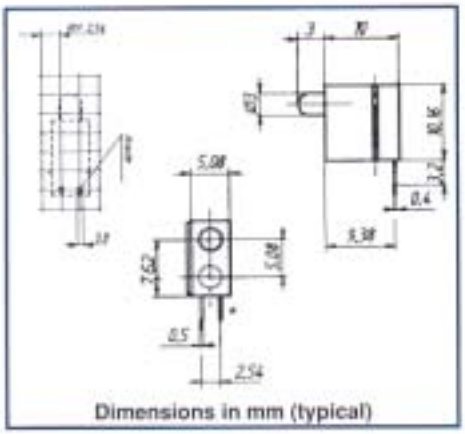
KDE 301



KDE 31

SERIES KDE 30 — Ø 3 mm LED

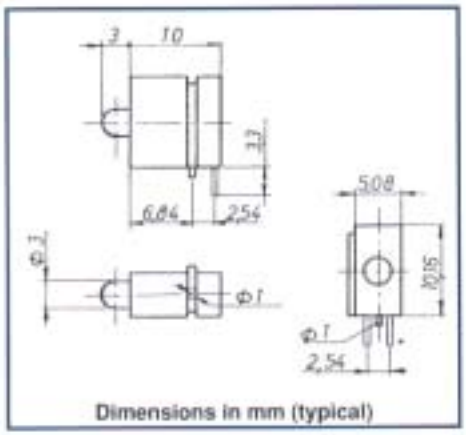
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	PEAK	TYP.	IF		TYP.	MAX		
KDE 30 - R	RED	700	5	10	120	2,0	2,5		25
KDE 30 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KDE 30 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KDE 30 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KDE 30 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KDE 30 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDE 30 - RL	RED	625	2	2	120	1,8	2,5		7,5
KDE 30 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KDE 30 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KDE 30 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KDE 301 — Ø 3 mm LED

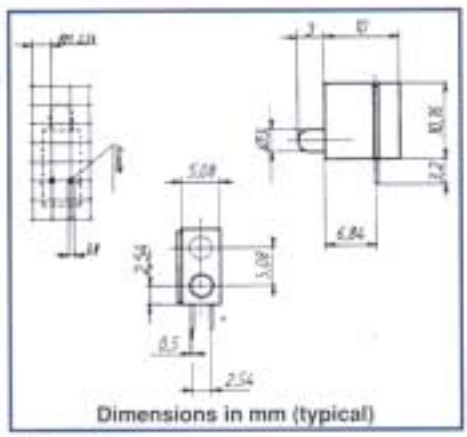
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	PEAK	TYP.	IF		TYP.	MAX		
KDE 301 - R	RED	700	5	10	120	2,0	2,5		25
KDE 301 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KDE 301 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KDE 301 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KDE 301 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KDE 301 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDE 301 - RL	RED	625	2	2	120	1,8	2,5		7,5
KDE 301 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KDE 301 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KDE 301 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KDE 31 — Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	PEAK	TYP.	IF		TYP.	MAX		
KDE 31 - R	RED	700	5	10	120	2,0	2,5		25
KDE 31 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KDE 31 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KDE 31 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KDE 31 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KDE 31 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDE 31 - RL	RED	625	2	2	120	1,8	2,5		7,5
KDE 31 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KDE 31 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KDE 31 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST

KHATOD® OPTOELECTRONIC

UNIT COMBINABLE *(acc DIN 41494) with cover for 15 KV - ESD*



KDE 30-15KV



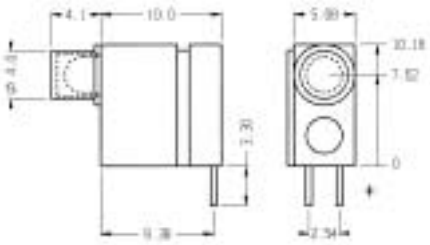
KDE 301-15KV



KDE 31-15KV

SERIES KDE 30-15KV — Ø 3 mm LED

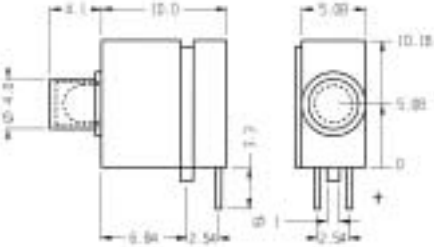
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KDE 30-15KV - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KDE 30-15KV - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KDE 30-15KV - G	GREEN	565	12,5	10	120	2,2	2,5		25
KDE 30-15KV - S	SUPER RED	625	20	10	120	2,0	2,5		30
KDE 30-15KV - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KDE 30-15KV - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDE 30-15KV - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
KDE 30-15KV - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KDE 30-15KV - GL	GREEN	565	2	2	120	1,9	2,5		7,5
KDE 30-15KV - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KDE 301-15KV — Ø 3 mm LED

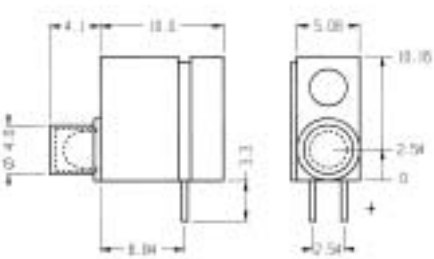
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KDE 301-15KV - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KDE 301-15KV - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KDE 301-15KV - G	GREEN	565	12,5	10	120	2,2	2,5		25
KDE 301-15KV - S	SUPER RED	625	20	10	120	2,0	2,5		30
KDE 301-15KV - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KDE 301-15KV - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDE 301-15KV - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
KDE 301-15KV - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KDE 301-15KV - GL	GREEN	565	2	2	120	1,9	2,5		7,5
KDE 301-15KV - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KDE 31-15KV — Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KDE 31-15KV - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KDE 31-15KV - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KDE 31-15KV - G	GREEN	565	12,5	10	120	2,2	2,5		25
KDE 31-15KV - S	SUPER RED	625	20	10	120	2,0	2,5		30
KDE 31-15KV - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KDE 31-15KV - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDE 31-15KV - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
KDE 31-15KV- YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KDE 31-15KV - GL	GREEN	565	2	2	120	1,9	2,5		7,5
KDE 31-15KV - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

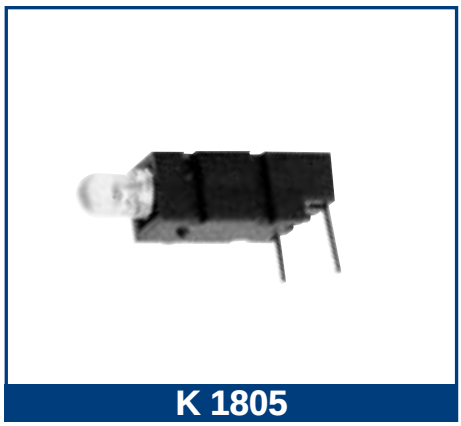
- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

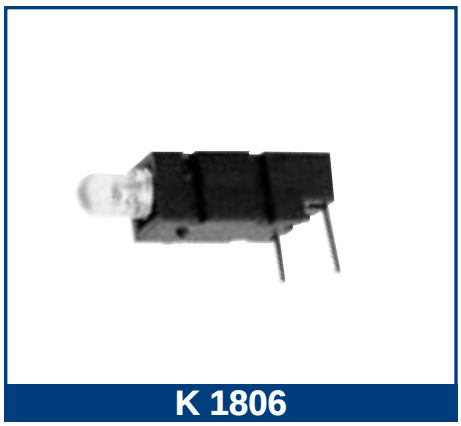
- 5V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST

KHATOD® OPTOELECTRONIC

CIRCUIT BOARD INDICATORS



K 1805



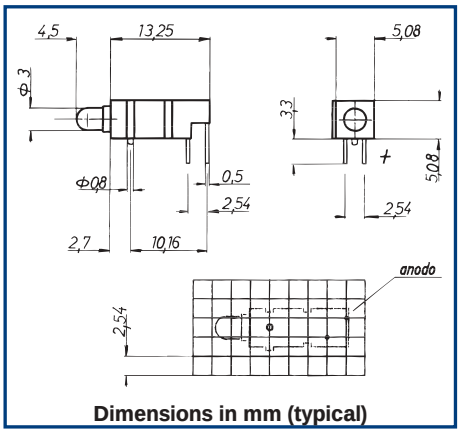
K 1806



K 1807

SERIES K 1805 — Ø 3 mm LED

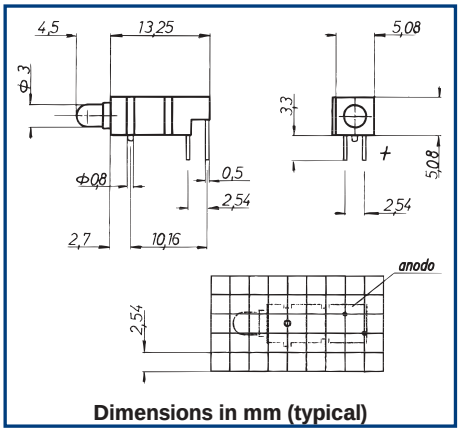
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
K 1805 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
K 1805 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
K 1805 - G	GREEN	565	12,5	10	120	2,2	2,5		25
K 1805 - S	SUPER RED	625	20	10	120	2,0	2,5		30
K 1805 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
K 1805 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
K 1805 - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 1805 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
K 1805 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
K 1805 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES K 1806 — Ø 3 mm LED

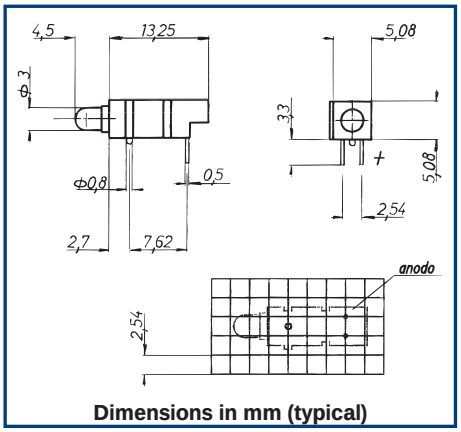
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
K 1806 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
K 1806 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
K 1806 - G	GREEN	565	12,5	10	120	2,2	2,5		25
K 1806 - S	SUPER RED	625	20	10	120	2,0	2,5		30
K 1806 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
K 1806 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
K 1806 - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 1806 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
K 1806 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
K 1806 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES K 1807 — Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
K 1807 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
K 1807 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
K 1807 - G	GREEN	565	12,5	10	120	2,2	2,5		25
K 1807 - S	SUPER RED	625	20	10	120	2,0	2,5		30
K 1807 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
K 1807 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
K 1807 - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 1807 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
K 1807 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
K 1807 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

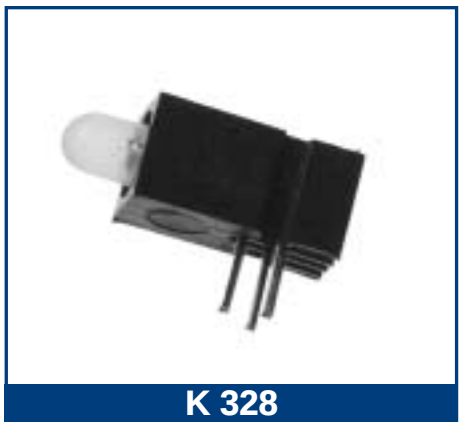
MATERIAL SPECIFICATION

- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- 5V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST

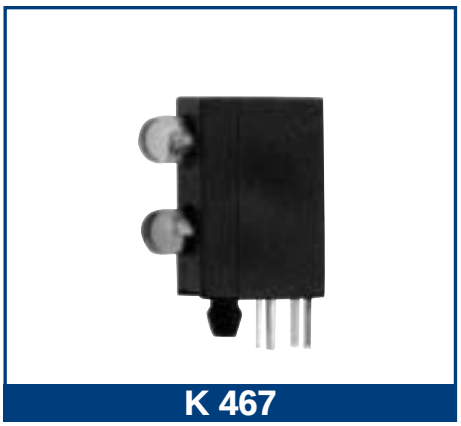
CIRCUIT BOARD INDICATORS *(DIN 41494 compatible)*



K 328



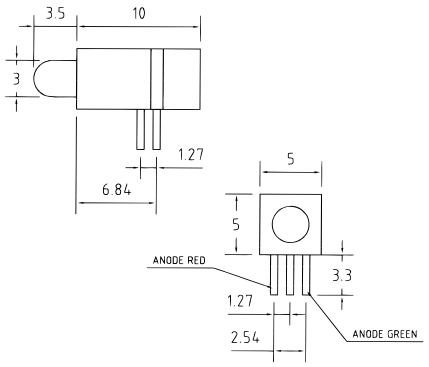
K 327



K 467

SERIES K 328 — Ø 3 mm LED

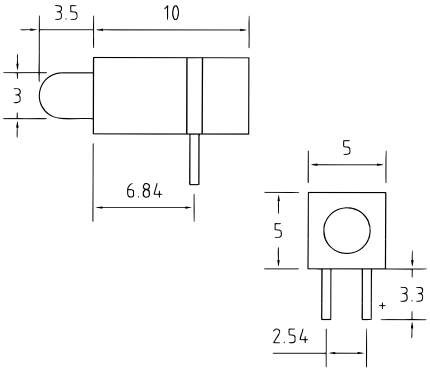
TYPE	EMITTED COLOUR (BICOLOUR)	EMITTED COLOUR PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
K 328 - EGW	RED/GREEN	625/565	40	20	100	2,2	2,5	- 55 to + 100	30
K 328 - EYW	RED/YELLOW	625/590	20	20	100	2,2	2,5		25
K 328 - GYW	GREEN/YELLOW	625/590	20	20	100	2,2	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES K 327 — Ø 3 mm LED

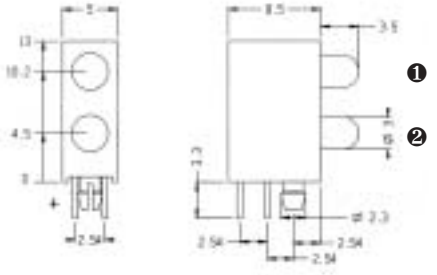
TYPE	EMITTED COLOUR	EMITTED COLOUR PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
K 327 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
K 327 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
K 327 - G	GREEN	565	12,5	10	120	2,2	2,5		25
K 327 - S	SUPER RED	625	20	10	120	2,0	2,5		30
K 327 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
K 327 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
K 327 - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 327 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
K 327 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
K 327 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES K 467 — Ø 3 mm LED

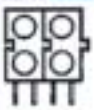
TYPE	EMITTED COLOUR ❶	EMITTED COLOUR ❷	EMITTED COLOUR PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
K 467 - RR	RED	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
K 467 - YY	YELLOW	YELLOW	590	12,5	10	120	2,2	2,5		25
K 467 - GG	GREEN	GREEN	565	12,5	10	120	2,1	2,5		30
K 467 - SS	SUPER RED	SUPER RED	625	20	10	120	2,0	2,5		30
K 467 - II	IPER RED	IPER RED	660	100	20	120	1,85	2,5		30
MULTICOLOURED										
K 467 - GR	GREEN	RED								
K 467 - YR	YELLOW	RED								
K 467 - YG	YELLOW	GREEN		FOR TECHNICAL DATAS: SEE ABOVE						
K 467 - SG	SUPER RED	GREEN								
K 467 - SY	SUPER RED	YELLOW								
K 467 - RG	RED	GREEN								
K 467 - RY	RED	YELLOW								
K 467 - GY	GREEN	YELLOW								
K 467 - GS	GREEN	SUPER RED								
K 467 - YS	YELLOW	SUPER RED								
BICOLOUR										
K 467 - EGW	RED/GREEN		625/565	40	20	100	2,2	2,5	- 55 to + 100	30
K 467 - EYW	RED/YELLOW		625/590	20	20	100	2,2	2,5		25
K 467 - GYW	GREEN/YELLOW		625/565	20	20	100	2,2	2,5		30
QUALITY TESTED 100%	DIFFUSED		nm	mcd	mA	DEGREE°	V	V	°C	mA



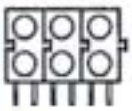
Dimensions in mm (typical)

KHATOD® OPTOELECTRONIC

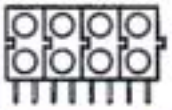
SNAP TOGETHER DESIGN *(acc. DIN 41494 for 19" racks)*



KDC 302/2...



KDC 302/3...



KDC 302/4...

EXAMPLE



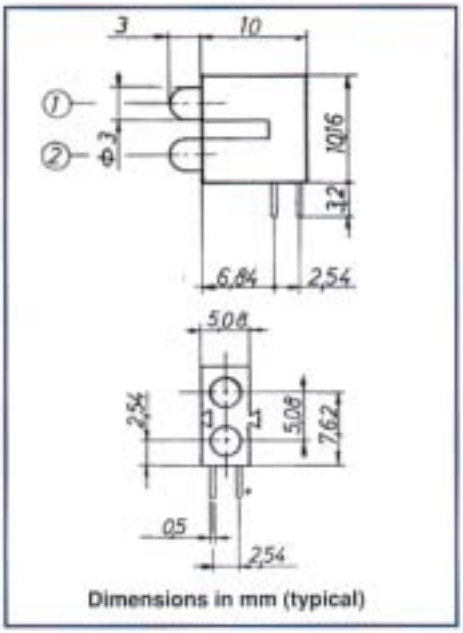
KDC 302



KDE 32

SERIES KDC 302 — Ø 3 mm LED

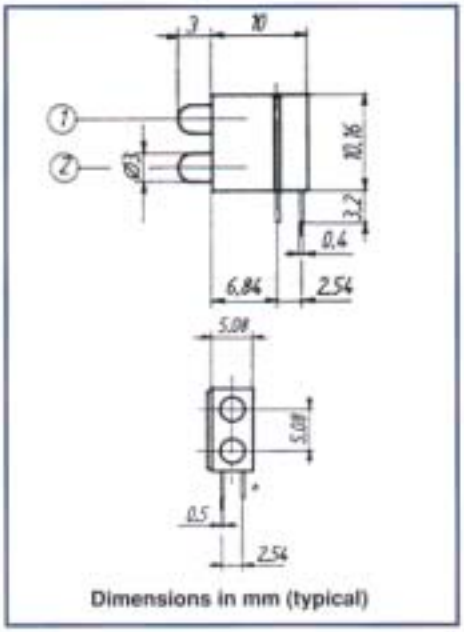
TYPE	EMITTED COLOUR ❶	EMITTED COLOUR ❷	PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA) TYP.	FORWARD VOLTAGE (IF=20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KDC 302 - RR	RED	RED	700	5	10	120	2,0	2,5		25
KDC 302 - YY	YELLOW	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KDC 302 - GG	GREEN	GREEN	565	12,5	10	120	2,2	2,5	to	25
KDC 302 - SS	SUPER RED	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KDC 302 - II	IPER RED	IPER RED	660	100	20	120	1,85	2,5		30
MULTICOLOURED										
KDC 302 - GR	GREEN	RED								
KDC 302 - YR	YELLOW	RED								
KDC 302 - YG	YELLOW	GREEN								
KDC 302 - SG	SUPER RED	GREEN		TECHNICAL DATAS: SEE ABOVE						
KDC 302 - SY	SUPER RED	YELLOW								
KDC 302 - RG	RED	GREEN								
KDC 302 - RY	RED	YELLOW								
KDC 302 - GY	GREEN	YELLOW								
KDC 302 - GS	GREEN	SUPER RED								
KDC 302 - YS	YELLOW	SUPER RED								
LOW CURRENT										
KDC 302-RRL	RED	RED	625	2	2	120	1,8	2,5		7,5
KDC 302-YYL	YELLOW	YELLOW	590	2	2	120	1,9	2,5	- 55	7,5
KDC 302-GGL	GREEN	GREEN	565	2	2	120	1,9	2,5	to	7,5
KDC 302-IIL	IPER RED	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED		nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

SERIES KDE 32 — Ø 3 mm LED

TYPE	EMITTED COLOUR ❶	EMITTED COLOUR ❷	PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA) TYP.	FORWARD VOLTAGE (IF=20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KDE 32 - RR	RED	RED	700	5	10	120	2,0	2,5		25
KDE 32 - YY	YELLOW	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KDE 32 - GG	GREEN	GREEN	565	12,5	10	120	2,2	2,5	to	25
KDE 32 - SS	SUPER RED	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KDE 32 - II	IPER RED	IPER RED	660	100	20	120	1,85	2,5		30
MULTICOLOURED										
KDE 32 - GR	GREEN	RED								
KDE 32 - YR	YELLOW	RED								
KDE 32 - YG	YELLOW	GREEN								
KDE 32 - SG	SUPER RED	GREEN		TECHNICAL DATAS: SEE ABOVE						
KDE 32 - SY	SUPER RED	YELLOW								
KDE 32 - RG	RED	GREEN								
KDE 32 - RY	RED	YELLOW								
KDE 32 - GY	GREEN	YELLOW								
KDE 32 - GS	GREEN	SUPER RED								
KDE 32 - YS	YELLOW	SUPER RED								
LOW CURRENT										
KDE 32-RRL	RED	RED	625	2	2	120	1,8	2,5		7,5
KDE 32-YYL	YELLOW	YELLOW	590	2	2	120	1,9	2,5	- 55	7,5
KDE 32-GGL	GREEN	GREEN	565	2	2	120	1,9	2,5	to	7,5
KDE 32-IIL	IPER RED	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED		nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure:
  - standard 100.000 hours
  - low current 250.000 hours

OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST

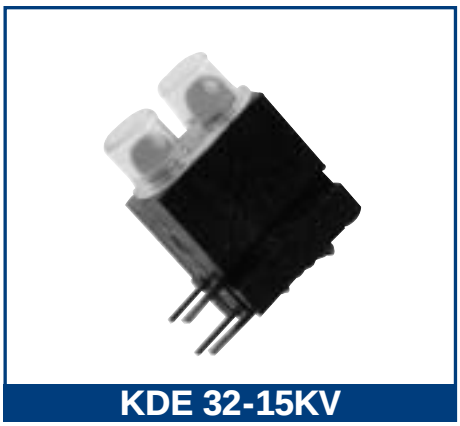
BILEVEL COMBINABLE *(acc DIN 41494) with cover for 15 KV - ESD*



KDE 30-15KV



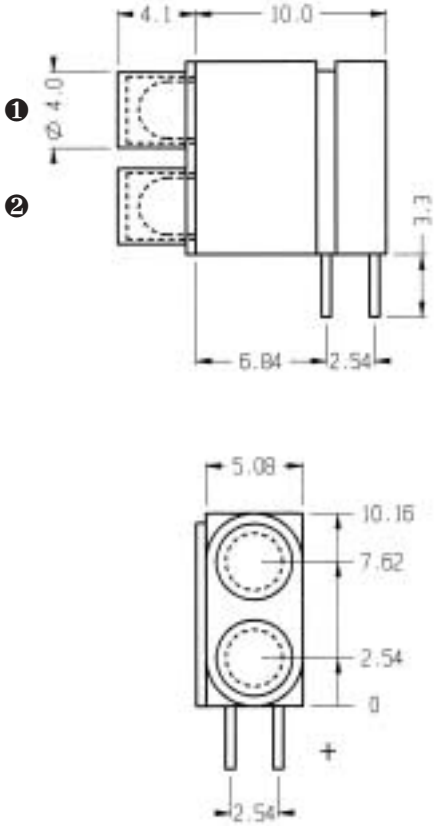
KDE 31-15KV



KDE 32-15KV

SERIES KDE 32-15KV — Ø 3 mm LED

TYPE	EMITTED COLOUR ❶	EMITTED COLOUR ❷	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KDE 32-15KV - RR	RED	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KDE 32-15KV - YY	YELLOW	YELLOW	590	12,5	10	120	2,2	2,5		25
KDE 32-15KV - GG	GREEN	GREEN	565	12,5	10	120	2,1	2,5		30
KDE 32-15KV - SS	SUPER RED	SUPER RED	625	20	10	120	2,0	2,5		30
KDE 32-15KV - II	IPER RED	IPER RED	660	100	20	120	1,85	2,5		30
MULTICOLOURED										
KDE 32-15KV - GR	GREEN	RED								
KDE 32-15KV - YR	YELLOW	RED								
KDE 32-15KV - YG	YELLOW	GREEN		FOR TECHNICAL DATAS:						
KDE 32-15KV - SG	SUPER RED	GREEN		SEE ABOVE						
KDE 32-15KV - SY	SUPER RED	YELLOW								
KDE 32-15KV - RG	RED	GREEN								
KDE 32-15KV - RY	RED	YELLOW								
KDE 32-15KV - GY	GREEN	YELLOW								
KDE 32-15KV - GS	GREEN	SUPER RED								
KDE 32-15KV - YS	YELLOW	SUPER RED								
LOW CURRENT										
KDE 32-15KV - RRL	RED	RED	625	2	2	120	1,8	2,5		7,5
KDE 32-15KV - YYL	YELLOW	YELLOW	590	2	2	120	1,9	2,5		7,5
KDE 32-15KV - GGL	GREEN	GREEN	565	2	2	120	1,9	2,5		7,5
KDE 32-15KV - IIL	IPER RED	IPER RED	660	20	2	120	1,85	2,5		7,5
MULTICOLOURED LOW CURRENT										
KDE 32-15KV - GRL	GREEN	RED								
KDE 32-15KV - YRL	YELLOW	RED								
KDE 32-15KV - YGL	YELLOW	GREEN		FOR TECHNICAL DATAS:						
KDE 32-15KV - SGL	SUPER RED	GREEN		SEE ABOVE						
KDE 32-15KV - SYL	SUPER RED	YELLOW								
KDE 32-15KV - RGL	RED	GREEN								
KDE 32-15KV - RYL	RED	YELLOW								
KDE 32-15KV - GYL	GREEN	YELLOW								
KDE 32-15KV - GSL	GREEN	SUPER RED								
KDE 32-15KV - YSL	YELLOW	SUPER RED								
QUALITY TESTED 100%	DIFFUSED		nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

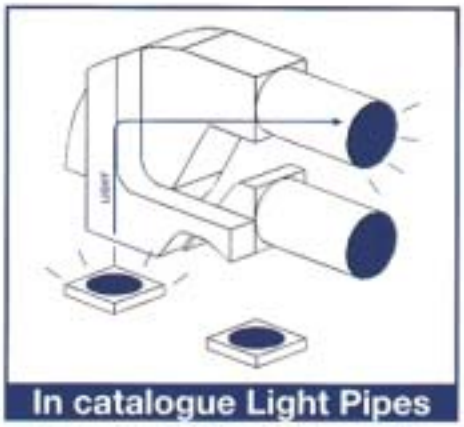
MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

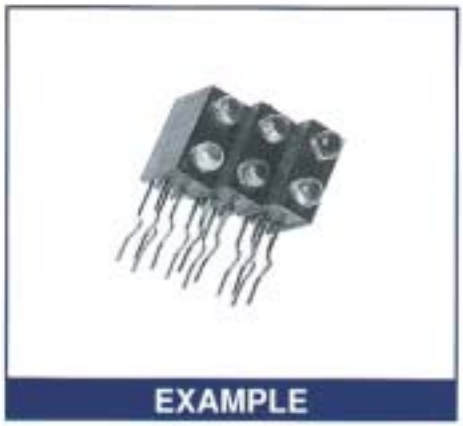
OPTIONS AVAILABLE

- ◆ 5V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOLAR
- ◆ BLUE OR WHITE LEDs
- ◆ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST

BILEVEL PCB LEDs



In catalogue Light Pipes



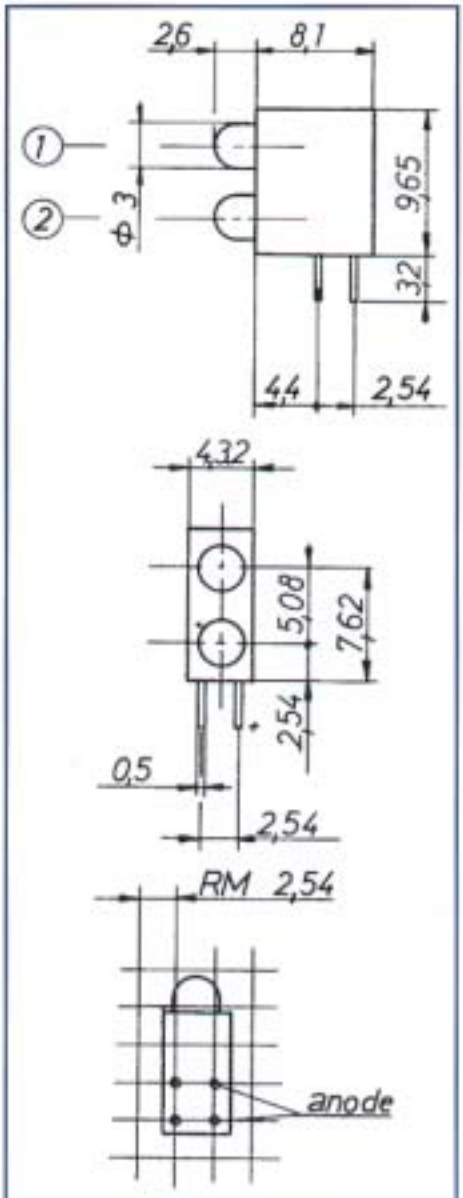
EXAMPLE



KUS 32

SERIES KUS 32 — Ø 3 mm LED

TYPE	EMITTED COLOUR ❶	EMITTED COLOUR ❷	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA) TYP.	FORWARD VOLTAGE (IF=20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KUS 32 - RR	RED	RED	700	5	10	120	2,0	2,5		25
KUS 32 - YY	YELLOW	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KUS 32 - GG	GREEN	GREEN	565	12,5	10	120	2,2	2,5	to	25
KUS 32 - SS	SUPER RED	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KUS 32 - II	IPER RED	IPER RED	660	100	20	120	1,85	2,5		30
MULTICOLOURED										
KUS 32 - GR	GREEN	RED								
KUS 32 - YR	YELLOW	RED								
KUS 32 - YG	YELLOW	GREEN								
KUS 32 - SG	SUPER RED	GREEN		TECHNICAL DATAS:						
KUS 32 - SY	SUPER RED	YELLOW		SEE ABOVE						
KUS 32 - RG	RED	GREEN								
KUS 32 - RY	RED	YELLOW								
KUS 32 - GY	GREEN	YELLOW								
KUS 32 - GS	GREEN	SUPER RED								
KUS 32 - YS	YELLOW	SUPER RED								
LOW CURRENT										
KUS 32-RRL	RED	RED	625	2	2	120	1,8	2,5		7,5
KUS 32-YYL	YELLOW	YELLOW	590	2	2	120	1,9	2,5	- 55	7,5
KUS 32-GGL	GREEN	GREEN	565	2	2	120	1,9	2,5	to	7,5
KUS 32-IIL	IPER RED	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
MULTICOLOURED LOW CURRENT										
KUS 32 - GRL	GREEN	RED								
KUS 32 - YRL	YELLOW	RED								
KUS 32 - YGL	YELLOW	GREEN								
KUS 32 - SGL	SUPER RED	GREEN		TECHNICAL DATAS:						
KUS 32 - SYL	SUPER RED	YELLOW		SEE ABOVE						
KUS 32 - RGL	RED	GREEN								
KUS 32 - RYL	RED	YELLOW								
KUS 32 - GYL	GREEN	YELLOW								
KUS 32 - GSL	GREEN	SUPER RED								
KUS 32 - YSL	YELLOW	SUPER RED								
QUALITY TESTED 100%	DIFFUSED		nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

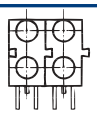
- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure:
  - standard 100.000 hours
  - low current 250.000 hours

OPTIONS AVAILABLE

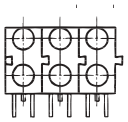
- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST

KHATOD® OPTOELECTRONIC

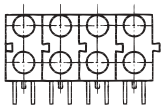
SNAP TOGETHER DESIGN



K 109/2



K 109/3

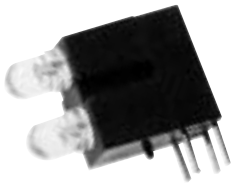


K 109/4

EXAMPLE



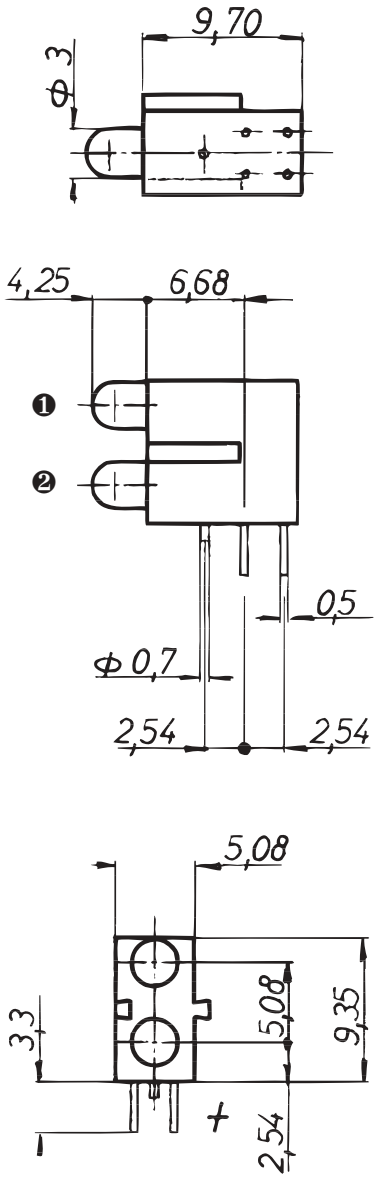
EXAMPLE



K 109

SERIES K 109 — Ø 3 mm LED

TYPE	EMITTED COLOUR ❶	EMITTED COLOUR ❷	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
K 109 - RR	RED	RED	700	5	10	120	2,0	2,5		25
K 109 - YY	YELLOW	YELLOW	590	12,5	10	120	2,2	2,5	- 55	25
K 109 - GG	GREEN	GREEN	565	12,5	10	120	2,1	2,5	to	30
K 109 - SS	SUPER RED	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
K 109 - II	IPER RED	IPER RED	660	100	20	120	1,85	2,5		30
MULTICOLOURED										
K 109 - GR	GREEN	RED								
K 109 - YR	YELLOW	RED								
K 109 - YG	YELLOW	GREEN		FOR TECHNICAL DATAS:						
K 109 - SG	SUPER RED	GREEN		SEE ABOVE						
K 109 - SY	SUPER RED	YELLOW								
K 109 - RG	RED	GREEN								
K 109 - RY	RED	YELLOW								
K 109 - GY	GREEN	YELLOW								
K 109 - GS	GREEN	SUPER RED								
K 109 - YS	YELLOW	SUPER RED								
LOW CURRENT										
K 109 - RRL	RED	RED	625	2	2	120	1,8	2,5		7,5
K 109 - YYL	YELLOW	YELLOW	590	2	2	120	1,9	2,5		7,5
K 109 - GGL	GREEN	GREEN	565	2	2	120	1,9	2,5		7,5
K 109 - IIL	IPER RED	IPER RED	660	20	2	120	1,85	2,5		7,5
MULTICOLOURED LOW CURRENT										
K 109 - GRL	GREEN	RED								
K 109 - YRL	YELLOW	RED								
K 109 - YGL	YELLOW	GREEN		FOR TECHNICAL DATAS:						
K 109 - SGL	SUPER RED	GREEN		SEE ABOVE						
K 109 - SYL	SUPER RED	YELLOW								
K 109 - RGL	RED	GREEN								
K 109 - RYL	RED	YELLOW								
K 109 - GYL	GREEN	YELLOW								
K 109 - GSL	GREEN	SUPER RED								
K 109 - YSL	YELLOW	SUPER RED								
QUALITY TESTED 100%	DIFFUSED		nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- 5V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST

MINIATURE, BILEVEL PCB LEDs



In catalogue Light Pipes



KTP 302

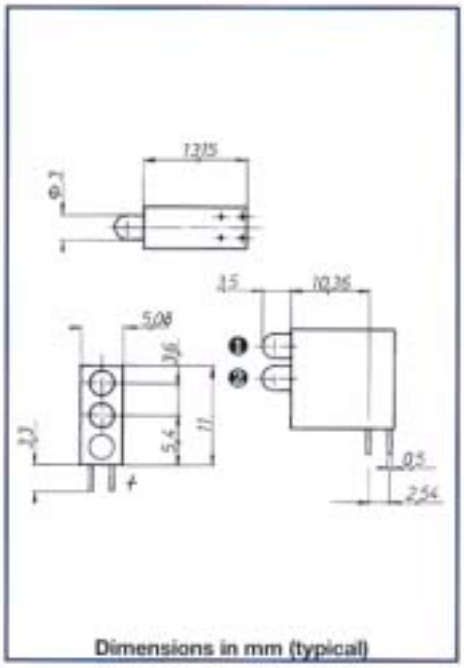


KTP 304

SERIES KTP 302 — Ø 3 mm LED

TYPE	EMITTED COLOUR ❶	EMITTED COLOUR ❷	PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KTP 302 - RR	RED	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KTP 302 - YY	YELLOW	YELLOW	590	12,5	10	120	2,2	2,5		25
KTP 302 - GG	GREEN	GREEN	565	12,5	10	120	2,1	2,5		30
KTP 302 - SS	SUPER RED	SUPER RED	625	20	10	120	2,0	2,5		30
KTP 302 - II	IPER RED	IPER RED	660	100	20	120	1,85	2,5		30
MULTICOLOURED										
KTP 302 - GR	GREEN	RED								
KTP 302 - YR	YELLOW	RED								
KTP 302 - YG	YELLOW	GREEN								
KTP 302 - SG	SUPER RED	GREEN								
KTP 302 - SY	SUPER RED	YELLOW								
KTP 302 - RG	RED	GREEN								
KTP 302 - RY	RED	YELLOW								
KTP 302 - GY	GREEN	YELLOW								
KTP 302 - GS	GREEN	SUPER RED								
KTP 302 - YS	YELLOW	SUPER RED								
LOW CURRENT										
KTP 302 - RRL	RED	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
KTP 302 - YYL	YELLOW	YELLOW	590	2	2	120	1,9	2,5		7,5
KTP 302 - GGL	GREEN	GREEN	565	2	2	120	1,9	2,5		7,5
KTP 302 - IIL	IPER RED	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED		nm	mcd	mA	DEGREE*	V	V	°C	mA

FOR TECHNICAL DATAS: SEE ABOVE

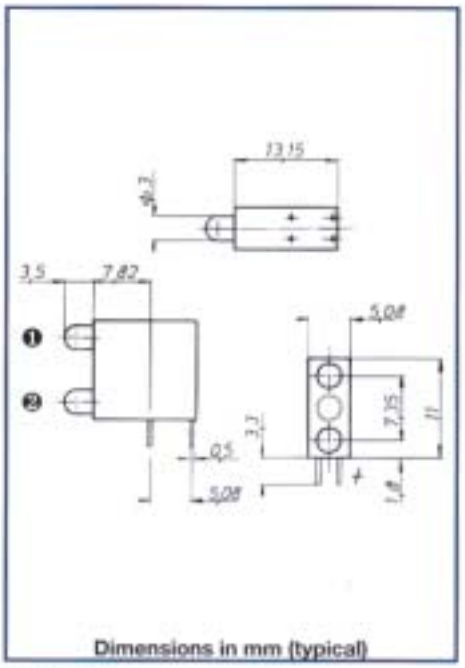


Dimensions in mm (typical)

SERIES KTP 304 — Ø 3 mm LED

TYPE	EMITTED COLOUR ❶	EMITTED COLOUR ❷	PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KTP 304 - RR	RED	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KTP 304 - YY	YELLOW	YELLOW	590	12,5	10	120	2,2	2,5		25
KTP 304 - GG	GREEN	GREEN	565	12,5	10	120	2,1	2,5		30
KTP 304 - SS	SUPER RED	SUPER RED	625	20	10	120	2,0	2,5		30
KTP 304 - II	IPER RED	IPER RED	660	100	20	120	1,85	2,5		30
MULTICOLOURED										
KTP 304 - GR	GREEN	RED								
KTP 304 - YR	YELLOW	RED								
KTP 304 - YG	YELLOW	GREEN								
KTP 304 - SG	SUPER RED	GREEN								
KTP 304 - SY	SUPER RED	YELLOW								
KTP 304 - RG	RED	GREEN								
KTP 304 - RY	RED	YELLOW								
KTP 304 - GY	GREEN	YELLOW								
KTP 304 - GS	GREEN	SUPER RED								
KTP 304 - YS	YELLOW	SUPER RED								
LOW CURRENT										
KTP 304 - RRL	RED	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
KTP 304 - YYL	YELLOW	YELLOW	590	2	2	120	1,9	2,5		7,5
KTP 304 - GGL	GREEN	GREEN	565	2	2	120	1,9	2,5		7,5
KTP 304 - IIL	IPER RED	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED		nm	mcd	mA	DEGREE*	V	V	°C	mA

FOR TECHNICAL DATAS: SEE ABOVE



Dimensions in mm (typical)

MATERIAL SPECIFICATION

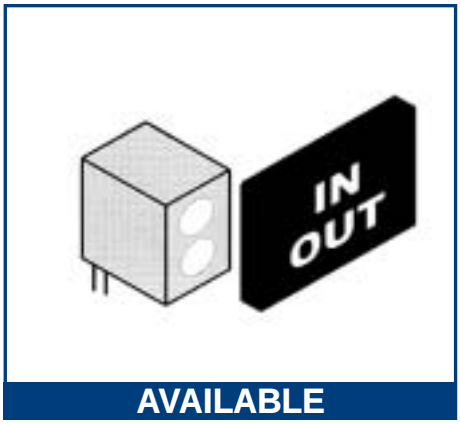
- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

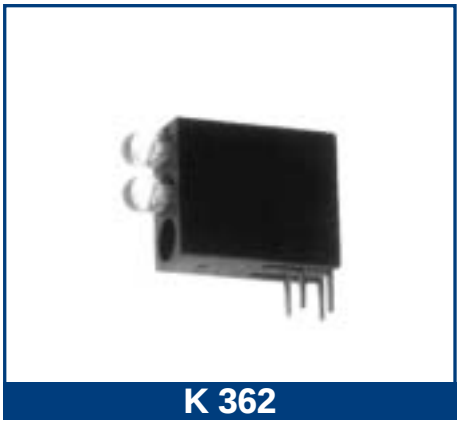
- 5V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST

KHATOD® OPTOELECTRONIC

MINIATURE, BILEVEL PCB LEDs



AVAILABLE



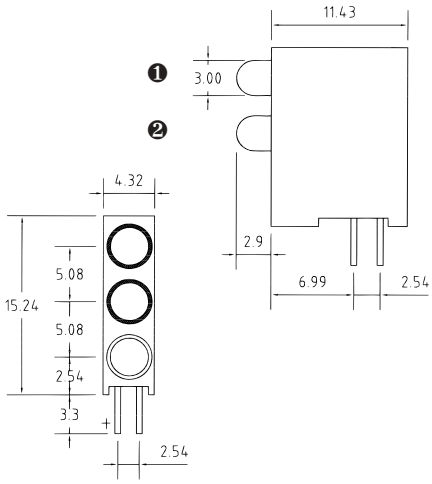
K 362



K 364

SERIES K 362 — Ø 3 mm LED

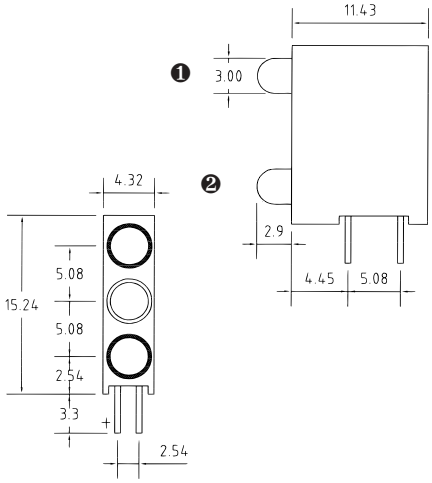
TYPE	EMITTED COLOUR ❶	EMITTED COLOUR ❷	EMITTED COLOUR PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
K 362 - RR	RED	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
K 362 - YY	YELLOW	YELLOW	590	12,5	10	120	2,2	2,5		25
K 362 - GG	GREEN	GREEN	565	12,5	10	120	2,1	2,5		30
K 362 - SS	SUPER RED	SUPER RED	625	20	10	120	2,0	2,5		30
K 362 - II	IPER RED	IPER RED	660	100	20	120	1,85	2,5		30
MULTICOLOURED										
K 362 - GR	GREEN	RED								
K 362 - YR	YELLOW	RED								
K 362 - YG	YELLOW	GREEN		FOR TECHNICAL DATAS: SEE ABOVE						
K 362 - SG	SUPER RED	GREEN								
K 362 - SY	SUPER RED	YELLOW								
K 362 - RG	RED	GREEN								
K 362 - RY	RED	YELLOW								
K 362 - GY	GREEN	YELLOW								
K 362 - GS	GREEN	SUPER RED								
K 362 - YS	YELLOW	SUPER RED								
LOW CURRENT										
K 362 - RRL	RED	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 362 - YYL	YELLOW	YELLOW	590	2	2	120	1,9	2,5		7,5
K 362 - GGL	GREEN	GREEN	565	2	2	120	1,9	2,5		7,5
K 362 - IIL	IPER RED	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED		nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES K 364 — Ø 3 mm LED

TYPE	EMITTED COLOUR ❶	EMITTED COLOUR ❷	EMITTED COLOUR PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
K 364 - RR	RED	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
K 364 - YY	YELLOW	YELLOW	590	12,5	10	120	2,2	2,5		25
K 364 - GG	GREEN	GREEN	565	12,5	10	120	2,1	2,5		30
K 364 - SS	SUPER RED	SUPER RED	625	20	10	120	2,0	2,5		30
K 364 - II	IPER RED	IPER RED	660	100	20	120	1,85	2,5		30
MULTICOLOURED										
K 364 - GR	GREEN	RED								
K 364 - YR	YELLOW	RED								
K 364 - YG	YELLOW	GREEN		FOR TECHNICAL DATAS: SEE ABOVE						
K 364 - SG	SUPER RED	GREEN								
K 364 - SY	SUPER RED	YELLOW								
K 364 - RG	RED	GREEN								
K 364 - RY	RED	YELLOW								
K 364 - GY	GREEN	YELLOW								
K 364 - GS	GREEN	SUPER RED								
K 364 - YS	YELLOW	SUPER RED								
LOW CURRENT										
K 364 - RRL	RED	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 364 - YYL	YELLOW	YELLOW	590	2	2	120	1,9	2,5		7,5
K 364 - GGL	GREEN	GREEN	565	2	2	120	1,9	2,5		7,5
K 364 - IIL	IPER RED	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED		nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

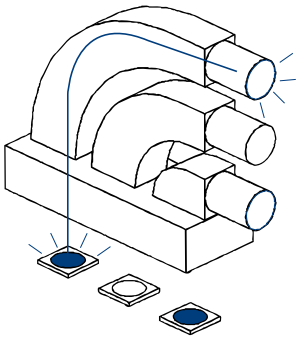
MATERIAL SPECIFICATION

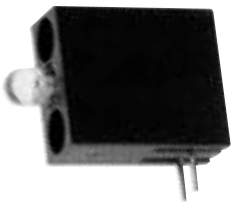
- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

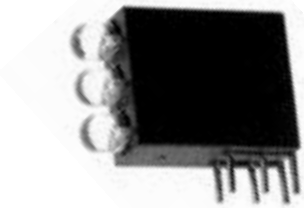
OPTIONS AVAILABLE

- 5V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST

MINIATURE, TRILEVEL PCB LEDs







KTP 303

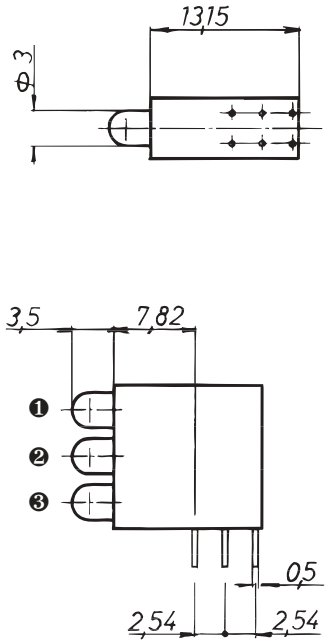
SERIES KTP 303 — Ø 3 mm LED

TYPE	EMITTED COLOUR ❶	❷	❸	LUMINOUS INTENSITY TYP.	IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KTP 303 - R	RED	RED	RED	5	10	120	2,0	2,5	- 55 to + 100	25
KTP 303 - G	GREEN	GREEN	GREEN	12,5	10	120	2,2	2,5		25
KTP 303 - Y	YELLOW	YELLOW	YELLOW	12,5	10	120	2,1	2,5		30
KTP 303 - S	SUPER RED	SUPER RED	SUPER RED	20	10	120	2,0	2,5		30
KTP 303 - I	IPER RED	IPER RED	IPER RED	100	20	120	1,85	2,5		30
MULTICOLOURED										
KTP 303 - RYG	RED	YELLOW	GREEN	FOR TECHNICAL DATAS: SEE ABOVE						
KTP 303 - GYR	GREEN	YELLOW	RED							
KTP 303 - RGY	RED	GREEN	YELLOW							
KTP 303 - GRY	GREEN	RED	YELLOW							
KTP 303 - YRG	YELLOW	RED	GREEN							
KTP 303 - YGR	YELLOW	GREEN	RED							
KTP 303 - RGG	RED	GREEN	GREEN							
KTP 303 - YGG	YELLOW	GREEN	GREEN							
KTP 303 - GYY	GREEN	YELLOW	YELLOW							
KTP 303 - GRR	GREEN	RED	RED							
KTP 303 - RGG	RED	GREEN	GREEN							
KTP 303 - RRY	RED	RED	YELLOW							
LOW CURRENT										
KTP 303 - RL	RED	RED	RED	2	2	120	1,8	2,5	- 55 to + 100	7,5
KTP 303 - GL	GREEN	GREEN	GREEN	2	2	120	1,9	2,5		7,5
KTP 303 - YL	YELLOW	YELLOW	YELLOW	2	2	120	1,9	2,5		7,5
KTP 303 - IL	IPER RED	IPER RED	IPER RED	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED		nm	mcd	mA	DEGREE°	V	V	°C	mA

PART NUMBERS EXAMPLES MULTICOLOURED:

KTP 303 - R / G / Y - L

- R → LED ❶ COLOUR (RED)
- G → LED ❷ COLOUR (GREEN)
- Y → LED ❸ COLOUR (YELLOW)
- L → LOW CURRENT (IF INQUIRED)



Dimensions in mm (typical)

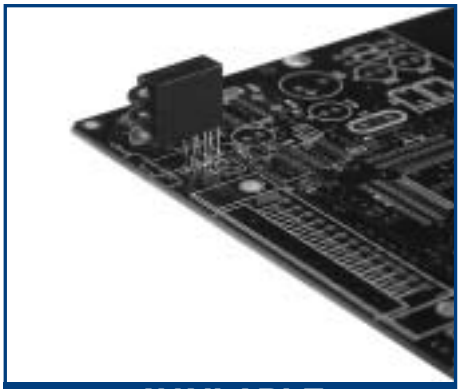
MATERIAL SPECIFICATION

- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

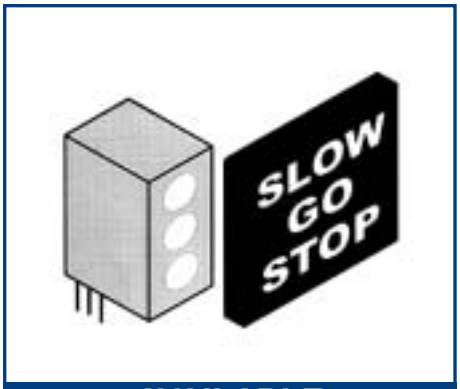
OPTIONS AVAILABLE

- 5V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST

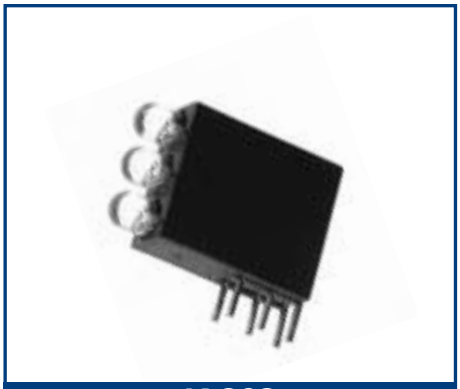
MINIATURE, TRILEVEL PCB LEDs



AVAILABLE



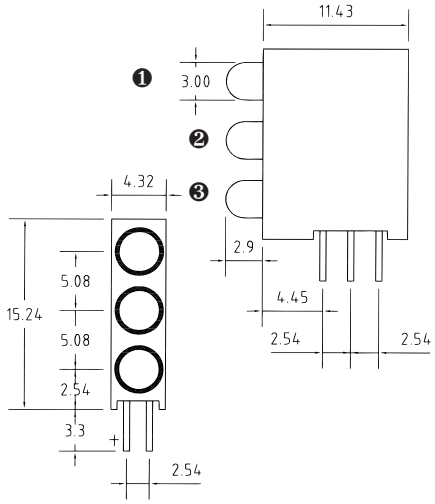
AVAILABLE



K 368

SERIES K 368 — Ø 3 mm LED

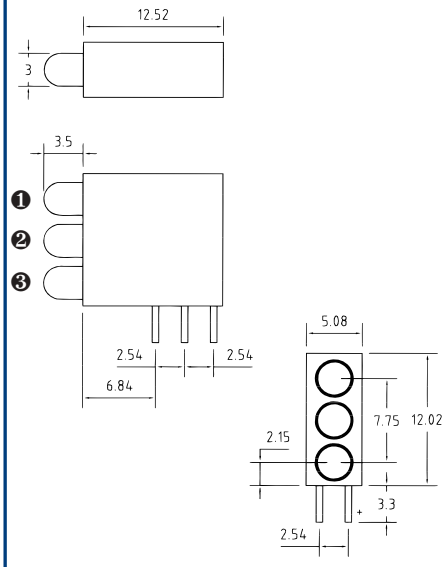
TYPE	EMITTED COLOUR ❶	❷	❸	LUMINOUS INTENSITY TYP.	IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	MAX	OPERATING TEMPERATURE	FORWARD CURRENT
K 368 - R	RED	RED	RED	5	10	120	2,0	2,5	- 55 to + 100	25
K 368 - G	GREEN	GREEN	GREEN	12,5	10	120	2,2	2,5		25
K 368 - Y	YELLOW	YELLOW	YELLOW	12,5	10	120	2,1	2,5		30
K 368 - S	SUPER RED	SUPER RED	SUPER RED	20	10	120	2,0	2,5		30
K 368 - I	IPER RED	IPER RED	IPER RED	100	20	120	1,85	2,5		30
MULTICOLOURED										
K 368 - RYG	RED	YELLOW	GREEN	FOR TECHNICAL DATAS: SEE ABOVE						
K 368 - GYR	GREEN	YELLOW	RED							
K 368 - RGY	RED	GREEN	YELLOW							
K 368 - GRY	GREEN	RED	YELLOW							
K 368 - YRG	YELLOW	RED	GREEN							
K 368 - YGR	YELLOW	GREEN	RED							
K 368 - RGG	RED	GREEN	GREEN							
K 368 - YGG	YELLOW	GREEN	GREEN							
K 368 - GYY	GREEN	YELLOW	YELLOW							
K 368 - GRR	GREEN	RED	RED							
K 368 - RGG	RED	GREEN	GREEN							
K 368 - RRY	RED	RED	YELLOW							
LOW CURRENT										
K 368 - RL	RED	RED	RED	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 368 - GL	GREEN	GREEN	GREEN	2	2	120	1,9	2,5		7,5
K 368 - YL	YELLOW	YELLOW	YELLOW	2	2	120	1,9	2,5		7,5
K 368 - IL	IPER RED	IPER RED	IPER RED	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED			mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES K 370 — Ø 3 mm LED

TYPE	EMITTED COLOUR ❶	❷	❸	LUMINOUS INTENSITY TYP.	IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	MAX	OPERATING TEMPERATURE	FORWARD CURRENT
K 370 - R	RED	RED	RED	5	10	120	2,0	2,5	- 55 to + 100	25
K 370 - G	GREEN	GREEN	GREEN	12,5	10	120	2,2	2,5		25
K 370 - Y	YELLOW	YELLOW	YELLOW	12,5	10	120	2,1	2,5		30
K 370 - S	SUPER RED	SUPER RED	SUPER RED	20	10	120	2,0	2,5		30
K 370 - I	IPER RED	IPER RED	IPER RED	100	20	120	1,85	2,5		30
MULTICOLOURED										
K 370 - RYG	RED	YELLOW	GREEN	FOR TECHNICAL DATAS: SEE ABOVE						
K 370 - GYR	GREEN	YELLOW	RED							
K 370 - RGY	RED	GREEN	YELLOW							
K 370 - GRY	GREEN	RED	YELLOW							
K 370 - YRG	YELLOW	RED	GREEN							
K 370 - YGR	YELLOW	GREEN	RED							
K 370 - RGG	RED	GREEN	GREEN							
K 370 - YGG	YELLOW	GREEN	GREEN							
K 370 - GYY	GREEN	YELLOW	YELLOW							
K 370 - GRR	GREEN	RED	RED							
K 370 - RGG	RED	GREEN	GREEN							
K 370 - RRY	RED	RED	YELLOW							
LOW CURRENT										
K 370 - RL	RED	RED	RED	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 370 - GL	GREEN	GREEN	GREEN	2	2	120	1,9	2,5		7,5
K 370 - YL	YELLOW	YELLOW	YELLOW	2	2	120	1,9	2,5		7,5
K 370 - IL	IPER RED	IPER RED	IPER RED	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED			mcd	mA	DEGREE°	V	V	°C	mA

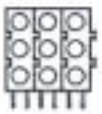


Dimensions in mm (typical)

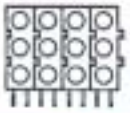
SNAP TOGETHER DESIGN



KTC 303/2...



KTC 303/3...



KTC 303/4...

AVAILABLE



EXAMPLE



KTC 303

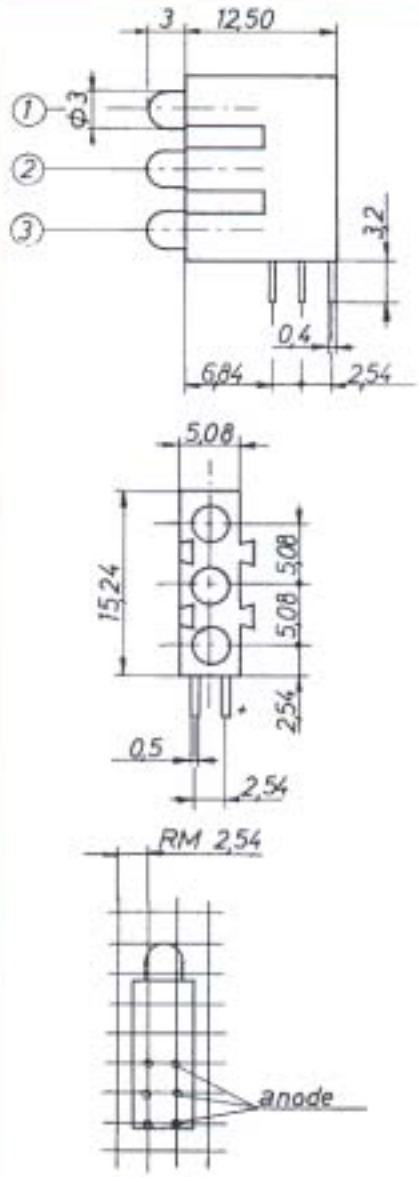
SERIES KTC 303 — Ø 3 mm LED

TYPE	EMITTED COLOUR ❶	❷	❸	LUMINOUS INTENSITY TYP.	IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA) TYP.	MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KTC 303 - R	RED	RED	RED	5	10	120	2,0	2,5		25
KTC 303 - G	GREEN	GREEN	GREEN	12,5	10	120	2,2	2,5	- 55	25
KTC 303 - Y	YELLOW	YELLOW	YELLOW	12,5	10	120	2,1	2,5	to	30
KTC 303 - S	SUPER RED	SUPER RED	S. RED	20	10	120	2,0	2,5	+ 100	30
KTC 303 - I	IPER RED	IPER RED	I. RED	100	20	120	1,85	2,5		30
MULTICOLOURED										
KTC 303 - RYG	RED	YELLOW	GREEN							
KTC 303 - GYR	GREEN	YELLOW	RED							
KTC 303 - RGY	RED	GREEN	YELLOW							
KTC 303 - GRY	GREEN	RED	YELLOW	FOR TECHNICAL DATAS: SEE ABOVE						
KTC 303 - YRG	YELLOW	RED	GREEN							
KTC 303 - YGR	YELLOW	GREEN	RED							
KTC 303 - RGG	RED	GREEN	GREEN							
KTC 303 - YGG	YELLOW	GREEN	GREEN							
KTC 303 - GYY	GREEN	YELLOW	YELLOW							
KTC 303 - GRR	GREEN	RED	RED							
KTC 303 - RRG	RED	RED	GREEN							
KTC 303 - RRY	RED	RED	YELLOW							
LOW CURRENT										
KTC 303 - RL	RED	RED	RED	2	2	120	1,8	2,5		7,5
KTC 303 - GL	GREEN	GREEN	GREEN	2	2	120	1,9	2,5	- 55	7,5
KTC 303 - YL	YELLOW	YELLOW	YELLOW	2	2	120	1,9	2,5	to	7,5
KTC 303 - IL	IPER RED	IPER RED	IPER RED	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED		nm	mcd	mA	DEGREE°	V	V	°C	mA

PART NUMBERS EXAMPLES MULTICOLOURED:

KTC 303 - R / G / Y - L

- R: LED ❶ COLOUR (RED)
- G: LED ❷ COLOUR (GREEN)
- Y: LED ❸ COLOUR (YELLOW)
- L: LOW CURRENT (IF INQUIRED)



Dimensions in mm (typical)

MATERIAL SPECIFICATION

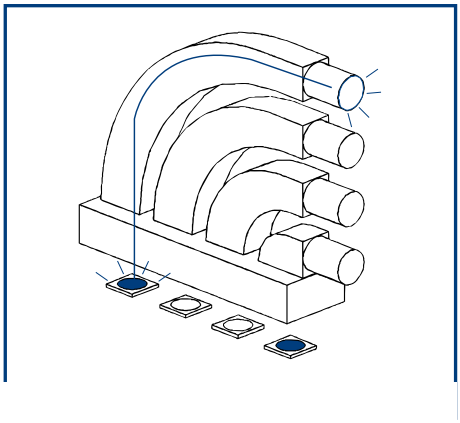
- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure:
  - standard 100.000 hours
  - low current 250.000 hours

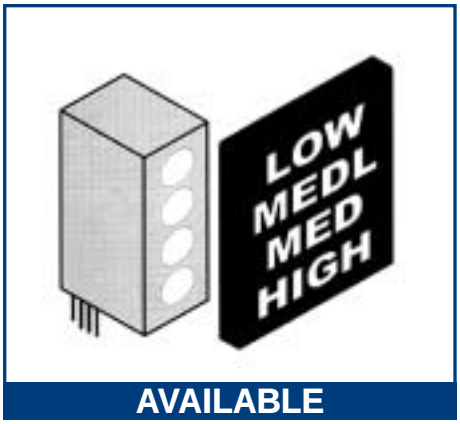
OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST

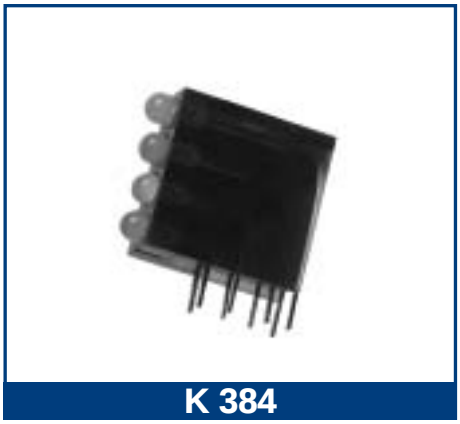
KHATOD® OPTOELECTRONIC

MINIATURE QUAD LEVEL PCB LEDs





AVAILABLE



K 384

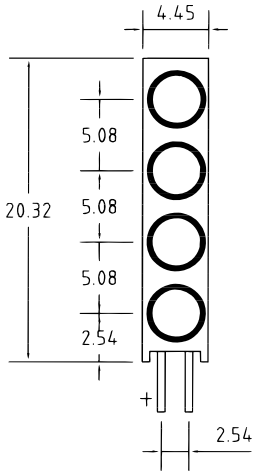
SERIES K 384 — Ø 3 mm LED

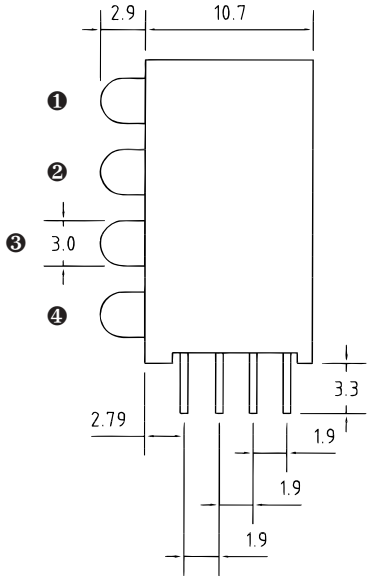
TYPE	EMITTED COLOUR ❶	❷	❸	❹	LUMINOUS INTENSITY TYP.	IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	MAX	OPERATING TEMPERATURE	FORWARD CURRENT
K 384 - R	RED	RED	RED	RED	5	10	120	2,0	2,5	- 55 to + 100	25
K 384 - G	GREEN	GREEN	GREEN	GREEN	12,5	10	120	2,2	2,5		25
K 384 - Y	YELLOW	YELLOW	YELLOW	YELLOW	12,5	10	120	2,1	2,5		30
K 384 - S	SUPER RED	SUPER RED	SUPER RED	SUPER RED	20	10	120	2,0	2,5		30
K 384 - I	IPER RED	IPER RED	IPER RED	IPER RED	100	20	120	1,85	2,5		30
MULTICOLOURED											
K 384 - RYG	RED	YELLOW	GREEN	GREEN	FOR TECHNICAL DATAS: SEE ABOVE						
K 384 - GYR	GREEN	YELLOW	RED	RED							
K 384 - RGY	RED	GREEN	YELLOW	YELLOW							
K 384 - GRY	GREEN	RED	YELLOW	YELLOW							
K 384 - YRG	YELLOW	RED	GREEN	GREEN							
K 384 - YGR	YELLOW	GREEN	RED	RED							
K 384 - RGG	RED	GREEN	GREEN	GREEN							
K 384 - YGG	YELLOW	GREEN	GREEN	GREEN							
K 384 - GYY	GREEN	YELLOW	YELLOW	YELLOW							
K 384 - GRR	GREEN	RED	RED	RED							
K 384 - RGG	RED	GREEN	GREEN	GREEN							
K 384 - RRY	RED	RED	YELLOW	YELLOW							
LOW CURRENT											
K 384 - RL	RED	RED	RED	RED	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 384 - GL	GREEN	GREEN	GREEN	GREEN	2	2	120	1,9	2,5		7,5
K 384 - YL	YELLOW	YELLOW	YELLOW	YELLOW	2	2	120	1,9	2,5		7,5
K 384 - IL	IPER RED	IPER RED	IPER RED	IPER RED	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED				mcd	mA	DEGREE°	V	V	°C	mA

PART NUMBERS EXAMPLES MULTICOLOURED:

K 384 - R / G / Y - R L

- R → LED ❶ COLOUR (RED)
- G → LED ❷ COLOUR (GREEN)
- Y → LED ❸ COLOUR (YELLOW)
- R → LED ❹ COLOUR (RED)
- L → LOW CURRENT (IF INQUIRED)





Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- 5V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST

KHATOD® OPTOELECTRONIC

MINIATURE LED LINE, ARRANGEABLE IN ROWS



KML 2020



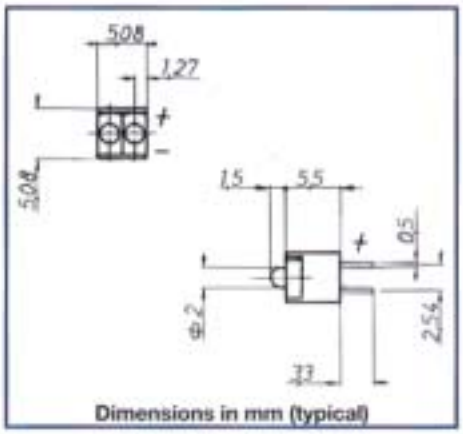
KML 2030



KML 2040

SERIES KML 2020 — Ø 1,8 mm LED

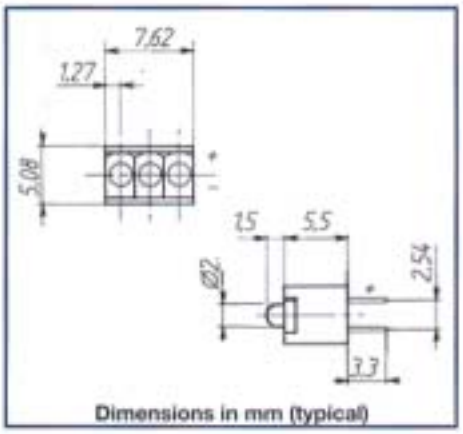
TYPE (2 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KML 2020 - R	RED	700	3,5	10	40	2,0	2,5		25
KML 2020 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KML 2020 - G	GREEN	565	5,5	10	40	2,2	2,5	- 55	25
KML 2020 - E	ORANGE	625	12,5	10	40	2,0	2,5	to	30
KML 2020 - S	SUPER RED	625	12,5	10	40	2,0	2,5	+ 100	30
KML 2020 - M	MULTICOLOURED	indicate colours from left to right (see drawing)							
KML 2020 - I	IPER RED	660	50	10	40	1,85	2,5		30
KML 2020 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE*	V	V	°C	mA



Dimensions in mm (typical)

SERIES KML 2030 — Ø 1,8 mm LED

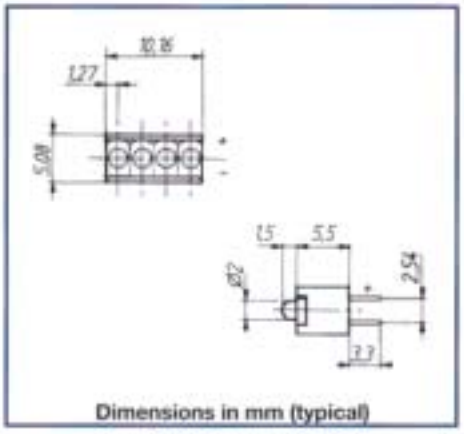
TYPE (3 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KML 2030 - R	RED	700	3,5	10	40	2,0	2,5		25
KML 2030 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KML 2030 - G	GREEN	565	5,5	10	40	2,2	2,5	- 55	25
KML 2030 - E	ORANGE	625	12,5	10	40	2,0	2,5	to	30
KML 2030 - S	SUPER RED	625	12,5	10	40	2,0	2,5	+ 100	30
KML 2030 - M	MULTICOLOURED	indicate colours from left to right (see drawing)							
KML 2030 - I	IPER RED	660	50	10	40	1,85	2,5		30
KML 2030 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE*	V	V	°C	mA



Dimensions in mm (typical)

SERIES KML 2040 — Ø 1,8 mm LED

TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KML 2040 - R	RED	700	3,5	10	40	2,0	2,5		25
KML 2040 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KML 2040 - G	GREEN	565	5,5	10	40	2,2	2,5	- 55	25
KML 2040 - E	ORANGE	625	12,5	10	40	2,0	2,5	to	30
KML 2040 - S	SUPER RED	625	12,5	10	40	2,0	2,5	+ 100	30
KML 2040 - M	MULTICOLOURED	indicate colours from left to right (see drawing)							
KML 2040 - I	IPER RED	660	50	10	40	1,85	2,5		30
KML 2040 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE*	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure 100.000 hours

FEATURES

- 1,8 mm sized led's save space
- colours can be mixed in a single housing
- facilitates PCB mounting and wave soldering
- vibration and shock resistance
- special leds on request

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MINIATURE LED LINE, ARRANGEABLE IN ROWS



KML 2050



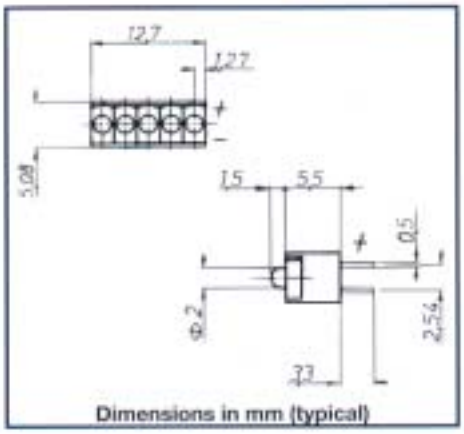
KML 2060



KML 2070

SERIES KML 2050 — Ø 1,8 mm LED

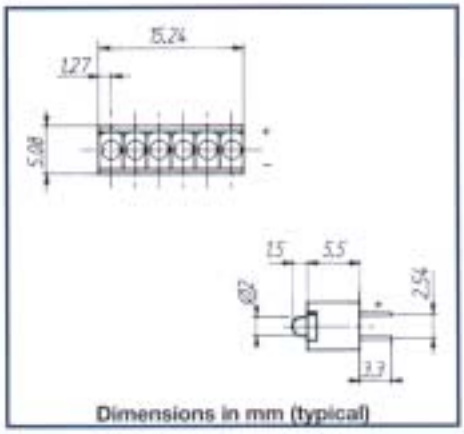
TYPE (5 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KML 2050 - R	RED	700	3,5	10	40	2,0	2,5		25
KML 2050 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KML 2050 - G	GREEN	565	5,5	10	40	2,2	2,5	- 55	25
KML 2050 - E	ORANGE	625	12,5	10	40	2,0	2,5	to	30
KML 2050 - S	SUPER RED	625	12,5	10	40	2,0	2,5	+ 100	30
KML 2050 - M	MULTICOLOURED	indicate colours from left to right (see drawing)							
KML 2050 - I	IPER RED	660	50	10	40	1,85	2,5		30
KML 2050 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KML 2060 — Ø 1,8 mm LED

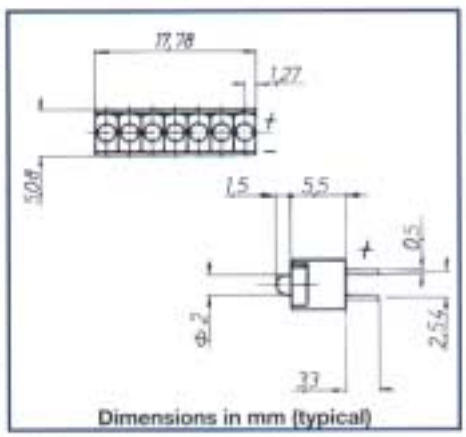
TYPE (6 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KML 2060 - R	RED	700	3,5	10	40	2,0	2,5		25
KML 2060 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KML 2060 - G	GREEN	565	5,5	10	40	2,2	2,5	- 55	25
KML 2060 - E	ORANGE	625	12,5	10	40	2,0	2,5	to	30
KML 2060 - S	SUPER RED	625	12,5	10	40	2,0	2,5	+ 100	30
KML 2060 - M	MULTICOLOURED	indicate colours from left to right (see drawing)							
KML 2060 - I	IPER RED	660	50	10	40	1,85	2,5		30
KML 2060 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KML 2070 — Ø 1,8 mm LED

TYPE (7 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KML 2070 - R	RED	700	3,5	10	40	2,0	2,5		25
KML 2070 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KML 2070 - G	GREEN	565	5,5	10	40	2,2	2,5	- 55	25
KML 2070 - E	ORANGE	625	12,5	10	40	2,0	2,5	to	30
KML 2070 - S	SUPER RED	625	12,5	10	40	2,0	2,5	+ 100	30
KML 2070 - M	MULTICOLOURED	indicate colours from left to right (see drawing)							
KML 2070 - I	IPER RED	660	50	10	40	1,85	2,5		30
KML 2070 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure 100.000 hours

FEATURES

- 1,8 mm sized led's save space
- colours can be mixed in a single housing
- facilitates PCB mounting and wave soldering
- vibration and shock resistance
- special leds on request

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MINIATURE LED LINE, ARRANGEABLE IN ROWS



KML 2080



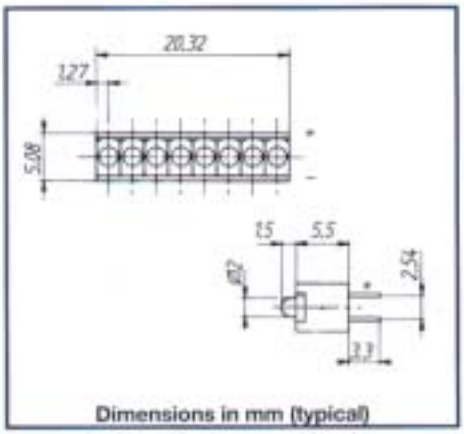
KML 2090



KML 2100

SERIES KML 2080 — Ø 1,8 mm LED

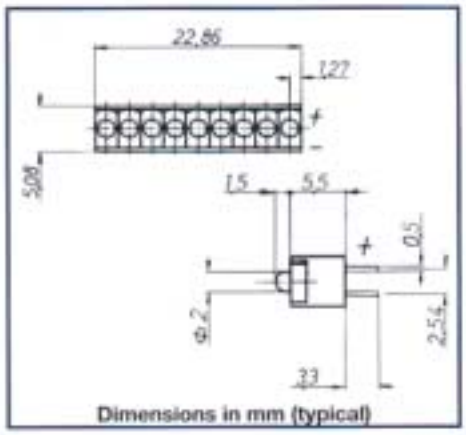
TYPE (8 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KML 2080 - R	RED	700	3,5	10	40	2,0	2,5		25
KML 2080 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KML 2080 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KML 2080 - E	ORANGE	625	12,5	10	40	2,0	2,5	- 55	30
KML 2080 - S	SUPER RED	625	12,5	10	40	2,0	2,5	to	30
KML 2080 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KML 2080 - I	IPER RED	660	50	10	40	1,85	2,5		30
KML 2080 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KML 2090 — Ø 1,8 mm LED

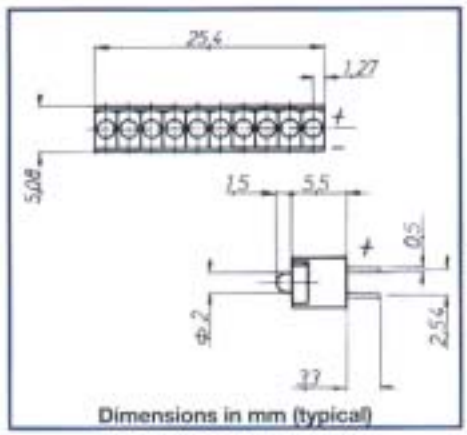
TYPE (9 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KML 2090 - R	RED	700	3,5	10	40	2,0	2,5		25
KML 2090 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KML 2090 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KML 2090 - E	ORANGE	625	12,5	10	40	2,0	2,5	- 55	30
KML 2090 - S	SUPER RED	625	12,5	10	40	2,0	2,5	to	30
KML 2090 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KML 2090 - I	IPER RED	660	50	10	40	1,85	2,5		30
KML 2090 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KML 2100 — Ø 1,8 mm LED

TYPE (10 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KML 2100 - R	RED	700	3,5	10	40	2,0	2,5		25
KML 2100 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KML 2100 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KML 2100 - E	ORANGE	625	12,5	10	40	2,0	2,5	- 55	30
KML 2100 - S	SUPER RED	625	12,5	10	40	2,0	2,5	to	30
KML 2100 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KML 2100 - I	IPER RED	660	50	10	40	1,85	2,5		30
KML 2100 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure 100.000 hours

FEATURES

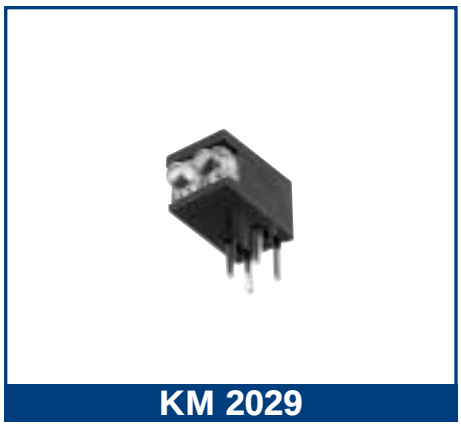
- 1,8 mm sized led's save space
- colours can be mixed in a single housing
- facilitates PCB mounting and wave soldering
- vibration and shock resistance
- special leds on request

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MINIATURE LED LINE, ARRANGEABLE IN ROWS



KM 2019



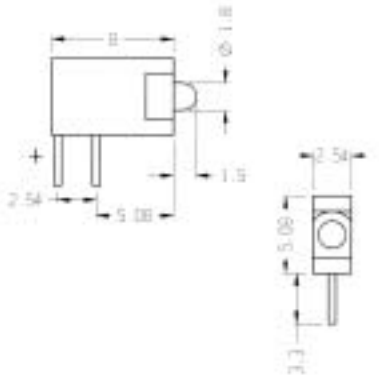
KM 2029



KM 2039

SERIES KM 2019 — Ø 1,8 mm LED

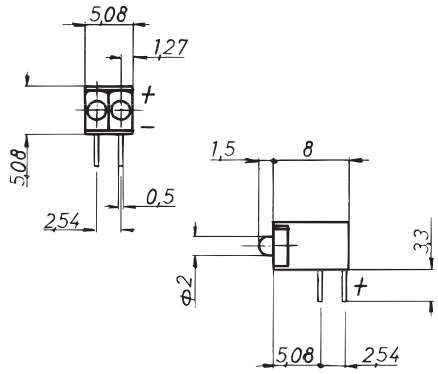
TYPE (1 LED)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KM 2019 - R	RED	700	3,5	10	40	2,0	2,5		25
KM 2019 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KM 2019 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KM 2019 - E	ORANGE	625	12,5	10	40	2,0	2,5	- 55	30
KM 2019 - S	SUPER RED	625	12,5	10	40	2,0	2,5	to	30
KM 2019 - I	IPER RED	660	50	10	40	1,85	2,5	+ 100	30
KM 2019 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KM 2029 — Ø 1,8 mm LED

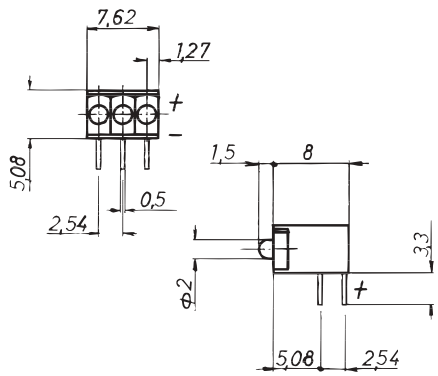
TYPE (2 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KM 2029 - R	RED	700	3,5	10	40	2,0	2,5		25
KM 2029 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KM 2029 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KM 2029 - E	ORANGE	625	12,5	10	40	2,0	2,5	- 55	30
KM 2029 - S	SUPER RED	625	12,5	10	40	2,0	2,5	to	30
KM 2029 - M	MULTICOLOURED	indicate colours from left to right (see drawing)						+ 100	
KM 2029 - I	IPER RED	660	50	10	40	1,85	2,5		30
KM 2029 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KM 2039 — Ø 1,8 mm LED

TYPE (3 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KM 2039 - R	RED	700	3,5	10	40	2,0	2,5		25
KM 2039 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KM 2039 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KM 2039 - E	ORANGE	625	12,5	10	40	2,0	2,5	- 55	30
KM 2039 - S	SUPER RED	625	12,5	10	40	2,0	2,5	to	30
KM 2039 - M	MULTICOLOURED	indicate colours from left to right (see drawing)						+ 100	
KM 2039 - I	IPER RED	660	50	10	40	1,85	2,5		30
KM 2039 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- **HOUSING: BLACK, UL94 V-0**
- **SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.**
- **FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3**
- **CLIMATE: DIN 40040**
- **TERMINATIONS: □ 0,5 mm leads**
- **Mean Time Between Failure 100.000 hours**

FEATURES

- **1,8 mm sized led's save space**
- **colours can be mixed in a single housing**
- **facilitates PCB mounting and wave soldering**
- **vibration and shock resistance**
- **special leds on request**

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MINIATURE LED LINE, ARRANGEABLE IN ROWS



KM 2049



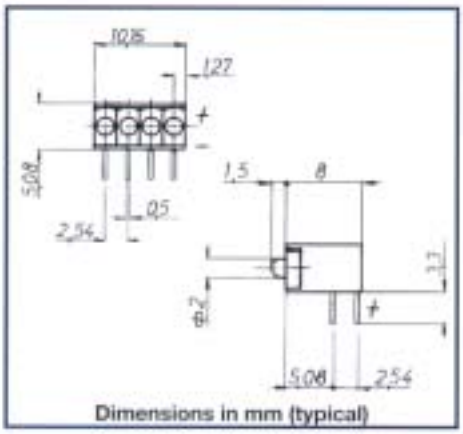
KM 2059



KM 2069

SERIES KM 2049 — Ø 1,8 mm LED

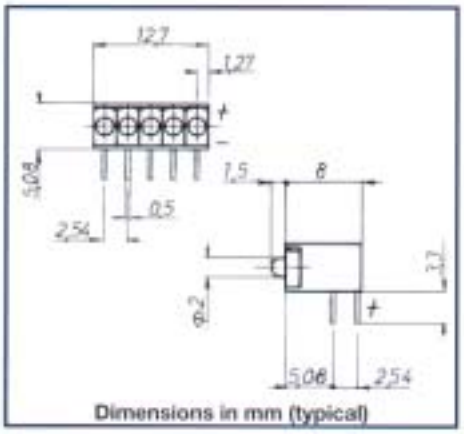
TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KM 2049 - R	RED	700	3,5	10	40	2,0	2,5		25
KM 2049 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KM 2049 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KM 2049 - E	ORANGE	625	12,5	10	40	2,0	2,5	- 55	30
KM 2049 - S	SUPER RED	625	12,5	10	40	2,0	2,5	to	30
KM 2049 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KM 2049 - I	IPER RED	660	50	10	40	1,85	2,5		30
KM 2049 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KM 2059 — Ø 1,8 mm LED

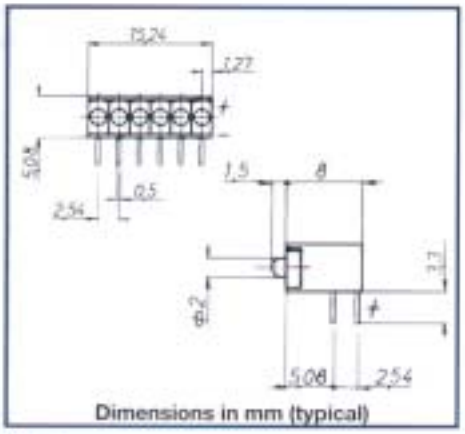
TYPE (5 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KM 2059 - R	RED	700	3,5	10	40	2,0	2,5		25
KM 2059 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KM 2059 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KM 2059 - E	ORANGE	625	12,5	10	40	2,0	2,5	- 55	30
KM 2059 - S	SUPER RED	625	12,5	10	40	2,0	2,5	to	30
KM 2059 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KM 2059 - I	IPER RED	660	50	10	40	1,85	2,5		30
KM 2059 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KM 2069 — Ø 1,8 mm LED

TYPE (6 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KM 2069 - R	RED	700	3,5	10	40	2,0	2,5		25
KM 2069 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KM 2069 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KM 2069 - E	ORANGE	625	12,5	10	40	2,0	2,5	- 55	30
KM 2069 - S	SUPER RED	625	12,5	10	40	2,0	2,5	to	30
KM 2069 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KM 2069 - I	IPER RED	660	50	10	40	1,85	2,5		30
KM 2069 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure 100.000 hours

FEATURES

- 1,8 mm sized led's save space
- colours can be mixed in a single housing
- facilitates PCB mounting and wave soldering
- vibration and shock resistance
- special leds on request

MINIATURE LED LINE, ARRANGEABLE IN ROWS



KM 2079



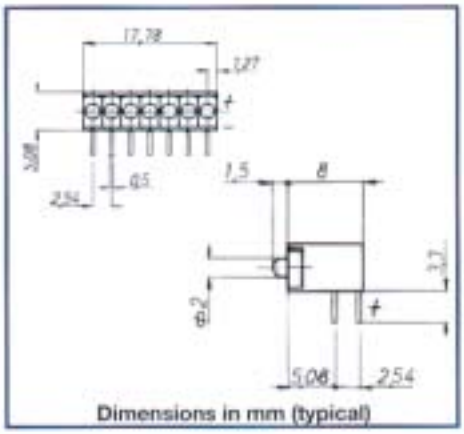
KM 2089



KM 2099

SERIES KM 2079 — Ø 1,8 mm LED

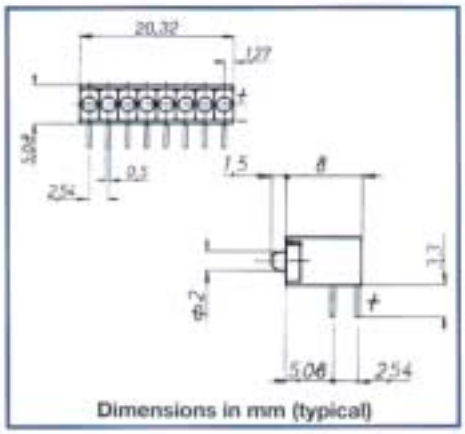
TYPE (7 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KM 2079 - R	RED	700	3,5	10	40	2,0	2,5		25
KM 2079 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KM 2079 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KM 2079 - E	ORANGE	625	12,5	10	40	2,0	2,5	- 55	30
KM 2079 - S	SUPER RED	625	12,5	10	40	2,0	2,5	to	30
KM 2079 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KM 2079 - I	IPER RED	660	50	10	40	1,85	2,5		30
KM 2079 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KM 2089 — Ø 1,8 mm LED

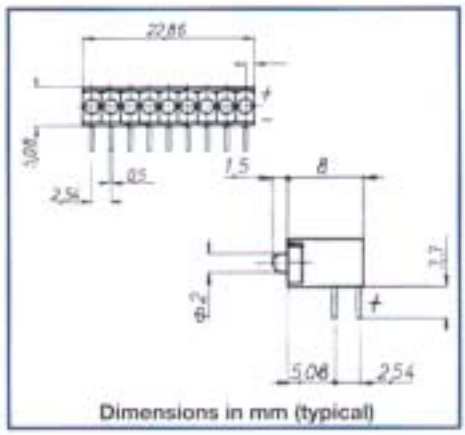
TYPE (8 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KM 2089 - R	RED	700	3,5	10	40	2,0	2,5		25
KM 2089 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KM 2089 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KM 2089 - E	ORANGE	625	12,5	10	40	2,0	2,5	- 55	30
KM 2089 - S	SUPER RED	625	12,5	10	40	2,0	2,5	to	30
KM 2089 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KM 2089 - I	IPER RED	660	50	10	40	1,85	2,5		30
KM 2089 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KM 2099 — Ø 1,8 mm LED

TYPE (9 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KM 2099 - R	RED	700	3,5	10	40	2,0	2,5		25
KM 2099 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KM 2099 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KM 2099 - E	ORANGE	625	12,5	10	40	2,0	2,5	- 55	30
KM 2099 - S	SUPER RED	625	12,5	10	40	2,0	2,5	to	30
KM 2099 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KM 2099 - I	IPER RED	660	50	10	40	1,85	2,5		30
KM 2099 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure 100.000 hours

FEATURES

- 1,8 mm sized led's save space
- colours can be mixed in a single housing
- facilitates PCB mounting and wave soldering
- vibration and shock resistance
- special leds on request

KHATOD® OPTOELECTRONIC

MINIATURE LED LINE, ARRANGEABLE IN ROWS *(DIN 41494 compatible)*



KM 2109



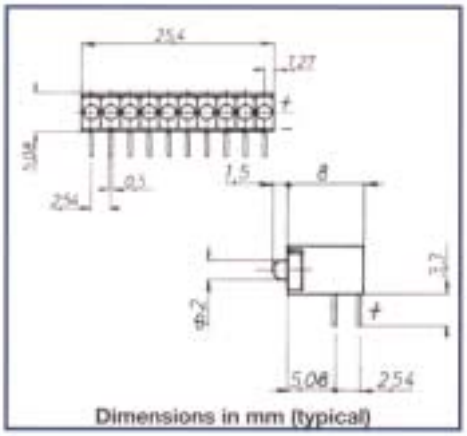
KML 2030/RA



KML 2040/RA

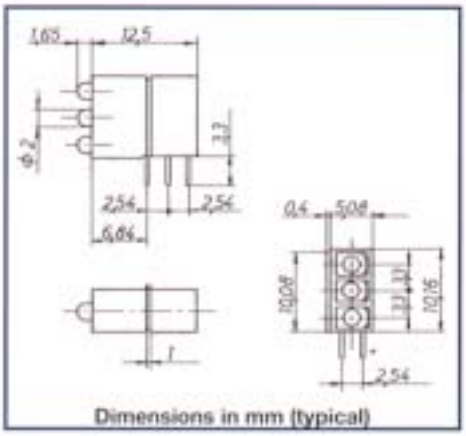
SERIES KM 2109 — Ø 1,8 mm LED

TYPE (10 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KM 2109 - R	RED	700	3,5	10	40	2,0	2,5		25
KM 2109 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KM 2109 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KM 2109 - E	ORANGE	625	12,5	10	40	2,0	2,5	- 55	30
KM 2109 - S	SUPER RED	625	12,5	10	40	2,0	2,5	to	30
KM 2109 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KM 2109 - I	IPER RED	660	50	10	40	1,85	2,5		30
KM 2109 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



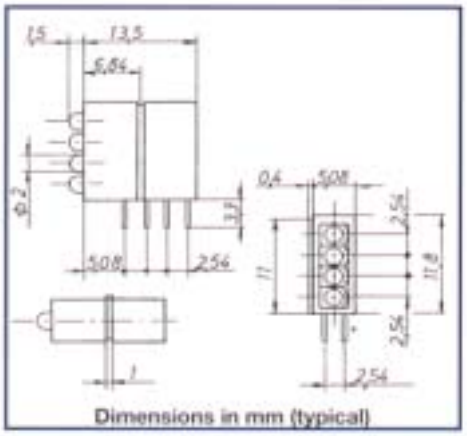
SERIES KML 2030/RA — Ø 1,8 mm LED

TYPE (3 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KML 2030/RA - R	RED	700	3,5	10	40	2,0	2,5		25
KML 2030/RA - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KML 2030/RA - G	GREEN	565	5,5	10	40	2,2	2,5		25
KML 2030/RA - E	ORANGE	625	12,5	10	40	2,0	2,5	- 55	30
KML 2030/RA - S	SUPER RED	625	12,5	10	40	2,0	2,5	to	30
KML 2030/RA - M	MULTICOLOURED	Indicate colours from top to bottom (see drawing)						+ 100	
KML 2030/RA - I	IPER RED	660	50	10	40	1,85	2,5		30
KML 2030/RA - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



SERIES KML 2040/RA — Ø 1,8 mm LED

TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KML 2040/RA - R	RED	700	3,5	10	40	2,0	2,5		25
KML 2040/RA - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KML 2040/RA - G	GREEN	565	5,5	10	40	2,2	2,5		25
KML 2040/RA - E	ORANGE	625	12,5	10	40	2,0	2,5	- 55	30
KML 2040/RA - S	SUPER RED	625	12,5	10	40	2,0	2,5	to	30
KML 2040/RA - M	MULTICOLOURED	Indicate colours from top to bottom (see drawing)						+ 100	
KML 2040/RA - I	IPER RED	660	50	10	40	1,85	2,5		30
KML 2040/RA - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



MATERIAL SPECIFICATION

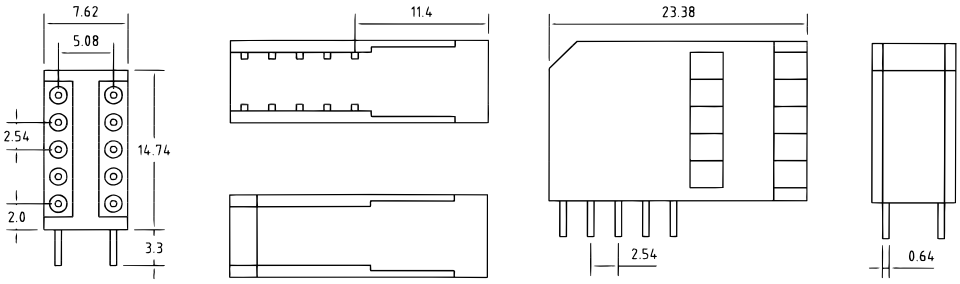
- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure 100.000 hours

FEATURES

- 1,8 mm sized led's save space
- colours can be mixed in a single housing
- facilitates PCB mounting and wave soldering
- vibration and shock resistance
- special leds on request

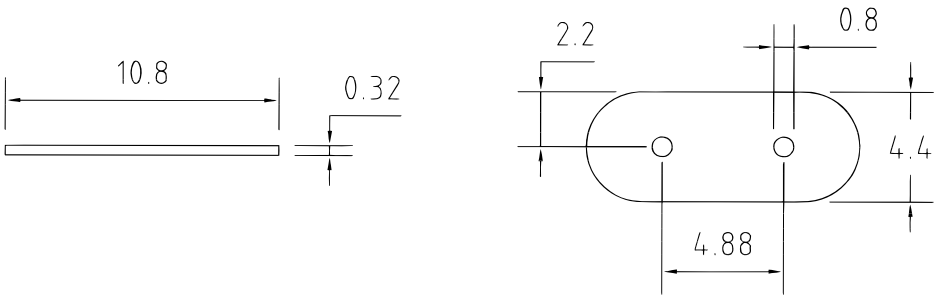
NOT ONLY... OPTO-DEVICE



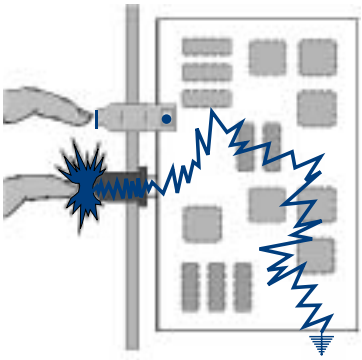


SOCKET FOR DISPLAY 7.68mm (0.3 IN) **TYPE KZD 10**

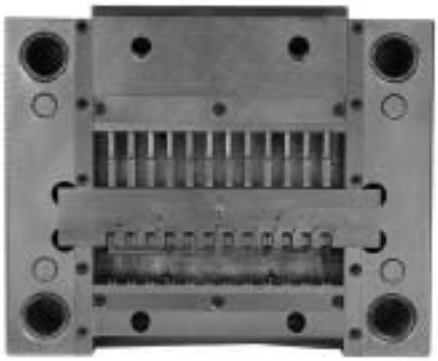




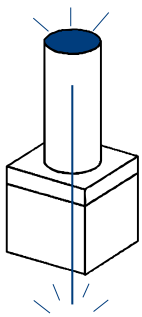
SPACER FOR CRYSTAL **TYPE KC 02***



ESD PROTECTION



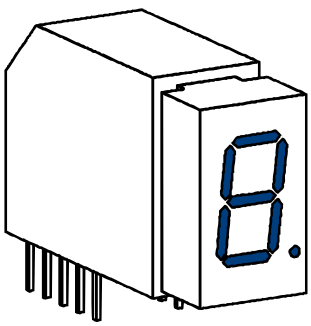
MOULDS FOR ELECTRONIC COMPONENTS



LIGHT TRANSPORTERS **Ø 3 mm LED**



TERMINAL BLOCKS



SOCKET FOR DISPLAY

- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040

*FEATURES**

- COMPATIBLE WITH ALMOST ALL CRYSTAL QUARTZ (HC49-HC18-HC50 etc)
- CUSTOM VERSION
- LOW COST
- HIGH RELIABILITY ◆ FACILITATES PCB MOUNTING
- REDUCTION OF ABOUT 80% OF ASSEMBLING TIME

KHATOD® OPTOELECTRONIC

SNAP TOGETHER DESIGN



KSL 520



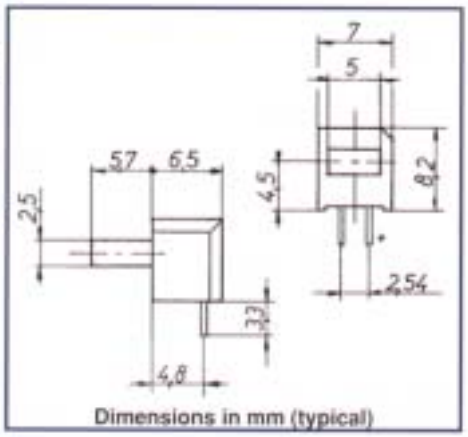
KRC 520



KRC 522

SERIES KSL 520 — 2.5 x 5 mm LED

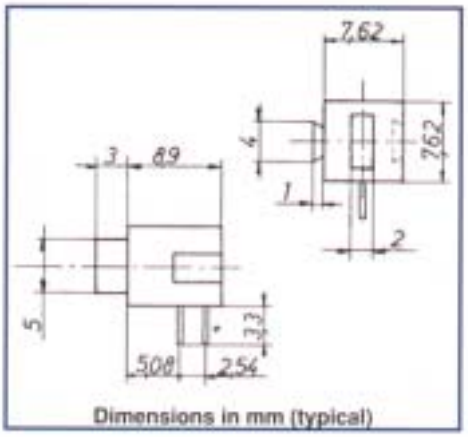
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	PEAK	TYP.	IF		TYP.	MAX		
KSL 520 - R	RED	700	1,25	10	120	2,1	2,5		25
KSL 520 - Y	YELLOW	590	8	10	120	2,1	2,5		30
KSL 520 - G	GREEN	565	8	10	120	2,2	2,5	- 55	25
KSL 520 - E	ORANGE	625	8	10	120	2,0	2,5	to	30
KSL 520 - S	SUPER RED	625	8	10	120	2,0	2,5	+ 100	30
KSL 520 - I	IPER RED	660	80	10	120	1,85	2,5		25
KSL 520 - SG	SUPER GREEN	565	20	10	110	2,0	2,5		25
KSL 520 - B	RED-GREEN	660/565	70/20	10	100	2,0	2,5		25
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

SERIES KRC 520 — 2 x 5 mm LED

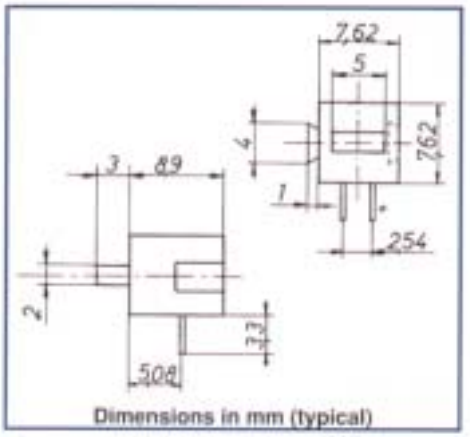
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	PEAK	TYP.	IF		TYP.	MAX		
KRC 520 - R	RED	700	1,25	10	120	2,1	2,5		25
KRC 520 - Y	YELLOW	590	8	10	120	2,1	2,5		30
KRC 520 - G	GREEN	565	8	10	120	2,2	2,5	- 55	25
KRC 520 - E	ORANGE	625	8	10	120	2,0	2,5	to	30
KRC 520 - S	SUPER RED	625	8	10	120	2,0	2,5	+ 100	30
KRC 520 - I	IPER RED	660	80	10	120	1,85	2,5		25
KRC 520 - B	RED-GREEN	660/565	70/20	10	100	2,0	2,5		25
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

SERIES KRC 522 — 2 x 5 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	PEAK	TYP.	IF		TYP.	MAX		
KRC 522 - R	RED	700	1,25	10	120	2,1	2,5		25
KRC 522 - Y	YELLOW	590	8	10	120	2,1	2,5		30
KRC 522 - G	GREEN	565	8	10	120	2,2	2,5	- 55	25
KRC 522 - E	ORANGE	625	8	10	120	2,0	2,5	to	30
KRC 522 - S	SUPER RED	625	8	10	120	2,0	2,5	+ 100	30
KRC 522 - I	IPER RED	660	80	10	120	1,85	2,5		25
KRC 522 - B	RED-GREEN	660/565	70/20	10	100	2,0	2,5		25
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: standard 100.000 hours

OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- SPECIAL LEDs ON REQUEST

KHATOD® OPTOELECTRONIC

SNAP TOGETHER DESIGN



KRC 55



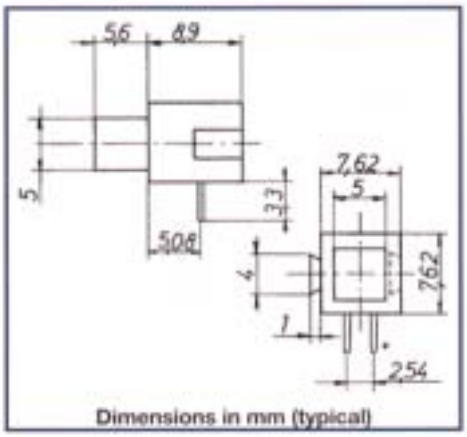
K 28300



KRC 56

SERIES KRC 55 — □ 5 x 5 mm LED

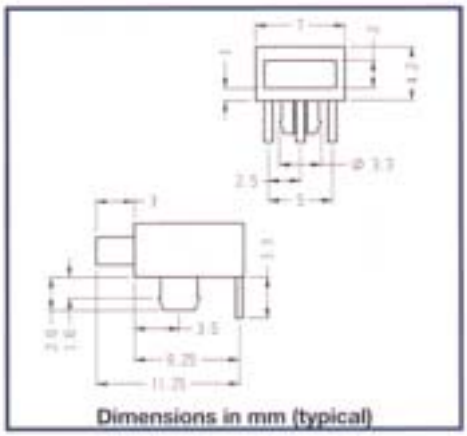
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	PEAK	TYP.	IF		TYP.	MAX		
KRC 55 - R	RED	700	1,25	10	120	2,1	2,5	- 55	25
KRC 55 - Y	YELLOW	590	8	10	120	2,1	2,5	to	30
KRC 55 - G	GREEN	565	8	10	120	2,2	2,5	+ 100	25
KRC 55 - E	ORANGE	625	8	10	120	2,0	2,5		30
KRC 55 - S	SUPER RED	625	8	10	120	2,0	2,5		30
KRC 55 - I	IPER RED	660	80	10	120	1,85	2,5		25
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES K 28300 — ▭ 2 x 5 mm LED

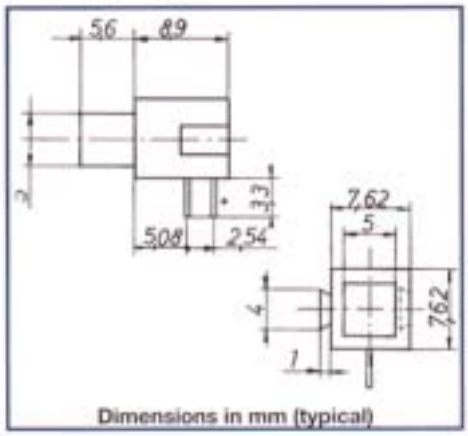
TYPE	EMITTED COLOUR (BICOLOUR)		LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
K 28300 - EGW	RED/GREEN	625/565	40	20	100	2,2	2,5	- 55	30
K 28300 - EGW/CA	RED/GREEN	625/565	40	20	100	2,2	2,5	to	30
K 28300 - EYW	RED/YELLOW	625/590	20	20	100	2,2	2,5	+ 100	25
K 28300 - GYW	GREEN/YELLOW	625/590	20	20	100	2,2	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KRC 56 — □ 5 x 5 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	PEAK	TYP.	IF		TYP.	MAX		
KRC 56 - R	RED	700	1,25	10	120	2,1	2,5	- 55	25
KRC 56 - Y	YELLOW	590	8	10	120	2,1	2,5	to	30
KRC 56 - G	GREEN	565	8	10	120	2,2	2,5	+ 100	25
KRC 56 - E	ORANGE	625	8	10	120	2,0	2,5		30
KRC 56 - S	SUPER RED	625	8	10	120	2,0	2,5		30
KRC 56 - I	IPER RED	660	80	10	120	1,85	2,5		25
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

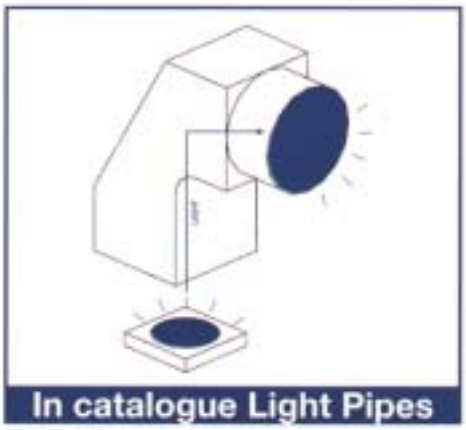
- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure 100.000 hours

OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- SPECIAL LEDs ON REQUEST

KHATOD® OPTOELECTRONIC

PLASTIC HOLDER, SEPARABLE ARRANGEABLE IN ROWS



In catalogue Light Pipes



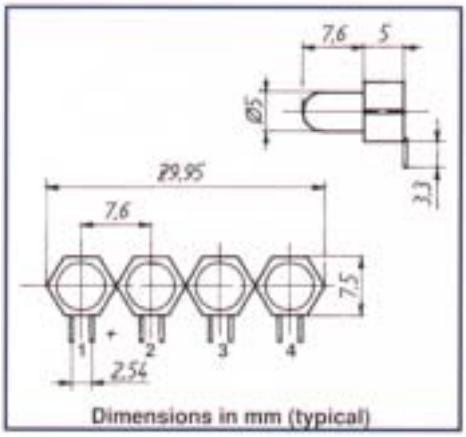
KSA 5005



KSA 5006

SERIES KSA 5005 — Ø 5 mm LED

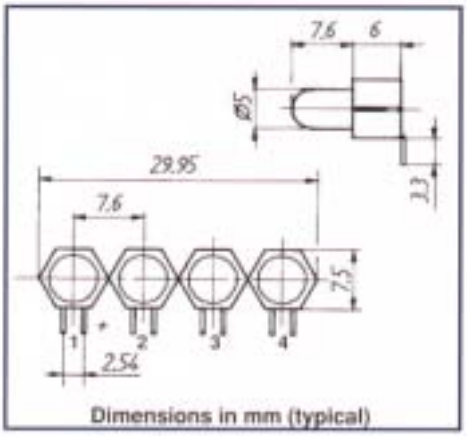
TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA) TYP.	FORWARD VOLTAGE (IF=20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KSA 5005 - R	RED	700	5	10	120	2,0	2,5		25
KSA 5005 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KSA 5005 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KSA 5005 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KSA 5005 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KSA 5005 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KSA 5005 - RL	RED	625	2	2	120	1,8	2,5		7,5
KSA 5005 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KSA 5005 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KSA 5005 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KSA 5006 — Ø 5 mm LED

TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA) TYP.	FORWARD VOLTAGE (IF=20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KSA 5006 - R	RED	700	5	10	120	2,0	2,5		25
KSA 5006 - Y	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KSA 5006 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KSA 5006 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KSA 5006 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KSA 5006 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KSA 5006 - RL	RED	625	2	2	120	1,8	2,5		7,5
KSA 5006 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KSA 5006 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KSA 5006 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

PART NUMBERS EXAMPLES MULTICOLOURED AND NUMBER OF LED:

KSA 50.../.../ R / G / Y / S - L

- SERIES
- 3 = 3 LEDs, 2 = 2 LEDs, 1 = 1 LED
- LED ❶ COLOUR (RED)
- LED ❷ COLOUR (GREEN)
- LED ❸ COLOUR (YELLOW)
- LED ❹ COLOUR (SUPER RED)
- LOW CURRENT (IF INQUIRED)

MULTICOLOURED: indicate colours from left to right - see drawing

MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure:
  - standard 100.000 hours
  - low current 250.000 hours

OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST
- STRAIGHT VERSION

KHATOD® OPTOELECTRONIC

PLASTIC HOLDER, SEPARABLE ARRANGEABLE IN ROWS



EXAMPLE



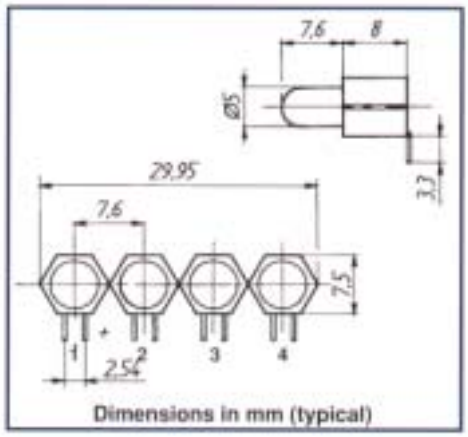
KSA 5008



KSA 5011

SERIES KSA 5008 — Ø 5 mm LED

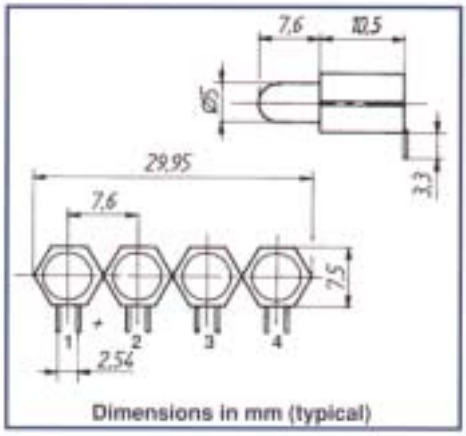
TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA) TYP.	FORWARD VOLTAGE (IF=20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KSA 5008 - R	RED	700	5	10	120	2,0	2,5		25
KSA 5008 - Y	YELLOW	590	12,5	10	120	2,1	2,5	-55	30
KSA 5008 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KSA 5008 - S	SUPER RED	625	20	10	120	2,0	2,5	+100	30
KSA 5008 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KSA 5008 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KSA 5008 - RL	RED	625	2	2	120	1,8	2,5		7,5
KSA 5008 - YL	YELLOW	590	2	2	120	1,9	2,7	-55	7,5
KSA 5008 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KSA 5008 - IL	IPER RED	660	20	2	120	1,85	2,5	+100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KSA 5011 — Ø 5 mm LED

TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA) TYP.	FORWARD VOLTAGE (IF=20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KSA 5011 - R	RED	700	5	10	120	2,0	2,5		25
KSA 5011 - Y	YELLOW	590	12,5	10	120	2,1	2,5	-55	30
KSA 5011 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KSA 5011 - S	SUPER RED	625	20	10	120	2,0	2,5	+100	30
KSA 5011 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KSA 5011 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KSA 5011 - RL	RED	625	2	2	120	1,8	2,5		7,5
KSA 5011 - YL	YELLOW	590	2	2	120	1,9	2,7	-55	7,5
KSA 5011 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KSA 5011 - IL	IPER RED	660	20	2	120	1,85	2,5	+100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

PART NUMBERS EXAMPLES MULTICOLOURED AND NUMBER OF LED:

KSA 50.../.../ R / G / Y / S - L

- SERIES
- 3 = 3 LEDs, 2 = 2 LEDs, 1 = 1 LED
- LED ❶ COLOUR (RED)
- LED ❷ COLOUR (GREEN)
- LED ❸ COLOUR (YELLOW)
- LED ❹ COLOUR (SUPER RED)
- LOW CURRENT (IF INQUIRED)

MULTICOLOURED: indicate colours from left to right - see drawing

MATERIAL SPECIFICATION

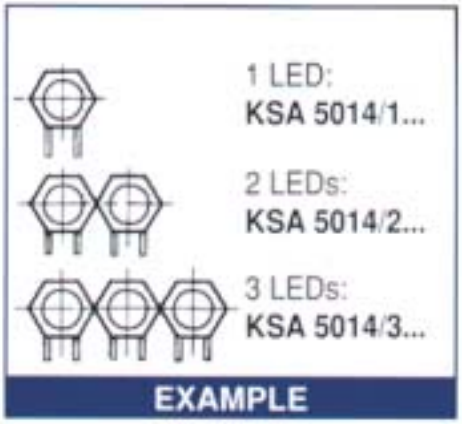
- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure:
  - standard 100.000 hours
  - low current 250.000 hours

OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST
- STRAIGHT VERSION

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EXAMPLE



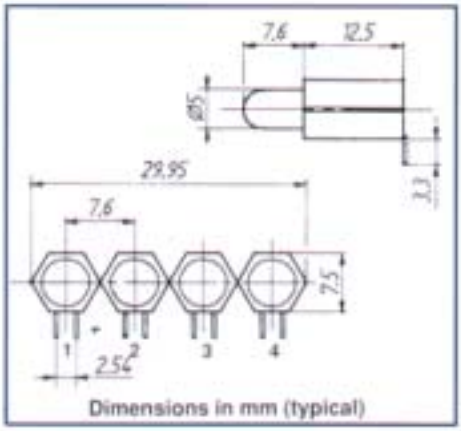
KSA 5013



KSA 5014

SERIES KSA 5013 — Ø 5 mm LED

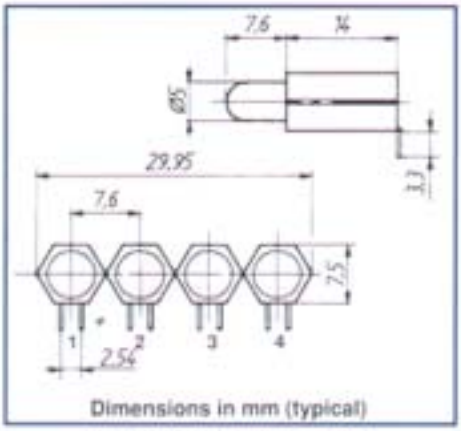
TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA) TYP.	FORWARD VOLTAGE (IF=20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KSA 5013 - R	RED	700	5	10	120	2.0	2.5		25
KSA 5013 - Y	YELLOW	590	12.5	10	120	2.1	2.5	- 55	30
KSA 5013 - G	GREEN	565	12.5	10	120	2.2	2.5	to	25
KSA 5013 - S	SUPER RED	625	20	10	120	2.0	2.5	+ 100	30
KSA 5013 - B	RED GREEN	625/565	12.5	20	100	2.0	2.5		25
KSA 5013 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KSA 5013 - RL	RED	625	2	2	120	1.8	2.5		7.5
KSA 5013 - YL	YELLOW	590	2	2	120	1.9	2.7	- 55	7.5
KSA 5013 - GL	GREEN	565	2	2	120	1.9	2.5	to	7.5
KSA 5013 - IL	IPER RED	660	20	2	120	1.85	2.5	+ 100	7.5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

SERIES KSA 5014 — Ø 5 mm LED

TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA) TYP.	FORWARD VOLTAGE (IF=20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KSA 5014 - R	RED	700	5	10	120	2.0	2.5		25
KSA 5014 - Y	YELLOW	590	12.5	10	120	2.1	2.5	- 55	30
KSA 5014 - G	GREEN	565	12.5	10	120	2.2	2.5	to	25
KSA 5014 - S	SUPER RED	625	20	10	120	2.0	2.5	+ 100	30
KSA 5014 - B	RED GREEN	625/565	12.5	20	100	2.0	2.5		25
KSA 5014 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KSA 5014 - RL	RED	625	2	2	120	1.8	2.5		7.5
KSA 5014 - YL	YELLOW	590	2	2	120	1.9	2.7	- 55	7.5
KSA 5014 - GL	GREEN	565	2	2	120	1.9	2.5	to	7.5
KSA 5014 - IL	IPER RED	660	20	2	120	1.85	2.5	+ 100	7.5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

PART NUMBERS EXAMPLES MULTICOLOURED AND NUMBER OF LED:

KSA 50.../.../ R / G / Y / S - L

- SERIES
- 3 = 3 LEDs, 2 = 2 LEDs, 1 = 1 LED
- LED ❹ COLOUR (SUPER RED)
- LED ❸ COLOUR (YELLOW)
- LED ❷ COLOUR (GREEN)
- LED ❶ COLOUR (RED)
- LOW CURRENT (IF INQUIRED)

MULTICOLOURED: indicate colours from left to right - see drawing

MATERIAL SPECIFICATION

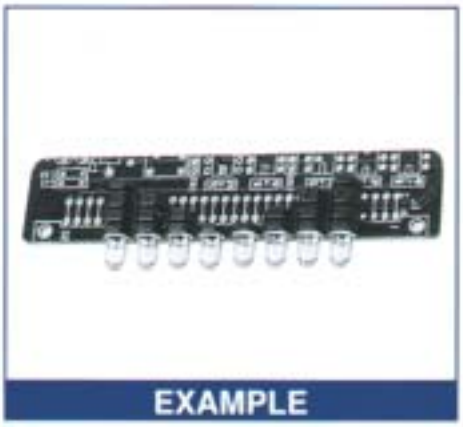
- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure:
  - standard 100.000 hours
  - low current 250.000 hours

OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST
- STRAIGHT VERSION

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EXAMPLE



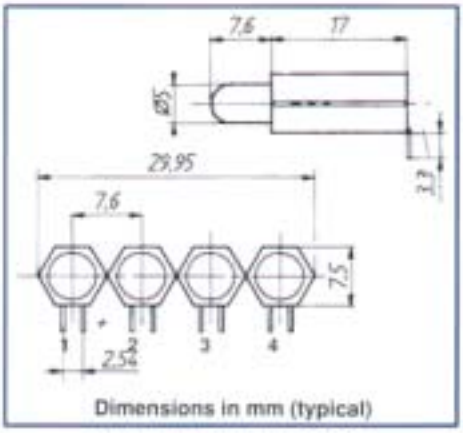
KSA 5017



KSA 5020

SERIES KSA 5017 — Ø 5 mm LED

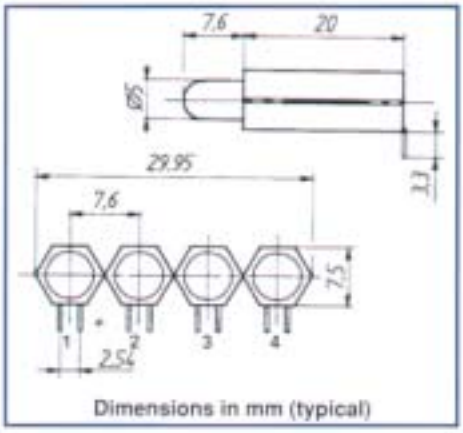
TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA) TYP.	FORWARD VOLTAGE (IF=20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KSA 5017 - R	RED	700	5	10	120	2.0	2.5		25
KSA 5017 - Y	YELLOW	590	12.5	10	120	2.1	2.5	- 55	30
KSA 5017 - G	GREEN	565	12.5	10	120	2.2	2.5	to	25
KSA 5017 - S	SUPER RED	625	20	10	120	2.0	2.5	+ 100	30
KSA 5017 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5		25
KSA 5017 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KSA 5017 - RL	RED	625	2	2	120	1.8	2.5		7.5
KSA 5017 - YL	YELLOW	590	2	2	120	1.9	2.7	- 55	7.5
KSA 5017 - GL	GREEN	565	2	2	120	1.9	2.5	to	7.5
KSA 5017 - IL	IPER RED	660	20	2	120	1.85	2.5	+ 100	7.5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

SERIES KSA 5020 — Ø 5 mm LED

TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA) TYP.	FORWARD VOLTAGE (IF=20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KSA 5020 - R	RED	700	5	10	120	2.0	2.5		25
KSA 5020 - Y	YELLOW	590	12.5	10	120	2.1	2.5	- 55	30
KSA 5020 - G	GREEN	565	12.5	10	120	2.2	2.5	to	25
KSA 5020 - S	SUPER RED	625	20	10	120	2.0	2.5	+ 100	30
KSA 5020 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5		25
KSA 5020 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KSA 5020 - RL	RED	625	2	2	120	1.8	2.5		7.5
KSA 5020 - YL	YELLOW	590	2	2	120	1.9	2.7	- 55	7.5
KSA 5020 - GL	GREEN	565	2	2	120	1.9	2.5	to	7.5
KSA 5020 - IL	IPER RED	660	20	2	120	1.85	2.5	+ 100	7.5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

PART NUMBERS EXAMPLES MULTICOLOURED AND NUMBER OF LED:

KSA 50.../.../ R / G / Y / S - L

- SERIES
- 3 = 3 LEDs, 2 = 2 LEDs, 1 = 1 LED
- LED ❶ COLOUR (RED)
- LED ❷ COLOUR (GREEN)
- LED ❸ COLOUR (YELLOW)
- LED ❹ COLOUR (SUPER RED)
- LOW CURRENT (IF INQUIRED)

MULTICOLOURED: indicate colours from left to right - see drawing

MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure:
  - standard 100.000 hours
  - low current 250.000 hours

OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST
- STRAIGHT VERSION

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SPACER



KVL 5002



KVL 5002/3

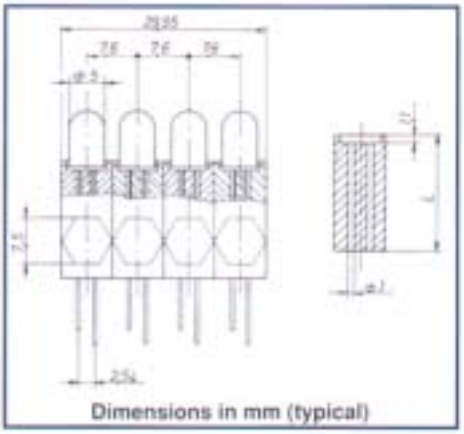


KVL 5002/2

SPACER 4 LEDs — Ø 5 mm LED

TYPE	LENGTH
KVL 5002	L = 2 mm
KVL 5005	L = 5 mm
KVL 5006	L = 6 mm
KVL 5008	L = 8 mm
KVL 5011	L = 11 mm
KVL 5013	L = 13 mm
KVL 5014	L = 14 mm
KVL 5017	L = 17 mm
KVL 5020	L = 20 mm

AVAILABLE OTHERS LENGTHS

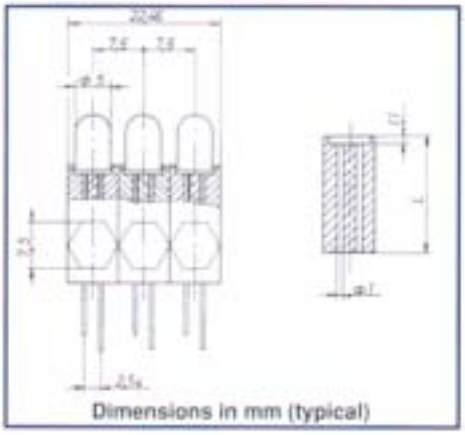


Dimensions in mm (typical)

SPACER 3 LEDs — Ø 5 mm LED

TYPE	LENGTH
KVL 5002/3	L = 2 mm
KVL 5005/3	L = 5 mm
KVL 5006/3	L = 6 mm
KVL 5008/3	L = 8 mm
KVL 5011/3	L = 11 mm
KVL 5013/3	L = 13 mm
KVL 5014/3	L = 14 mm
KVL 5017/3	L = 17 mm
KVL 5020/3	L = 20 mm

AVAILABLE OTHERS LENGTHS

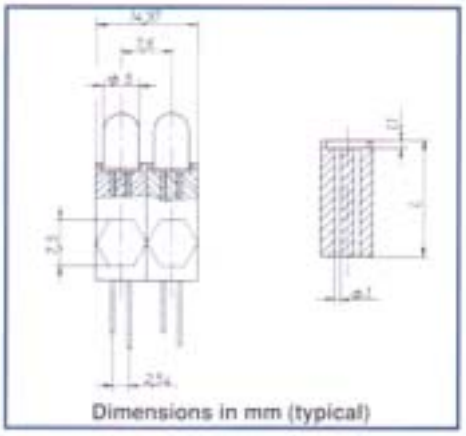


Dimensions in mm (typical)

SPACER 2 LEDs — Ø 5 mm LED

TYPE	LENGTH
KVL 5002/2	L = 2 mm
KVL 5005/2	L = 5 mm
KVL 5006/2	L = 6 mm
KVL 5008/2	L = 8 mm
KVL 5011/2	L = 11 mm
KVL 5013/2	L = 13 mm
KVL 5014/2	L = 14 mm
KVL 5017/2	L = 17 mm
KVL 5020/2	L = 20 mm

AVAILABLE OTHERS LENGTHS



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- DEFLECTION TEMPERATURE: 152 °C
- HARDNESS (ROCKWELL): R 112
- AMBIENT TEMPERATURE: -55 to +105 °C
- STORAGE TEMPERATURE: -55 to +105 °C

OPTIONS AVAILABLE

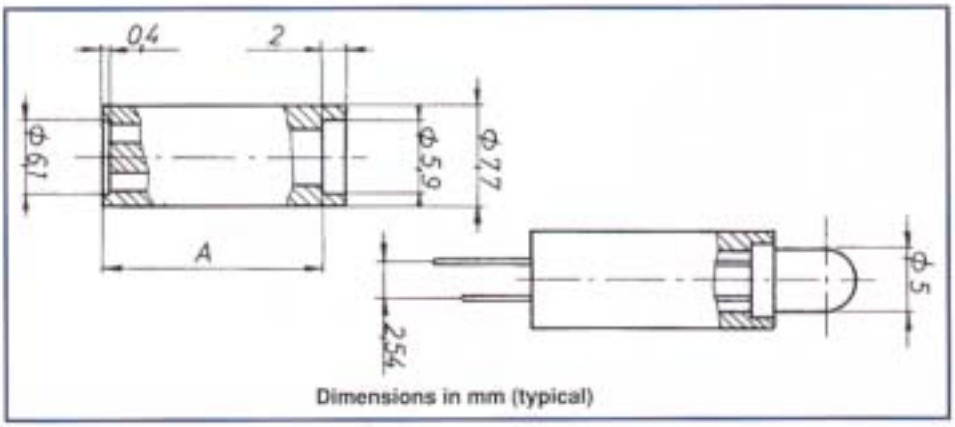
- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT-INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT-WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST

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SPACER



KVD 05



Dimensions in mm (typical)

SPACER VARIABLE LENGTH — Ø 5 mm LED

WITHOUT LED	LENGTH - A	WITH LED		
TYPE		RED TYPE	GREEN TYPE	YELLOW TYPE
KVD-05-045	A = 4.5 mm	KVD-05-045/R	KVD-05-045/G	KVD-05-045/Y
KVD-05-060	A = 6.0 mm	KVD-05-060/R	KVD-05-060/G	KVD-05-060/Y
KVD-05-070	A = 7.0 mm	KVD-05-070/R	KVD-05-070/G	KVD-05-070/Y
KVD-05-080	A = 8.0 mm	KVD-05-080/R	KVD-05-080/G	KVD-05-080/Y
KVD-05-090	A = 9.0 mm	KVD-05-090/R	KVD-05-090/G	KVD-05-090/Y
KVD-05-100	A = 10.0 mm	KVD-05-100/R	KVD-05-100/G	KVD-05-100/Y
KVD-05-115	A = 11.5 mm	KVD-05-115/R	KVD-05-115/G	KVD-05-115/Y
KVD-05-127	A = 12.7 mm	KVD-05-127/R	KVD-05-127/G	KVD-05-127/Y
KVD-05-140	A = 14.0 mm	KVD-05-140/R	KVD-05-140/G	KVD-05-140/Y
KVD-05-150	A = 15.0 mm	KVD-05-150/R	KVD-05-150/G	KVD-05-150/Y
KVD-05-160	A = 16.0 mm	KVD-05-160/R	KVD-05-160/G	KVD-05-160/Y
KVD-05-170	A = 17.0 mm	KVD-05-170/R	KVD-05-170/G	KVD-05-170/Y
KVD-05-180	A = 18.0 mm	KVD-05-180/R	KVD-05-180/G	KVD-05-180/Y
KVD-05-190	A = 19.0 mm	KVD-05-190/R	KVD-05-190/G	KVD-05-190/Y
KVD-05-200	A = 20.0 mm	KVD-05-200/R	KVD-05-200/G	KVD-05-200/Y
KVD-05-230	A = 23.0 mm	KVD-05-230/R	KVD-05-230/G	KVD-05-230/Y

OTHER SIZES OR INTERMEDIATE SIZES UPON REQUEST

MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- DEFLECTION TEMPERATURE: 152°C
- HARDNESS (ROCKWELL): R 112
- AMBIENT TEMPERATURE: -55° to +105°C
- STORAGE TEMPERATURE: -55° to +105°C

OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT-INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT-WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST

CIRCUIT BOARD INDICATORS



KSL 50



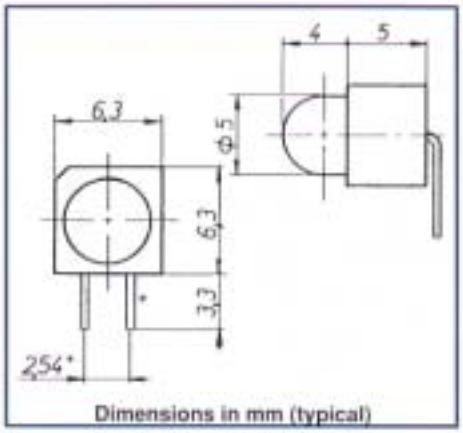
KSL 55



KDE 54

SERIES KSL 50 — Ø 5 mm LED

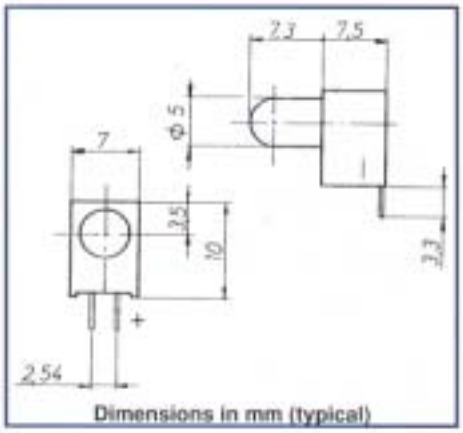
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KSL 50 - R	RED	700	3,5	10	120	2,1	2,5		25
KSL 50 - Y	YELLOW	590	20	10	120	2,2	2,5	- 55	25
KSL 50 - G	GREEN	565	8	10	120	2,2	2,5	to	30
KSL 50 - S	SUPER RED	625	20	10	120	2,2	2,5	+ 100	30
BLINKING									
KSL 50 - RT	RED	700	2,5		120	9-12	13		38-56
KSL 50 - YT	YELLOW	590	12,5		120	9-12	13	- 55	38-56
KSL 50 - GT	GREEN	565	8		120	9-12	13	to	38-56
KSL 50 - IT	IPER RED	660	70		120	9-12	13	+ 100	38-56
KSL 50 - SL	SUPER RED	625	12,5		120	9-12	13		38-56
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KSL 55 — Ø 5 mm LED

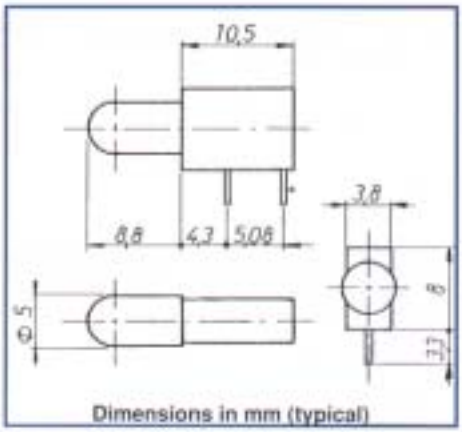
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KSL 55 - R	RED	700	5	10	120	2,0	2,5		25
KSL 55 - Y	YELLOW	590	20	10	120	2,1	2,6	- 55	30
KSL 55 - G	GREEN	565	20	10	120	2,2	2,5	to	25
KSL 55 - S	SUPER RED	625	32	10	120	2,0	2,5	+ 100	30
KSL 55 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,6		25
KSL 55 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KSL 55 - RL	RED	625	2	2	120	1,8	2,5		7,5
KSL 55 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KSL 55 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KSL 55 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KDE 54 — Ø 5 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KDE 54 - R	RED	700	5	10	120	2,0	2,5		25
KDE 54 - Y	YELLOW	590	20	10	120	2,1	2,6	- 55	30
KDE 54 - G	GREEN	565	20	10	120	2,2	2,5	to	25
KDE 54 - S	SUPER RED	625	32	10	120	2,0	2,5	+ 100	30
KDE 54 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,6		25
KDE 54 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDE 54 - RL	RED	625	2	2	120	1,8	2,5		7,5
KDE 54 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KDE 54 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KDE 54 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST

CIRCUIT BOARD INDICATORS



KSL 552



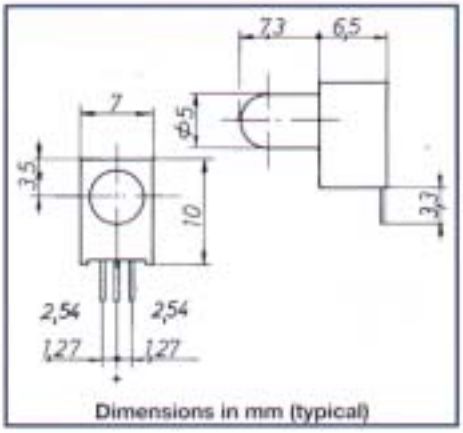
K 506



KLB 36

SERIES KSL 552 — Ø 5 mm LED

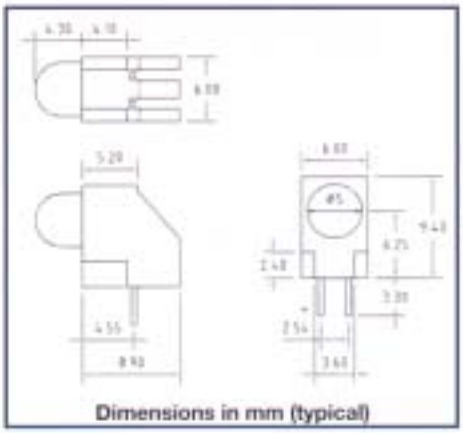
TYPE	EMITTED COLOUR (BICOLOUR)	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KSL 552 - EGW	RED/GREEN	625/565	40	20	100	2,2	2,5	- 55 to + 100	30
KSL 552 - EGW/CA	RED/GREEN	625/565	40	20	100	2,2	2,5		30
KSL 552 - EYW	RED/YELLOW	625/590	20	20	100	2,2	2,5		25
KSL 552 - GYW	GREEN/YELLOW	625/590	20	20	100	2,2	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES K 506 — Ø 5 mm LED

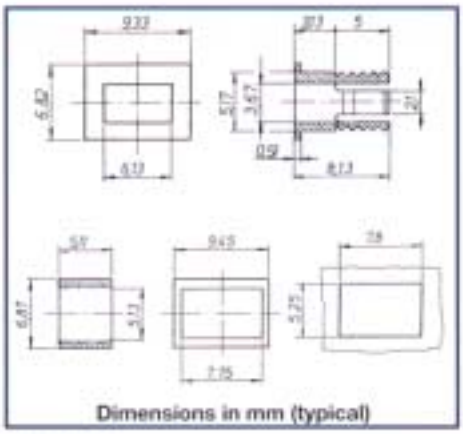
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
K 506 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
K 506 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
K 506 - G	GREEN	565	12,5	10	120	2,2	2,5		25
K 506 - S	SUPER RED	625	20	10	120	2,0	2,5		30
K 506 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
K 506 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
K 506 - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 506 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
K 506 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
K 506 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KLB 36 — 3.6 x 6.1 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA) TYP.	FORWARD VOLTAGE (IF = 20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KLB 36 - Y	YELLOW	590	8	10	120	2,1	2,5	- 55 to + 100	30
KLB 36 - G	GREEN	565	8	10	120	2,2	2,5		25
KLB 36 - S	SUPER RED	625	8	10	120	2,0	2,5		30
KLB 36 - I	IPER RED	660	80	10	120	1,85	2,5		25
KLB 36 - B	RED-GREEN	625/565	16	10	100	2,0	2,5		25
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure 100.000 hours

OPTIONS AVAILABLE

- 5V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs • SPECIAL LEDs ON REQUEST

KHATOD® OPTOELECTRONIC

CIRCUIT BOARD INDICATORS



KSL 580



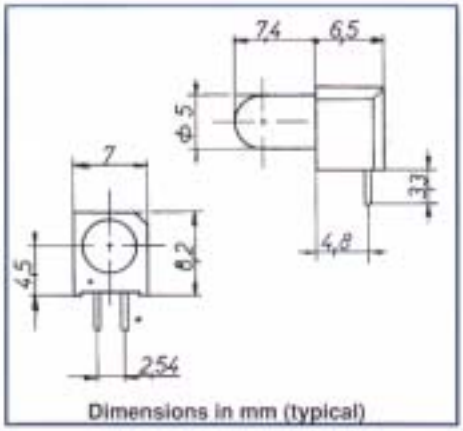
KSL 58



KSL 514

SERIES KSL 580 — Ø 5 mm LED

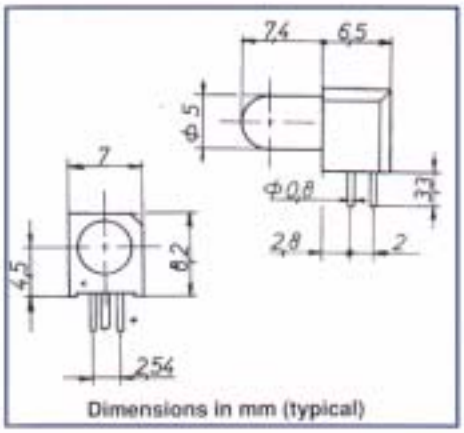
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KSL 580 - R	RED	700	5	10	120	2,0	2,5		25
KSL 580 - Y	YELLOW	590	20	10	120	2,1	2,6	-55	30
KSL 580 - G	GREEN	565	20	10	120	2,2	2,5	to	25
KSL 580 - S	SUPER RED	625	32	10	120	2,0	2,5	+100	30
KSL 580 - B	RED/GREEN	625/565	12,5	20	100	2,2	2,8		25
KSL 580 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KSL 580 - RL	RED	625	2	2	120	1,8	2,5		7,5
KSL 580 - YL	YELLOW	590	2	2	120	1,9	2,7	-55	7,5
KSL 580 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KSL 580 - IL	IPER RED	660	20	2	120	1,85	2,5	+100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

SERIES KSL 58 — Ø 5 mm LED

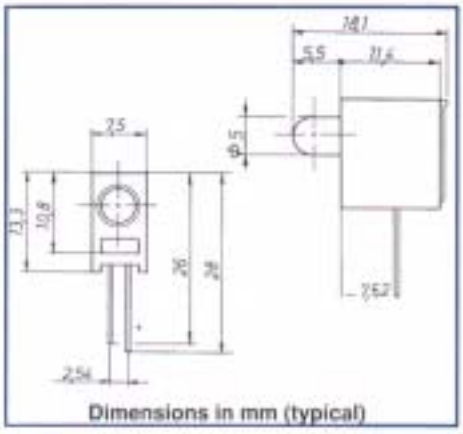
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KSL 58 - R	RED	700	5	10	120	2,0	2,5		25
KSL 58 - Y	YELLOW	590	20	10	120	2,1	2,6	-55	30
KSL 58 - G	GREEN	565	20	10	120	2,2	2,5	to	25
KSL 58 - S	SUPER RED	625	32	10	120	2,0	2,5	+100	30
KSL 58 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,8		25
KSL 58 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KSL 58 - RL	RED	625	2	2	120	1,8	2,5		7,5
KSL 58 - YL	YELLOW	590	2	2	120	1,9	2,7	-55	7,5
KSL 58 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KSL 58 - IL	IPER RED	660	20	2	120	1,85	2,5	+100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

SERIES KSL 514 — Ø 5 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KSL 514 - R	RED	700	5	10	120	2,0	2,5		25
KSL 514 - Y	YELLOW	590	20	10	120	2,1	2,6	-55	30
KSL 514 - G	GREEN	565	20	10	120	2,2	2,5	to	25
KSL 514 - S	SUPER RED	625	32	10	120	2,0	2,5	+100	30
KSL 514 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,8		25
KSL 514 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KSL 514 - RL	RED	625	2	2	120	1,8	2,5		7,5
KSL 514 - YL	YELLOW	590	2	2	120	1,9	2,7	-55	7,5
KSL 514 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KSL 514 - IL	IPER RED	660	20	2	120	1,85	2,5	+100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST

CIRCUIT BOARD INDICATORS



KSL 51



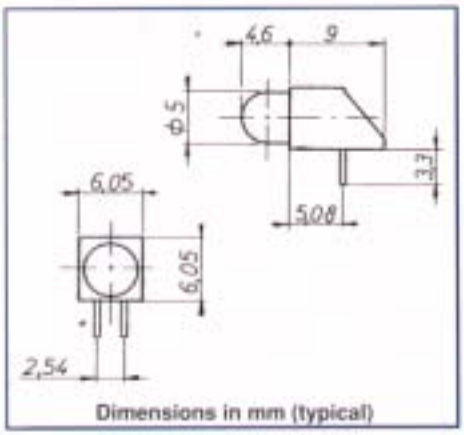
KDL 50



KDL 51

SERIES KSL 51 — Ø 5 mm LED

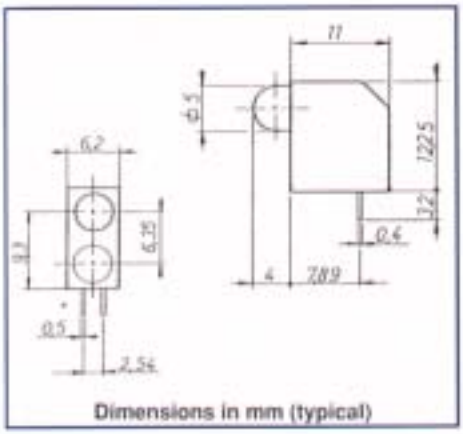
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KSL 51 - R	RED	700	5	10	120	2,0	2,5		25
KSL 51 - Y	YELLOW	590	20	10	120	2,1	2,6	- 55	30
KSL 51 - G	GREEN	565	20	10	120	2,2	2,5	to	25
KSL 51 - S	SUPER RED	625	32	10	120	2,0	2,5	+ 100	30
KSL 51 - B	RED/GREEN	625/565	12,5	20	100	2,2	2,8		25
KSL 51 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KSL 51 - RL	RED	625	2	2	120	1,8	2,5		7,5
KSL 51 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KSL 51 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KSL 51 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

SERIES KDL 50 — Ø 5 mm LED

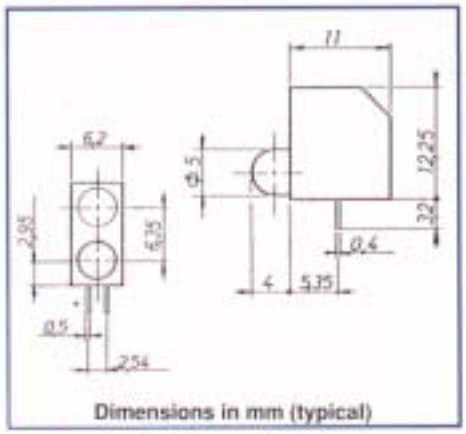
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KDL 50 - R	RED	700	5	10	120	2,0	2,5		25
KDL 50 - Y	YELLOW	590	20	10	120	2,1	2,6	- 55	30
KDL 50 - G	GREEN	565	20	10	120	2,2	2,5	to	25
KDL 50 - S	SUPER RED	625	32	10	120	2,0	2,5	+ 100	30
KDL 50 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,8		25
KDL 50 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDL 50 - RL	RED	625	2	2	120	1,8	2,5		7,5
KDL 50 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KDL 50 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KDL 50 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

SERIES KDL 51 — Ø 5 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KDL 51 - R	RED	700	5	10	120	2,0	2,5		25
KDL 51 - Y	YELLOW	590	20	10	120	2,1	2,6	- 55	30
KDL 51 - G	GREEN	565	20	10	120	2,2	2,5	to	25
KDL 51 - S	SUPER RED	625	32	10	120	2,0	2,5	+ 100	30
KDL 51 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,8		25
KDL 51 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDL 51 - RL	RED	625	2	2	120	1,8	2,5		7,5
KDL 51 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KDL 51 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KDL 51 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST

KHATOD® OPTOELECTRONIC

SNAP TOGETHER DESIGN



KRC 51



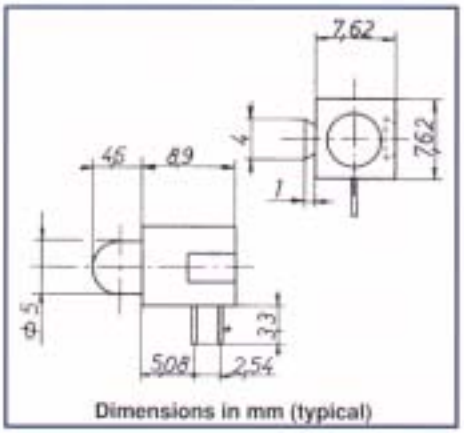
KCL 550



KRC 50

SERIES KRC 51 — Ø 5 mm LED

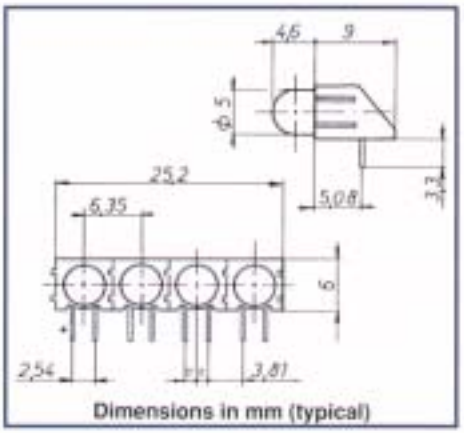
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KRC 51 - R	RED	700	5	10	120	2,0	2,5		25
KRC 51 - Y	YELLOW	590	20	10	120	2,1	2,6	- 55	30
KRC 51 - G	GREEN	565	20	10	120	2,2	2,5	to	25
KRC 51 - S	SUPER RED	625	32	10	120	2,0	2,5	+ 100	30
KRC 51 - B	RED/GREEN	625/565	12,5	20	100	2,2	2,8		25
KRC 51 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KRC 51 - RL	RED	625	2	2	120	1,8	2,5		7,5
KRC 51 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KRC 51 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KRC 51 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

SERIES KCL 550 — Ø 5 mm LED

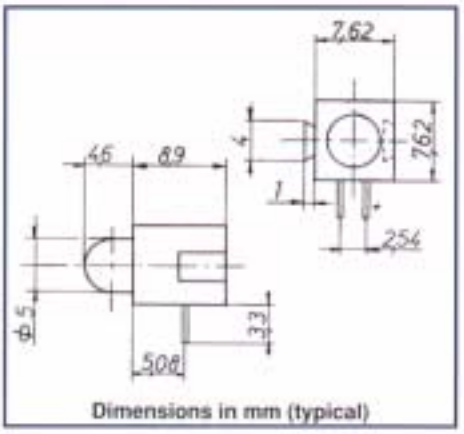
TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KCL 550 - R	RED	700	5	10	120	2,0	2,5		25
KCL 550 - Y	YELLOW	590	20	10	120	2,1	2,6	- 55	30
KCL 550 - G	GREEN	565	20	10	120	2,2	2,5	to	25
KCL 550 - S	SUPER RED	625	32	10	120	2,0	2,5	+ 100	30
KCL 550 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,8		25
KCL 550 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KCL 550 - RL	RED	625	2	2	120	1,8	2,5		7,5
KCL 550 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KCL 550 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KCL 550 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

SERIES KRC 50 — Ø 5 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KRC 50 - R	RED	700	5	10	120	2,0	2,5		25
KRC 50 - Y	YELLOW	590	20	10	120	2,1	2,6	- 55	30
KRC 50 - G	GREEN	565	20	10	120	2,2	2,5	to	25
KRC 50 - S	SUPER RED	625	32	10	120	2,0	2,5	+ 100	30
KRC 50 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,8		25
KRC 50 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KRC 50 - RL	RED	625	2	2	120	1,8	2,5		7,5
KRC 50 - YL	YELLOW	590	2	2	120	1,9	2,7	- 55	7,5
KRC 50 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KRC 50 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST

KHATOD® OPTOELECTRONIC

CIRCUIT BOARD INDICATORS



K 550



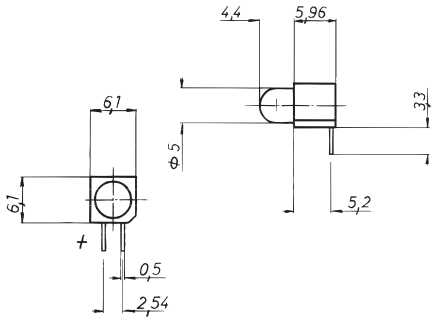
K 551



K 556

SERIES K 550 — Ø 5 mm LED

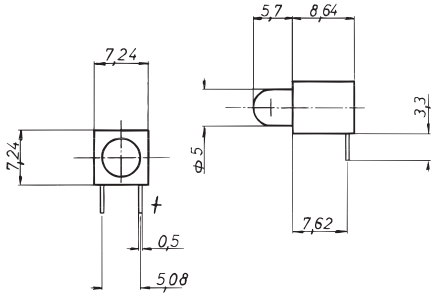
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
K 550 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
K 550 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
K 550 - G	GREEN	565	12,5	10	120	2,2	2,5		25
K 550 - S	SUPER RED	625	20	10	120	2,0	2,5		30
K 550 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
K 550 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
K 550 - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 550 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
K 550 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
K 550 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES K 551 — Ø 5 mm LED

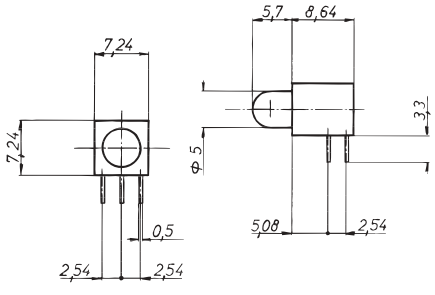
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
K 551 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
K 551 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
K 551 - G	GREEN	565	12,5	10	120	2,2	2,5		25
K 551 - S	SUPER RED	625	20	10	120	2,0	2,5		30
K 551 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
K 551 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
K 551 - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 551 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
K 551 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
K 551 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES K 556 — Ø 5 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
K 556 - EGW	RED/GREEN	625/565	40	20	100	2,2	2,5	- 55 to + 100	30
K 556 - EGW/CA	RED/GREEN	625/565	40	20	100	2,2	2,5		30
K 556 - EYW	RED/YELLOW	625/590	20	20	100	2,2	2,5		25
K 556 - GYW	GREEN/YELLOW	625/590	20	20	100	2,2	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

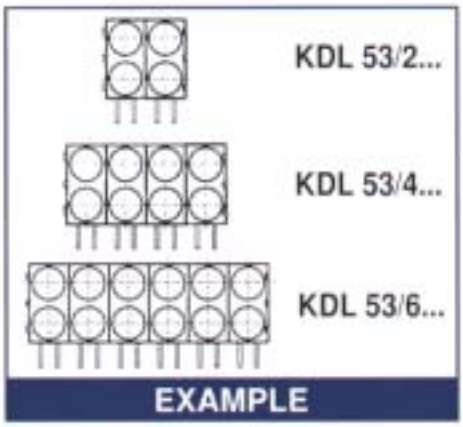
MATERIAL SPECIFICATION

- HOUSING: BLACK, UL94 V-0
- SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- 5V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST

BILEVEL PCB LEDs



EXAMPLE



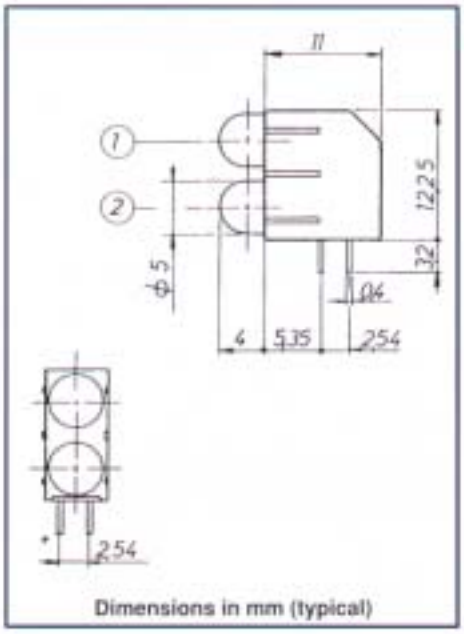
KDL 53



KDL 52

SERIES KDL 53 — Ø 5 mm LED

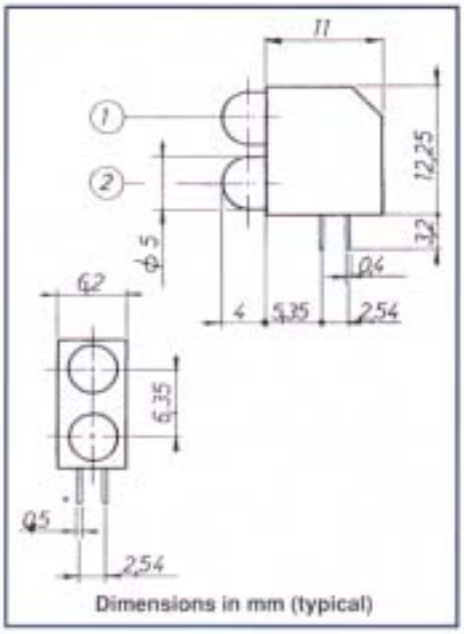
TYPE	EMITTED COLOUR ❶	EMITTED COLOUR ❷	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA) TYP.	FORWARD VOLTAGE (IF=20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KDL 53 - RR	RED	RED	700	5	10	120	2,0	2,5		25
KDL 53 - YY	YELLOW	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KDL 53 - GG	GREEN	GREEN	565	12,5	10	120	2,2	2,5	to	25
KDL 53 - SS	SUPER RED	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KDL 53 - II	IPER RED	IPER RED	660	100	20	120	1,85	2,5		30
MULTICOLOURED										
KDL 53 - GR	GREEN	RED								
KDL 53 - YR	YELLOW	RED								
KDL 53 - YG	YELLOW	GREEN								
KDL 53 - SG	SUPER RED	GREEN		TECHNICAL DATAS: SEE ABOVE						
KDL 53 - SY	SUPER RED	YELLOW								
KDL 53 - RG	RED	GREEN								
KDL 53 - RY	RED	YELLOW								
KDL 53 - GY	GREEN	YELLOW								
KDL 53 - GS	GREEN	SUPER RED								
KDL 53 - YS	YELLOW	SUPER RED								
LOW CURRENT										
KDL 53-RRL	RED	RED	625	2	2	120	1,8	2,5		7,5
KDL 53-YYL	YELLOW	YELLOW	590	2	2	120	1,9	2,5	- 55	7,5
KDL 53-GGL	GREEN	GREEN	565	2	2	120	1,9	2,5	to	7,5
KDL 53-IIL	IPER RED	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED		nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

SERIES KDL 52 — Ø 5 mm LED

TYPE	EMITTED COLOUR ❶	EMITTED COLOUR ❷	LUMINOUS INTENSITY PEAK	LUMINOUS INTENSITY TYP.	LUMINOUS INTENSITY IF	FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA) TYP.	FORWARD VOLTAGE (IF=20 mA) MAX	OPERATING TEMPERATURE	FORWARD CURRENT
KDL 52 - RR	RED	RED	700	5	10	120	2,0	2,5		25
KDL 52 - YY	YELLOW	YELLOW	590	12,5	10	120	2,1	2,5	- 55	30
KDL 52 - GG	GREEN	GREEN	565	12,5	10	120	2,2	2,5	to	25
KDL 52 - SS	SUPER RED	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KDL 52 - II	IPER RED	IPER RED	660	100	20	120	1,85	2,5		30
MULTICOLOURED										
KDL 52 - GR	GREEN	RED								
KDL 52 - YR	YELLOW	RED								
KDL 52 - YG	YELLOW	GREEN								
KDL 52 - SG	SUPER RED	GREEN		TECHNICAL DATAS: SEE ABOVE						
KDL 52 - SY	SUPER RED	YELLOW								
KDL 52 - RG	RED	GREEN								
KDL 52 - RY	RED	YELLOW								
KDL 52 - GY	GREEN	YELLOW								
KDL 52 - GS	GREEN	SUPER RED								
KDL 52 - YS	YELLOW	SUPER RED								
LOW CURRENT										
KDL 52-RRL	RED	RED	625	2	2	120	1,8	2,5		7,5
KDL 52-YYL	YELLOW	YELLOW	590	2	2	120	1,9	2,5	- 55	7,5
KDL 52-GGL	GREEN	GREEN	565	2	2	120	1,9	2,5	to	7,5
KDL 52-IIL	IPER RED	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED		nm	mcd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

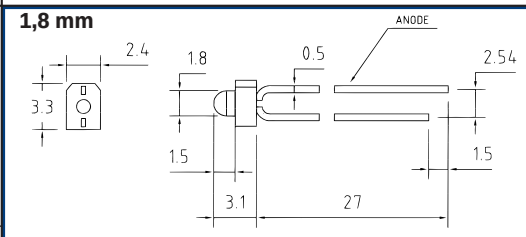
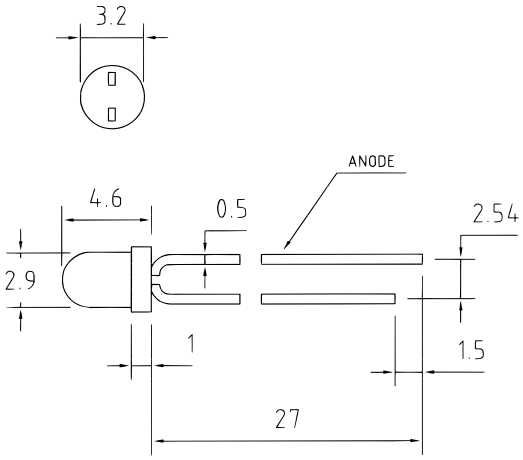
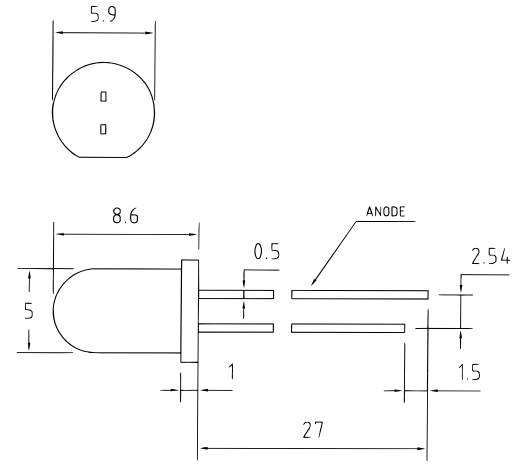
MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure:
  - standard 100.000 hours
  - low current 250.000 hours

OPTIONS AVAILABLE

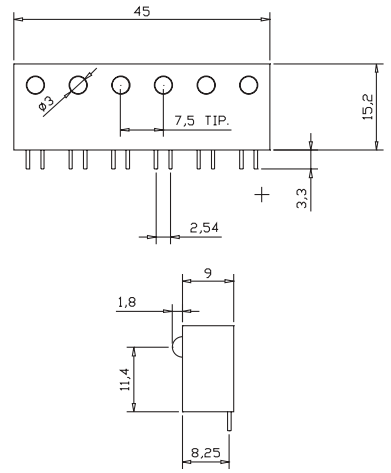
- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST

ROUND LED LAMPS

TYPE	EMITTED COLOUR + MATERIAL	WAVE-LENGHT (nm)	LENS TYPE	Iv (mcd) @10mA TYPICAL	VIEWING ANGLE 2θ1/2	DIMENSION IN mm (TYPICAL)
KU-01 HD	GaP	700	RED DIFFUSED	3.5	70°	1,8 mm 
KU-01 ID	GaAsP/GaP	625	RED DIFFUSED	32.0		
KU-01 ED	GaAsP/GaP	625	ORANGE DIFFUSED			
KU-01 GD	GaP	565	GREEN DIFFUSED	5.0		
KU-01 YD	GaAsP/GaP	590	YELLOW DIFFUSED			
KU-01 SR	GaAlAs	660	RED DIFFUSED	50.0		
KU-01 SRW		660	WATER CLEAR	120.0	30°	
KP-02 GD	GaP	569	GREEN DIFFUSED	12.5		3 mm (T-1) 
KP-02 HD	GaAsP/GaP	626	RED DIFFUSED	6.5		
KP-02 YD	GaAsP/GaP	585	YELLOW DIFFUSED	12.5	60°	
KU-02 HD	GaP	700	RED DIFFUSED	5.0	60°	
KU-02 ID	GaAsP/GaP	625	RED DIFFUSED	50.0	60°	
KU-02 IT	GaAsP/GaP	625	RED TRANSPARENT	125.0	50°	
KU-02 EC	GaAsP/GaP	625	WATER CLEAR	125.0	50°	
KU-02 ED	GaAsP/GaP	625	ORANGE DIFFUSED	50.0	60°	
KU-02 GD	GaP	565	GREEN DIFFUSED	32.0	60°	
KU-02 GT	GaP	565	GREEN TRANSPARENT	80.0	50°	
KU-02 GC	GaP	565	WATER CLEAR	80.0	50°	
KU-02 YD	GaAsP/GaP	590	YELLOW DIFFUSED	32.0	60°	
KU-02 YT	GaAsP/GaP	590	YELLOW TRANSPARENT	50.0	50°	
KU-02 YC	GaAsP/GaP	590	WATER CLEAR	50.0	50°	
LOW CURRENT						
KP-02 GDL	GaP	569	GREEN DIFFUSED	2.7	60°	
KP-02 RDL	GaAsP/GaP	626	RED DIFFUSED	2.7	60°	
KP-02 YDL	GaAsP/GaP	585	YELLOW DIFFUSED	2.7	60°	
KU-02 GDL	GaP	565	GREEN DIFFUSED	3.2	60°	
KU-02 IDL	GaAl/As	660	RED DIFFUSED	20	60°	
KU-02 RDL	GaAsP/GaP	625	RED DIFFUSED	5	50°	
KU-02 YDL	GaAsP/GaP	590	YELLOW DIFFUSED	32	60°	
KU-03 HD	GaP	700	RED DIFFUSED	5.0	60°	5 mm (T-1 3/4) 
KU-03 ID	GaAsP/GaP	625	RED DIFFUSED	80.0	60°	
KU-03 IT	GaAsP/GaP	625	RED TRANSPARENT	200.0	30°	
KU-03 EC	GaAsP/GaP	625	WATER CLEAR	200.0	30°	
KU-03 ED	GaAsP/GaP	625	ORANGE DIFFUSED	80.0	60°	
KU-03 GD	GaP	565	GREEN DIFFUSED	32.0	60°	
KU-03 GT	GaP	565	GREEN TRANSPARENT	80.0	30°	
KU-03 GC	GaP	565	WATER CLEAR	80.0	30°	
KU-03 YD	GaAsP/GaP	590	YELLOW DIFFUSED	32.0	60°	
KU-03 YT	GaAsP/GaP	590	YELLOW TRANSPARENT	80.0	30°	
KU-03 YC	GaAsP/GaP	590	WATER CLEAR	80.0	30°	
KU-03 BGR	GaAlAs	660	WHITE DIFFUSED	200.0	50°	
(Bicolor)	GaP	565		40.0		
LOW CURRENT						
KU-03 GDL	GaP	565	GREEN DIFFUSED	3.6	60°	
KU-03 RDL	GaAsP/GaP	625	RED DIFFUSED	5		
KU-03 IDL	GaAl/As	660	RED DIFFUSED	20		
KU-03 YDL	GaAsP/GaP	590	YELLOW DIFFUSED	3.6		

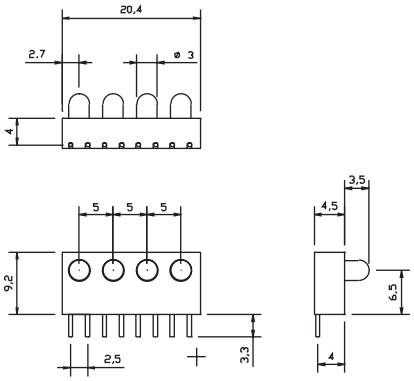
◆ AVAILABLE TECNICAL DATA

K21599



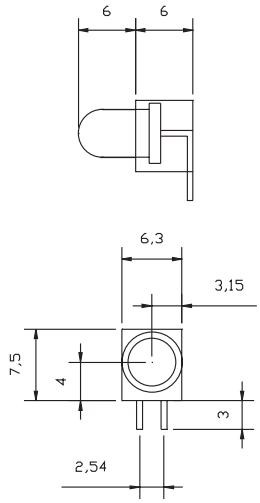
Dimensions in mm (typical)

K37401



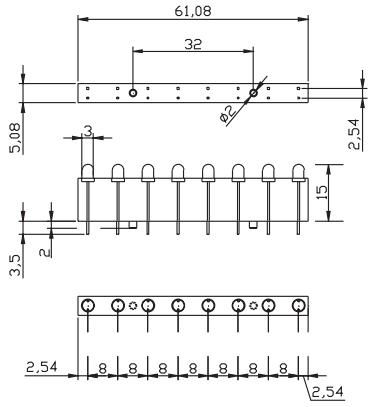
Dimensions in mm (typical)

K52302



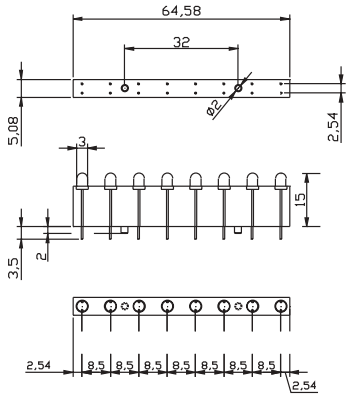
Dimensions in mm (typical)

KSI67403



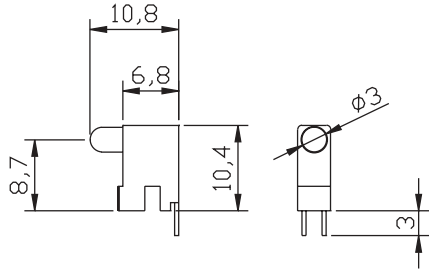
Dimensions in mm (typical)

KSI67603



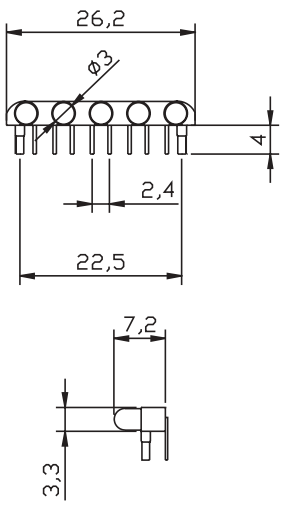
Dimensions in mm (typical)

K32900



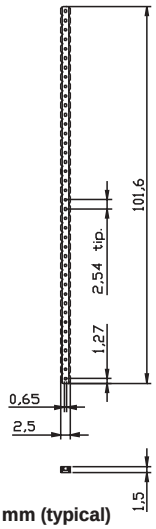
Dimensions in mm (typical)

K32800



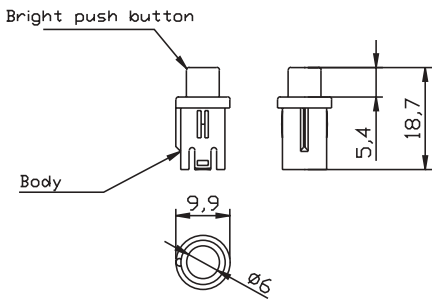
Dimensions in mm (typical)

KMH32



Dimensions in mm (typical)

KST66403



Dimensions in mm (typical)