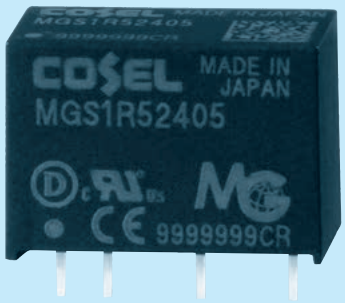
COSEL DC-DC Converters PCB Mount Type

# MGS1R5

## Ordering information

| MG | S | 1R5 | 24 | 05 | -□ |
|---|---|---|---|---|---|
| ① | ② | ③ | ④ | ⑤ | ⑥ |




①Series name
②Single output
③Output wattage
④Input voltage
⑤Output voltage
⑥Optional
Y2: Output voltage adjustable (+10%, -5%)

| MODEL | | MGS1R5053R3 | MGS1R50505 | MGS1R50512 | MGS1R50515 | MGS1R5123R3 | MGS1R51205 | MGS1R51212 | MGS1R51215 |
|---|---|---|---|---|---|---|---|---|---|
| MAX OUTPUT WATTAGE[W] | | 1.32 | 1.50 | 1.56 | 1.50 | 1.32 | 1.50 | 1.56 | 1.50 |
| DC OUTPUT | VOLTAGE[V] | 3.3 | 5 | 12 | 15 | 3.3 | 5 | 12 | 15 |
| | CURRENT[A] | 0.4 | 0.3 | 0.13 | 0.1 | 0.4 | 0.3 | 0.13 | 0.1 |

## SPECIFICATIONS

| | MODEL | | MGS1R5053R3 | MGS1R50505 | MGS1R50512 | MGS1R50515 | MGS1R5123R3 | MGS1R51205 | MGS1R51212 | MGS1R51215 |
|---|---|---|---|---|---|---|---|---|---|---|
| INPUT | VOLTAGE[V] | | DC4.5 - 9 (Surge voltage 12.5V, 100ms max) | | | | DC9 - 18 (Surge voltage 25V, 100ms max) | | | |
| | CURRENT[A] | *1 | 0.33typ | 0.37typ | 0.37typ | 0.36typ | 0.14typ | 0.15typ | 0.16typ | 0.15typ |
| | EFFICIENCY[%] | *1 | 80typ | 82typ | 85typ | 84typ | 80typ | 83typ | 84typ | 84typ |
| OUTPUT | VOLTAGE[V] | | 3.3 | 5 | 12 | 15 | 3.3 | 5 | 12 | 15 |
| | CURRENT[A] | | 0.4 | 0.3 | 0.13 | 0.1 | 0.4 | 0.3 | 0.13 | 0.1 |
| | LINE REGULATION[mV] | | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | LOAD REGULATION[mV] | | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | RIPPLE[mVp-p] | *2 | 120max | 120max | 150max | 150max | 120max | 120max | 150max | 150max |
| | RIPPLE NOISE[mVp-p] | *2 | 200max | 200max | 200max | 200max | 200max | 200max | 200max | 200max |
| | TEMPERATURE REGULATION[mV] | -20 to +85℃ | 50max | 50max | 150max | 180max | 50max | 50max | 150max | 180max |
| | | -40 to +85℃ | 80max | 80max | 240max | 290max | 80max | 80max | 240max | 290max |
| | DRIFT[mV] | *3 | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | START-UP TIME[ms] | | 30max (Minimum input, Io=100%) | | | | | | | |
| | OUTPUT VOLTAGE SETTING[V] | | 3.21 - 3.42 | 4.90 - 5.21 | 11.64 - 12.36 | 14.55 - 15.45 | 3.21 - 3.42 | 4.90 - 5.21 | 11.64 - 12.36 | 14.55 - 15.45 |
| PROTECTION CIRCUIT | OVERCURRENT PROTECTION | | Works over 105% of rating and recovers automatically | | | | | | | |

| MODEL | | MGS1R5243R3 | MGS1R52405 | MGS1R52412 | MGS1R52415 | MGS1R5483R3 | MGS1R54805 | MGS1R54812 | MGS1R54815 |
|---|---|---|---|---|---|---|---|---|---|
| MAX OUTPUT WATTAGE[W] | | 1.32 | 1.50 | 1.56 | 1.50 | 1.32 | 1.50 | 1.56 | 1.50 |
| DC OUTPUT | VOLTAGE[V] | 3.3 | 5 | 12 | 15 | 3.3 | 5 | 12 | 15 |
| | CURRENT[A] | 0.4 | 0.3 | 0.13 | 0.1 | 0.4 | 0.3 | 0.13 | 0.1 |

## SPECIFICATIONS

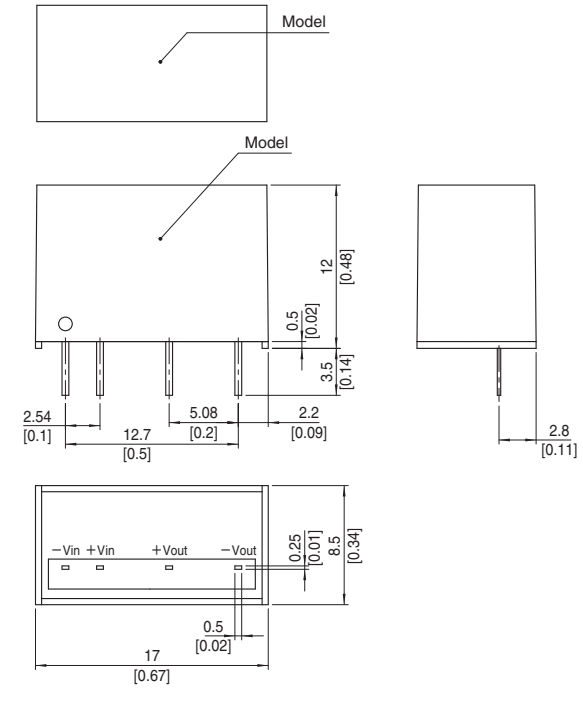
| | MODEL | | MGS1R5243R3 | MGS1R52405 | MGS1R52412 | MGS1R52415 | MGS1R5483R3 | MGS1R54805 | MGS1R54812 | MGS1R54815 |
|---|---|---|---|---|---|---|---|---|---|---|
| INPUT | VOLTAGE[V] | | DC18 - 36 (Surge voltage 50V, 100ms max) | | | | DC36 - 76 (Surge voltage 100V, 100ms max) | | | |
| | CURRENT[A] | *1 | 0.071typ | 0.079typ | 0.080typ | 0.077typ | 0.036typ | 0.040typ | 0.040typ | 0.039typ |
| | EFFICIENCY[%] | *1 | 78typ | 80typ | 82typ | 82typ | 77typ | 80typ | 82typ | 82typ |
| OUTPUT | VOLTAGE[V] | | 3.3 | 5 | 12 | 15 | 3.3 | 5 | 12 | 15 |
| | CURRENT[A] | | 0.4 | 0.3 | 0.13 | 0.1 | 0.4 | 0.3 | 0.13 | 0.1 |
| | LINE REGULATION[mV] | | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | LOAD REGULATION[mV] | | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | RIPPLE[mVp-p] | *2 | 120max | 120max | 150max | 150max | 120max | 120max | 150max | 150max |
| | RIPPLE NOISE[mVp-p] | *2 | 200max | 200max | 200max | 200max | 200max | 200max | 200max | 200max |
| | TEMPERATURE REGULATION[mV] | -20 to +85℃ | 50max | 50max | 150max | 180max | 50max | 50max | 150max | 180max |
| | | -40 to +85℃ | 80max | 80max | 240max | 290max | 80max | 80max | 240max | 290max |
| | DRIFT[mV] | *3 | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | START-UP TIME[ms] | | 30max (Minimum input, Io=100%) | | | | | | | |
| | OUTPUT VOLTAGE SETTING[V] | | 3.21 - 3.42 | 4.90 - 5.21 | 11.64 - 12.36 | 14.55 - 15.45 | 3.21 - 3.42 | 4.90 - 5.21 | 11.64 - 12.36 | 14.55 - 15.45 |
| PROTECTION CIRCUIT | OVERCURRENT PROTECTION | | Works over 105% of rating and recovers automatically | | | | | | | |

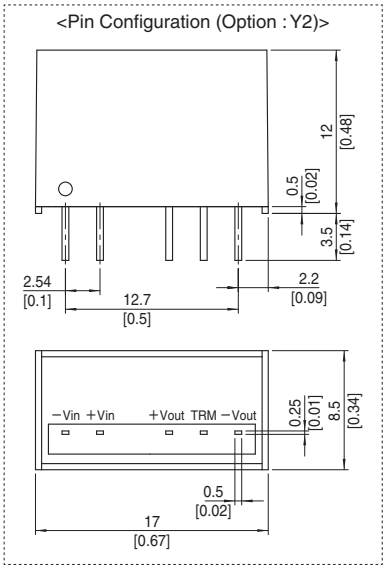
## GENERAL SPECIFICATIONS

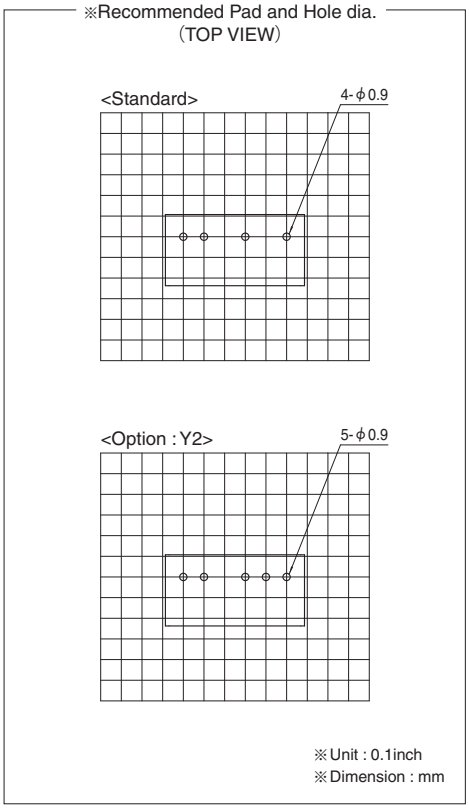
| | | |
|---|---|---|
| ISOLATION | INPUT-OUTPUT | DC1,500V or AC1,000V 1minute, Cutoff current=10mA, DC500V 1,000MΩ min (20±15℃) |
| ENVIRONMENT | OPERATING TEMP.,HUMID.AND ALTITUDE | -40 to +85℃, 20 to 95%RH (Non condensing) (Required derating), 5,000m (16,400feet) max |
| | STORAGE TEMP.,HUMID.AND ALTITUDE | -40 to +100℃, 20 to 95%RH (Non condensing), 9,000m (30,000feet) max |
| | VIBRATION | 10 - 55Hz 98.0m/s² (10G), 3minute period, 60minutes each along X, Y and Z axis |
| | IMPACT | 490.3m/s² (50G) 11ms, once each along X, Y and Z axis |
| SAFETY | AGENCY APPROVALS | UL60950-1, C-UL, EN60950-1 |
| OTHERS | CASE SIZE/WEIGHT | 17.0×12.0×8.5mm [0.67×0.48×0.34 inches] (W×H×D) / 4g max |
| | COOLING METHOD | Convection/Forced air |

*1 Rated input 5V, 12V, 24V or 48V DC Io=100%
*2 Ripple and ripple noise is measured by using test board with ceramic capacitor 1μF at 50mm from output pins.
*3 Drift is the DC output accuracy for eight hours period after a half-hour warm-up at 25℃.
* Parallel operation with other model is not possible.
* MGW1R5xx12/MGW1R5xx15 is available as single output, +24V/+30V

## External view




※ Tolerance ±0.5 [±0.02]
※ Dimensions in mm, [ ]= inches
※ Pin terminal material : Copper
※ Planting treatment of terminal : Lead free plating
※ Case material : PBT
※ Weight 4g max

COSEL DC-DC Converters PCB Mount Type

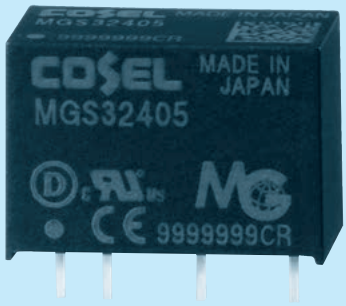
# MGS3

## Ordering information

| MG | S | 3 | 24 | 05 | -□ |
|---|---|---|---|---|---|
| ① | ② | ③ | ④ | ⑤ | ⑥ |

①Series name
②Single output
③Output wattage
④Input voltage
⑤Output voltage
⑥Optional
Y2: Output voltage adjustable (+10%, -5%)

RoHS




| MODEL | | MGS3053R3 | MGS30505 | MGS30512 | MGS30515 | MGS3123R3 | MGS31205 | MGS31212 | MGS31215 |
|---|---|---|---|---|---|---|---|---|---|
| MAX OUTPUT WATTAGE[W] | | 2.64 | 3.0 | 3.0 | 3.0 | 2.64 | 3.0 | 3.0 | 3.0 |
| DC OUTPUT | VOLTAGE[V] | 3.3 | 5 | 12 | 15 | 3.3 | 5 | 12 | 15 |
| | CURRENT[A] | 0.8 | 0.6 | 0.25 | 0.2 | 0.8 | 0.6 | 0.25 | 0.2 |

## SPECIFICATIONS

| | MODEL | | MGS3053R3 | MGS30505 | MGS30512 | MGS30515 | MGS3123R3 | MGS31205 | MGS31212 | MGS31215 |
|---|---|---|---|---|---|---|---|---|---|---|
| INPUT | VOLTAGE[V] | | DC4.5 - 9 (Surge voltage 12.5V, 100ms max) | | | | DC9 - 18 (Surge voltage 25V, 100ms max) | | | |
| | CURRENT[A] | *1 | 0.67typ | 0.73typ | 0.71typ | 0.71typ | 0.28typ | 0.30typ | 0.29typ | 0.30typ |
| | EFFICIENCY[%] | *1 | 79typ | 82typ | 85typ | 85typ | 80typ | 83typ | 86typ | 85typ |
| OUTPUT | VOLTAGE[V] | | 3.3 | 5 | 12 | 15 | 3.3 | 5 | 12 | 15 |
| | CURRENT[A] | | 0.8 | 0.6 | 0.25 | 0.2 | 0.8 | 0.6 | 0.25 | 0.2 |
| | LINE REGULATION[mV] | | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | LOAD REGULATION[mV] | | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | RIPPLE[mVp-p] | *2 | 120max | 120max | 150max | 150max | 120max | 120max | 150max | 150max |
| | RIPPLE NOISE[mVp-p] | *2 | 200max | 200max | 200max | 200max | 200max | 200max | 200max | 200max |
| | TEMPERATURE REGULATION[mV] | -20 to +75℃ | 50max | 50max | 150max | 180max | 50max | 50max | 150max | 180max |
| | | -40 to +75℃ | 80max | 80max | 240max | 290max | 80max | 80max | 240max | 290max |
| | DRIFT[mV] | *3 | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | START-UP TIME[ms] | | 30max (Minimum input, Io=100%) | | | | | | | |
| | OUTPUT VOLTAGE SETTING[V] | | 3.21 - 3.42 | 4.90 - 5.21 | 11.64 - 12.36 | 14.55 - 15.45 | 3.21 - 3.42 | 4.90 - 5.21 | 11.64 - 12.36 | 14.55 - 15.45 |
| PROTECTION CIRCUIT | OVERCURRENT PROTECTION | | Works over 105% of rating and recovers automatically | | | | | | | |

| MODEL | | MGS3243R3 | MGS32405 | MGS32412 | MGS32415 | MGS3483R3 | MGS34805 | MGS34812 | MGS34815 |
|---|---|---|---|---|---|---|---|---|---|
| MAX OUTPUT WATTAGE[W] | | 2.64 | 3.0 | 3.0 | 3.0 | 2.64 | 3.0 | 3.0 | 3.0 |
| DC OUTPUT | VOLTAGE[V] | 3.3 | 5 | 12 | 15 | 3.3 | 5 | 12 | 15 |
| | CURRENT[A] | 0.8 | 0.6 | 0.25 | 0.2 | 0.8 | 0.6 | 0.25 | 0.2 |

## SPECIFICATIONS

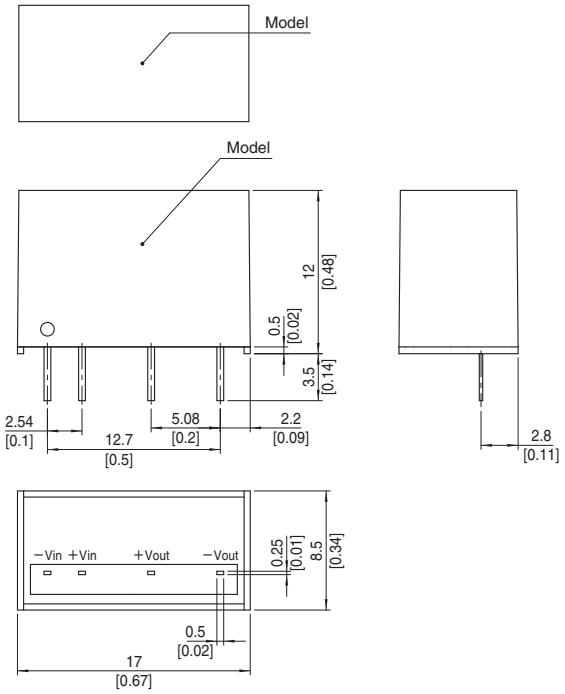
| | MODEL | | MGS3243R3 | MGS32405 | MGS32412 | MGS32415 | MGS3483R3 | MGS34805 | MGS34812 | MGS34815 |
|---|---|---|---|---|---|---|---|---|---|---|
| INPUT | VOLTAGE[V] | | DC18 - 36 (Surge voltage 50V, 100ms max) | | | | DC36 - 76 (Surge voltage 100V, 100ms max) | | | |
| | CURRENT[A] | *1 | 0.14typ | 0.15typ | 0.15typ | 0.15typ | 0.071typ | 0.079typ | 0.074typ | 0.074typ |
| | EFFICIENCY[%] | *1 | 80typ | 82typ | 85typ | 85typ | 78typ | 80typ | 85typ | 85typ |
| OUTPUT | VOLTAGE[V] | | 3.3 | 5 | 12 | 15 | 3.3 | 5 | 12 | 15 |
| | CURRENT[A] | | 0.8 | 0.6 | 0.25 | 0.2 | 0.8 | 0.6 | 0.25 | 0.2 |
| | LINE REGULATION[mV] | | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | LOAD REGULATION[mV] | | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | RIPPLE[mVp-p] | *2 | 120max | 120max | 150max | 150max | 120max | 120max | 150max | 150max |
| | RIPPLE NOISE[mVp-p] | *2 | 200max | 200max | 200max | 200max | 200max | 200max | 200max | 200max |
| | TEMPERATURE REGULATION[mV] | -20 to +75℃ | 50max | 50max | 150max | 180max | 50max | 50max | 150max | 180max |
| | | -40 to +75℃ | 80max | 80max | 240max | 290max | 80max | 80max | 240max | 290max |
| | DRIFT[mV] | *3 | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | START-UP TIME[ms] | | 30max (Minimum input, Io=100%) | | | | | | | |
| | OUTPUT VOLTAGE SETTING[V] | | 3.21 - 3.42 | 4.90 - 5.21 | 11.64 - 12.36 | 14.55 - 15.45 | 3.21 - 3.42 | 4.90 - 5.21 | 11.64 - 12.36 | 14.55 - 15.45 |
| PROTECTION CIRCUIT | OVERCURRENT PROTECTION | | Works over 105% of rating and recovers automatically | | | | | | | |

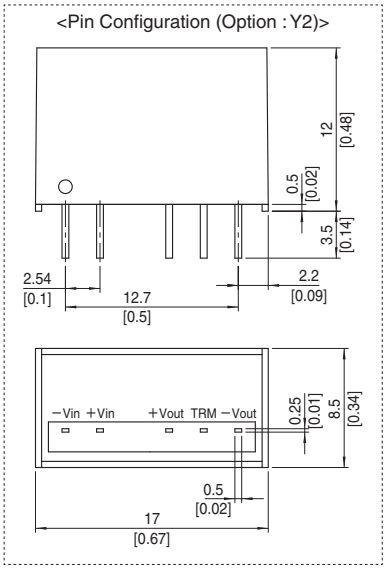
## GENERAL SPECIFICATIONS

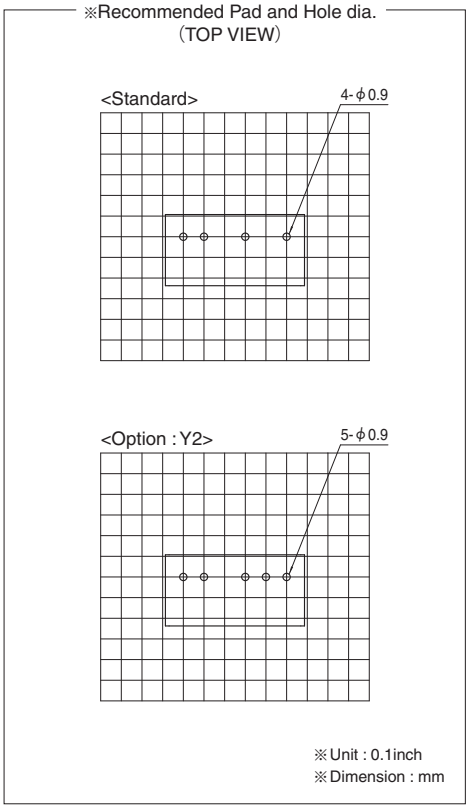
| | | |
|---|---|---|
| ISOLATION | INPUT-OUTPUT | DC1,500V or AC1,000V 1minute, Cutoff current=10mA, DC500V 1,000MΩ min (20±15℃) |
| ENVIRONMENT | OPERATING TEMP.,HUMID.AND ALTITUDE | -40 to +85℃, 20 to 95%RH (Non condensing) (Required derating), 5,000m (16,400feet) max |
| | STORAGE TEMP.,HUMID.AND ALTITUDE | -40 to +100℃, 20 to d95%RH (Non condensing), 9,000m (30,000feet) max |
| | VIBRATION | 10 - 55Hz 98.0m/s² (10G), 3minute period, 60minutes each along X, Y and Z axis |
| | IMPACT | 490.3m/s² (50G) 11ms, once each along X, Y and Z axis |
| SAFETY | AGENCY APPROVALS | UL60950-1, C-UL, EN60950-1 |
| OTHERS | CASE SIZE/WEIGHT | 17.0×12.0×8.5mm [0.67×0.48×0.34 inches] (W×H×D) / 4g max |
| | COOLING METHOD | Convection/Forced air |

*1 Rated input 5V, 12V, 24V or 48V DC Io=100%
*2 Ripple and ripple noise is measured by using test board with ceramic capacitor 1μF at 50mm from output pins.
*3 Drift is the DC output accuracy for eight hours period after a half-hour warm-up at 25℃.
* Parallel operation with other model is not possible.
* MGW3xx12/MGW3xx15 is available as single output, +24V/+30V

## External view



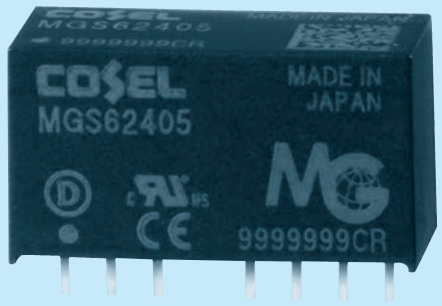

※ Tolerance ±0.5 [±0.02]
※ Dimensions in mm, [ ]= inches
※ Pin terminal material : Copper
※ Planting treatment of terminal : Lead free plating
※ Case material : PBT
※ Weight 4g max

COSEL DC-DC Converters PCB Mount Type

# MGS6

**Ordering information**

| MG | S | 6 | 24 | 05 | -□ |
|---|---|---|---|---|---|
| ① | ② | ③ | ④ | ⑤ | ⑥ |




①Series name
②Single output
③Output wattage
④Input voltage
⑤Output voltage
⑥Optional
Y2: Output voltage adjustable (+10%, -5%)

| MODEL | | MGS6053R3 | MGS60505 | MGS60512 | MGS60515 | MGS6123R3 | MGS61205 | MGS61212 | MGS61215 |
|---|---|---|---|---|---|---|---|---|---|
| MAX OUTPUT WATTAGE[W] | | 5.28 | 6.0 | 6.0 | 6.0 | 5.28 | 6.0 | 6.0 | 6.0 |
| DC OUTPUT | VOLTAGE[V] | 3.3 | 5 | 12 | 15 | 3.3 | 5 | 12 | 15 |
| | CURRENT[A] | 1.6 | 1.2 | 0.5 | 0.4 | 1.6 | 1.2 | 0.5 | 0.4 |

## SPECIFICATIONS

| | MODEL | | MGS6053R3 | MGS60505 | MGS60512 | MGS60515 | MGS6123R3 | MGS61205 | MGS61212 | MGS61215 |
|---|---|---|---|---|---|---|---|---|---|---|
| INPUT | VOLTAGE[V] | | DC4.5 - 9 (Surge voltage 12.5V, 100ms max) | | | | DC9 - 18 (Surge voltage 25V, 100ms max ) | | | |
| | CURRENT[A] | *1 | 1.31typ | 1.42typ | 1.37typ | 1.37typ | 0.54typ | 0.59typ | 0.57typ | 0.57typ |
| | EFFICIENCY[%] | *1 | 81typ | 85typ | 88typ | 88typ | 82typ | 85typ | 89typ | 89typ |
| OUTPUT | VOLTAGE[V] | | 3.3 | 5 | 12 | 15 | 3.3 | 5 | 12 | 15 |
| | CURRENT[A] | | 1.6 | 1.2 | 0.5 | 0.4 | 1.6 | 1.2 | 0.5 | 0.4 |
| | LINE REGULATION[mV] | | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | LOAD REGULATION[mV] | | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | RIPPLE[mVp-p] | Io=30% - | 75max | 75max | 100max | 100max | 75max | 75max | 100max | 100max |
| | *2 | Io=0 - 30% | 225max | 225max | 300max | 300max | 225max | 225max | 300max | 300max |
| | RIPPLE NOISE[mVp-p] | Io=30% - | 120max | 120max | 150max | 150max | 120max | 120max | 150max | 150max |
| | *2 | Io=0 - 30% | 300max | 300max | 400max | 400max | 300max | 300max | 400max | 400max |
| | TEMPERATURE REGULATION[mV] | -20 to +70℃ | 50max | 50max | 150max | 180max | 50max | 50max | 150max | 180max |
| | | -40 to +70℃ | 80max | 80max | 240max | 290max | 80max | 80max | 240max | 290max |
| | DRIFT[mV] | *3 | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | START-UP TIME[ms] | | 30max (Minimum input, Io=100%) | | | | | | | |
| | OUTPUT VOLTAGE SETTING[V] | | 3.21 - 3.42 | 4.90 - 5.21 | 11.64 - 12.36 | 14.55 - 15.45 | 3.21 - 3.42 | 4.90 - 5.21 | 11.64 - 12.36 | 14.55 - 15.45 |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION | | Works over 105% of rating and recovers automatically | | | | | | | |
| | REMOTE ON/OFF | | Provided (Negative logic L : ON, H : OFF) | | | | | | | |

| MODEL | | MGS6243R3 | MGS62405 | MGS62412 | MGS62415 | MGS6483R3 | MGS64805 | MGS64812 | MGS64815 |
|---|---|---|---|---|---|---|---|---|---|
| MAX OUTPUT WATTAGE[W] | | 5.28 | 6.0 | 6.0 | 6.0 | 5.28 | 6.0 | 6.0 | 6.0 |
| DC OUTPUT | VOLTAGE[V] | 3.3 | 5 | 12 | 15 | 3.3 | 5 | 12 | 15 |
| | CURRENT[A] | 1.6 | 1.2 | 0.5 | 0.4 | 1.6 | 1.2 | 0.5 | 0.4 |

## SPECIFICATIONS

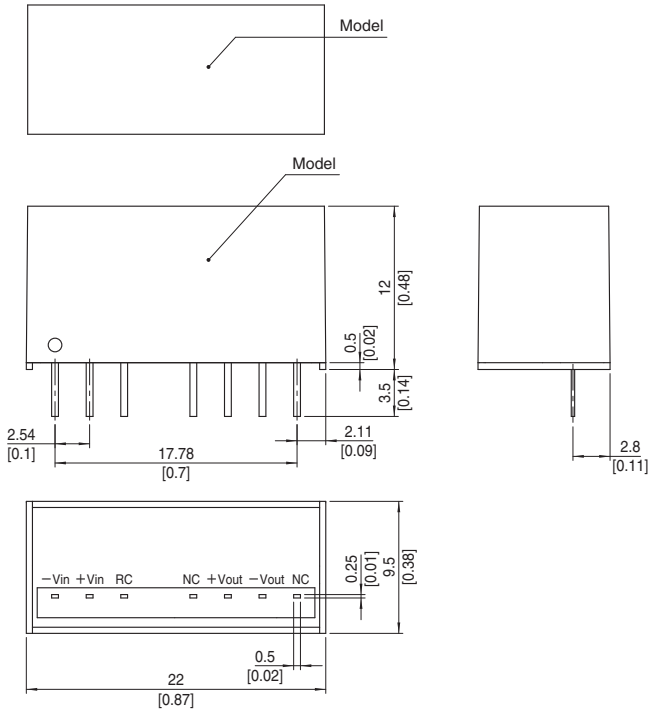
| | MODEL | | MGS6243R3 | MGS62405 | MGS62412 | MGS62415 | MGS6483R3 | MGS64805 | MGS64812 | MGS64815 |
|---|---|---|---|---|---|---|---|---|---|---|
| INPUT | VOLTAGE[V] | | DC18 - 36 (Surge voltage 50V, 100ms max) | | | | DC36 - 76 (Surge voltage 100V, 100ms max) | | | |
| | CURRENT[A] | *1 | 0.27typ | 0.30typ | 0.29typ | 0.29typ | 0.14typ | 0.15typ | 0.15typ | 0.15typ |
| | EFFICIENCY[%] | *1 | 82typ | 85typ | 89typ | 89typ | 81typ | 85typ | 89typ | 89typ |
| OUTPUT | VOLTAGE[V] | | 3.3 | 5 | 12 | 15 | 3.3 | 5 | 12 | 15 |
| | CURRENT[A] | | 1.6 | 1.2 | 0.5 | 0.4 | 1.6 | 1.2 | 0.5 | 0.4 |
| | LINE REGULATION[mV] | | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | LOAD REGULATION[mV] | | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | RIPPLE[mVp-p] | Io=30% - | 75max | 75max | 100max | 100max | 75max | 75max | 100max | 100max |
| | *2 | Io=0 - 30% | 225max | 225max | 300max | 300max | 225max | 225max | 300max | 300max |
| | RIPPLE NOISE[mVp-p] | Io=30% - | 120max | 120max | 150max | 150max | 120max | 120max | 150max | 150max |
| | *2 | Io=0 - 30% | 300max | 300max | 400max | 400max | 300max | 300max | 400max | 400max |
| | TEMPERATURE REGULATION[mV] | -20 to +70℃ | 50max | 50max | 150max | 180max | 50max | 50max | 150max | 180max |
| | | -40 to +70℃ | 80max | 80max | 240max | 290max | 80max | 80max | 240max | 290max |
| | DRIFT[mV] | *3 | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | START-UP TIME[ms] | | 30max (Minimum input, Io=100%) | | | | | | | |
| | OUTPUT VOLTAGE SETTING[V] | | 3.21 - 3.42 | 4.90 - 5.21 | 11.64 - 12.36 | 14.55 - 15.45 | 3.21 - 3.42 | 4.90 - 5.21 | 11.64 - 12.36 | 14.55 - 15.45 |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION | | Works over 105% of rating and recovers automatically | | | | | | | |
| | REMOTE ON/OFF | | Provided (Negative logic L : ON, H : OFF) | | | | | | | |

## GENERAL SPECIFICATIONS

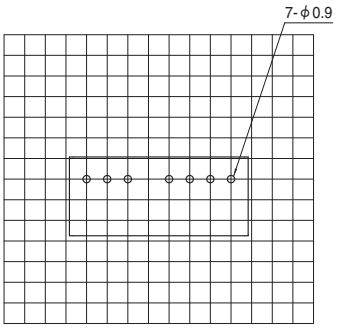
| | | |
|---|---|---|
| ISOLATION | INPUT-OUTPUT | DC1,500V or AC1,000V 1minute, Cutoff current=10mA, DC500V 1,000MΩ min (20±15℃) |
| ENVIRONMENT | OPERATING TEMP.,HUMID.AND ALTITUDE | -40 to +85℃, 20 to 95%RH (Non condensing) (Required derating), 5,000m (16,400feet) max |
| | STORAGE TEMP.,HUMID.AND ALTITUDE | -40 to +100℃, 20 to 95%RH (Non condensing), 9,000m (30,000feet) max |
| | VIBRATION | 10 - 55Hz 98.0m/s² (10G), 3minute period, 60minutes each along X, Y and Z axis |
| | IMPACT | 490.3m/s² (50G) 11ms, once each along X, Y and Z axis |
| SAFETY | AGENCY APPROVALS | UL60950-1, C-UL, EN60950-1 |
| OTHERS | CASE SIZE/WEIGHT | 22.0×12.0×9.5mm [0.87×0.48×0.38 inches] (W×H×D) / 7g max |
| | COOLING METHOD | Convection/Forced air |

*1 Rated input 5V, 12V, 24V or 48V DC Io=100%
*2 Ripple and ripple noise is measured by using test board with ceramic capacitor 1μF at 50mm from output pins.
*3 Drift is the DC output accuracy for eight hours period after a half-hour warm-up at 25℃.
* Parallel operation with other model is not possible.
* MGW6xx12/MGW6xx15 is available as single output, +24V/+30V

## External view



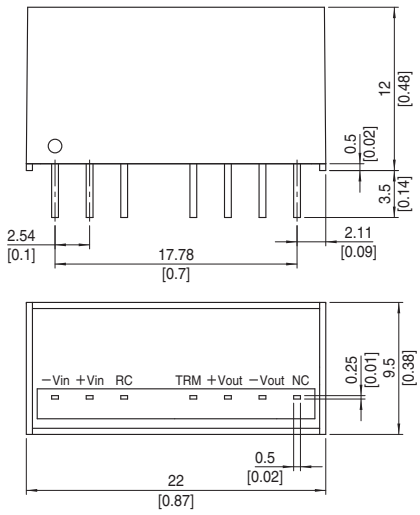

※Recommended Pad and Hole dia.
(TOP VIEW)




※Unit : 0.1inch
※Dimension : mm

※ Tolerance ±0.5 [±0.02]
※ Dimensions in mm, [ ]= inches
※ Pin terminal material : Copper
※ Planting treatment of terminal : Lead free plating
※ Case material : PBT
※ Weight 7g max

<Pin Configuration (Option : Y2)>

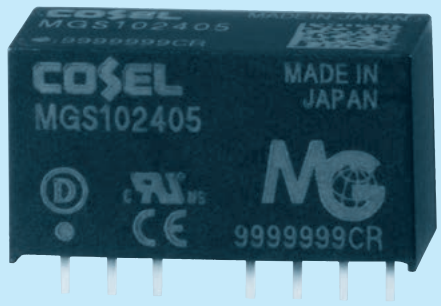


COSEL DC-DC Converters PCB Mount Type

# MGS10

**Ordering information**

| MG | S | 10 | 24 | 05 | -□ |
|---|---|---|---|---|---|
| ① | ② | ③ | ④ | ⑤ | ⑥ |




①Series name
②Single output
③Output wattage
④Input voltage
⑤Output voltage
⑥Optional
Y2: Output voltage adjustable (+10%, -5%)

| MODEL | | MGS10053R3 | MGS100505 | MGS100512 | MGS100515 | MGS10123R3 | MGS101205 | MGS101212 | MGS101215 |
|---|---|---|---|---|---|---|---|---|---|
| MAX OUTPUT WATTAGE[W] | | 8.58 | 10.0 | 10.8 | 10.5 | 8.58 | 10.0 | 10.8 | 10.5 |
| DC OUTPUT | VOLTAGE[V] | 3.3 | 5 | 12 | 15 | 3.3 | 5 | 12 | 15 |
| | CURRENT[A] | 2.6 | 2.0 | 0.9 | 0.7 | 2.6 | 2.0 | 0.9 | 0.7 |

## SPECIFICATIONS

| | MODEL | | MGS10053R3 | MGS100505 | MGS100512 | MGS100515 | MGS10123R3 | MGS101205 | MGS101212 | MGS101215 |
|---|---|---|---|---|---|---|---|---|---|---|
| INPUT | VOLTAGE[V] | | DC4.5 - 9 (Surge voltage 12.5V, 100ms max) | | | | DC9 - 18 (Surge voltage 25V, 100ms max) | | | |
| | CURRENT[A] | *1 | 2.02typ | 2.30typ | 2.46typ | 2.39typ | 0.83typ | 0.94typ | 1.02typ | 0.99typ |
| | EFFICIENCY[%] | *1 | 85typ | 87typ | 88typ | 88typ | 87typ | 89typ | 89typ | 89typ |
| OUTPUT | VOLTAGE[V] | | 3.3 | 5 | 12 | 15 | 3.3 | 5 | 12 | 15 |
| | CURRENT[A] | | 2.6 | 2.0 | 0.9 | 0.7 | 2.6 | 2.0 | 0.9 | 0.7 |
| | LINE REGULATION[mV] | | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | LOAD REGULATION[mV] | | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | RIPPLE[mVp-p] | Io=30% - | 75max | 75max | 100max | 100max | 75max | 75max | 100max | 100max |
| | | *2 Io=0 - 30% | 225max | 225max | 300max | 300max | 225max | 225max | 300max | 300max |
| | RIPPLE NOISE[mVp-p] | Io=30% - | 120max | 120max | 150max | 150max | 120max | 120max | 150max | 150max |
| | | *2 Io=0 - 30% | 300max | 300max | 400max | 400max | 300max | 300max | 400max | 400max |
| | TEMPERATURE REGULATION[mV] | -20 to +50℃ | 50max | 50max | 150max | 180max | 50max | 50max | 150max | 180max |
| | | -40 to +50℃ | 80max | 80max | 240max | 290max | 80max | 80max | 240max | 290max |
| | DRIFT[mV] | *3 | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | START-UP TIME[ms] | | 30max (Minimum input, Io=100%) | | | | | | | |
| | OUTPUT VOLTAGE SETTING[V] | | 3.21 - 3.42 | 4.90 - 5.21 | 11.64 - 12.36 | 14.55 - 15.45 | 3.21 - 3.42 | 4.90 - 5.21 | 11.64 - 12.36 | 14.55 - 15.45 |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION | | Works over 105% of rating and recovers automatically | | | | | | | |
| | REMOTE ON/OFF | | Provided (Negative logic L : ON, H : OFF) | | | | | | | |

| MODEL | | | MGS10243R3 | MGS102405 | MGS102412 | MGS102415 | MGS10483R3 | MGS104805 | MGS104812 | MGS104815 |
|---|---|---|---|---|---|---|---|---|---|---|
| MAX OUTPUT WATTAGE[W] | | | 8.58 | 10.0 | 10.8 | 10.5 | 8.58 | 10.0 | 10.8 | 10.5 |
| DC OUTPUT | VOLTAGE[V] | *1 | 3.3 | 5 | 12 | 15 | 3.3 | 5 | 12 | 15 |
| | CURRENT[A] | | 2.6 | 2.0 | 0.9 | 0.7 | 2.6 | 2.0 | 0.9 | 0.7 |

## SPECIFICATIONS

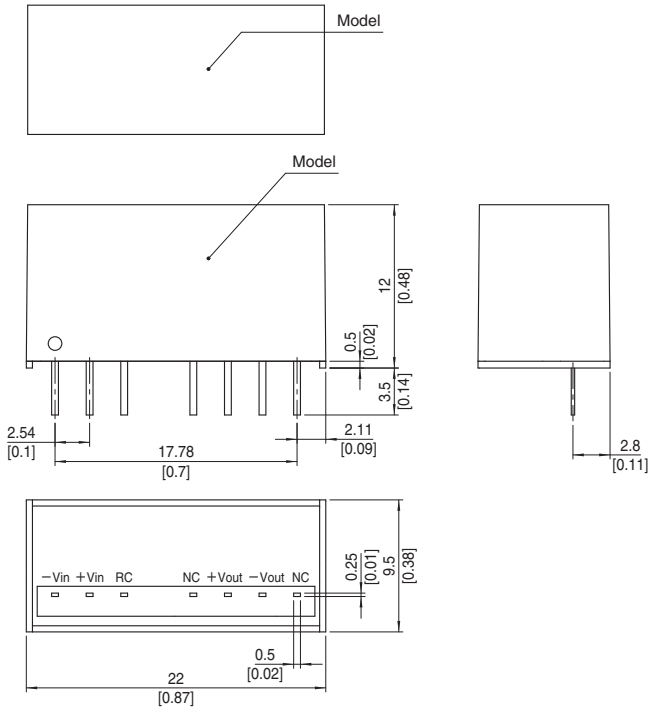
| | MODEL | | MGS10243R3 | MGS102405 | MGS102412 | MGS102415 | MGS10483R3 | MGS104805 | MGS104812 | MGS104815 |
|---|---|---|---|---|---|---|---|---|---|---|
| INPUT | VOLTAGE[V] | | DC18 - 36 (Surge voltage 50V, 100ms max) | | | | DC36 - 76 (Surge voltage 100V, 100ms max) | | | |
| | CURRENT[A] | *1 | 0.42typ | 0.47typ | 0.50typ | 0.49typ | 0.21typ | 0.24typ | 0.25typ | 0.25typ |
| | EFFICIENCY[%] | *1 | 87typ | 89typ | 90typ | 90typ | 87typ | 89typ | 90typ | 90typ |
| OUTPUT | VOLTAGE[V] | | 3.3 | 5 | 12 | 15 | 3.3 | 5 | 12 | 15 |
| | CURRENT[A] | | 2.6 | 2.0 | 0.9 | 0.7 | 2.6 | 2.0 | 0.9 | 0.7 |
| | LINE REGULATION[mV] | | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | LOAD REGULATION[mV] | | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | RIPPLE[mVp-p] | Io=30% - | 75max | 75max | 100max | 100max | 75max | 75max | 100max | 100max |
| | | *2 Io=0 - 30% | 225max | 225max | 300max | 300max | 225max | 225max | 300max | 300max |
| | RIPPLE NOISE[mVp-p] | Io=30% - | 120max | 120max | 150max | 150max | 120max | 120max | 150max | 150max |
| | | *2 Io=0 - 30% | 300max | 300max | 400max | 400max | 300max | 300max | 400max | 400max |
| | TEMPERATURE REGULATION[mV] | -20 to +50℃ | 50max | 50max | 150max | 180max | 50max | 50max | 150max | 180max |
| | | -40 to +50℃ | 80max | 80max | 240max | 290max | 80max | 80max | 240max | 290max |
| | DRIFT[mV] | *3 | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | START-UP TIME[ms] | | 30max (Minimum input, Io=100%) | | | | | | | |
| | OUTPUT VOLTAGE SETTING[V] | | 3.21 - 3.42 | 4.90 - 5.21 | 11.64 - 12.36 | 14.55 - 15.45 | 3.21 - 3.42 | 4.90 - 5.21 | 11.64 - 12.36 | 14.55 - 15.45 |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION | | Works over 105% of rating and recovers automatically | | | | | | | |
| | REMOTE ON/OFF | | Provided (Negative logic L : ON, H : OFF) | | | | | | | |

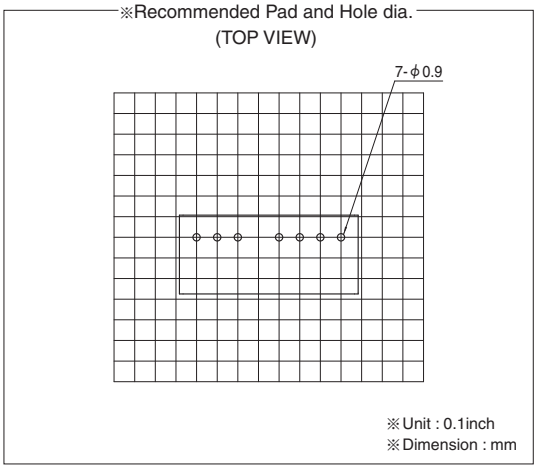
## GENERAL SPECIFICATIONS

| | | |
|---|---|---|
| ISOLATION | INPUT-OUTPUT | DC1,500V or AC1,000V 1minute, Cutoff current=10mA, DC500V 1,000MΩ min (20±15℃) |
| ENVIRONMENT | OPERATING TEMP.,HUMID.AND ALTITUDE | -40 to +85℃, 20 to 95%RH (Non condensing) (Required derating), 5,000m (16,400feet) max |
| | STORAGE TEMP.,HUMID.AND ALTITUDE | -40 to +100℃, 20 to 95%RH (Non condensing), 9,000m (30,000feet) max |
| | VIBRATION | 10 - 55Hz 98.0m/s² (10G), 3minute period, 60minutes each along X, Y and Z axis |
| | IMPACT | 490.3m/s² (50G) 11ms, once each along X, Y and Z axis |
| SAFETY | AGENCY APPROVALS | UL60950-1, C-UL, EN60950-1 |
| OTHERS | CASE SIZE/WEIGHT | 22.0×12.0×9.5mm [0.87×0.48×0.38 inches] (W×H×D) / 7g max |
| | COOLING METHOD | Convection/Forced air |

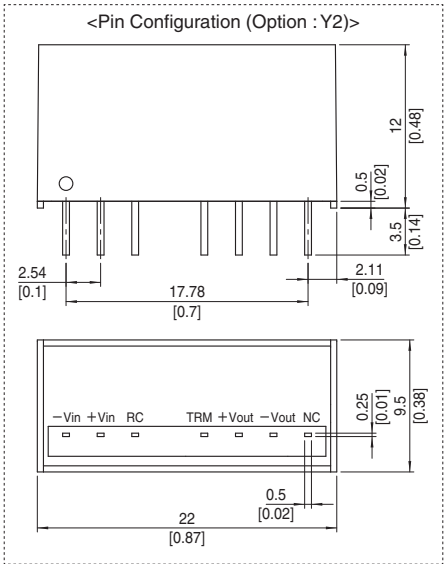
*1 Rated input 5V, 12V, 24V or 48V DC Io=100%
*2 Ripple and ripple noise is measured by using test board with ceramic capacitor 1μF at 50mm from output pins.
*3 Drift is the DC output accuracy for eight hours period after a half-hour warm-up at 25℃.
* Parallel operation with other model is not possible.
* MGW10xx12/MGW10xx15 is available as single output, +24V/+30V

## External view




※ Tolerance ±0.5 [±0.02]
※ Dimensions in mm, [ ]= inches
※ Pin terminal material : Copper
※ Planting treatment of terminal : Lead free plating
※ Case material : PBT
※ Weight 7g max



COSEL DC-DC Converters PCB Mount Type

# MGS15

**Ordering information**

| MG | S | 15 | 24 | 05 | -□ |
|---|---|---|---|---|---|
| ① | ② | ③ | ④ | ⑤ | ⑥ |

①Series name
②Single output
③Output wattage
④Input voltage
⑤Output voltage
⑥Optional
G: Capacitor between Input and Output is removed.
R: with Remote ON/OFF (Positive logic control)




| MODEL | | MGS15123R3 | MGS151205 | MGS151212 | MGS151215 | MGS15243R3 | MGS152405 | MGS152412 | MGS152415 |
|---|---|---|---|---|---|---|---|---|---|
| MAX OUTPUT WATTAGE[W] | | 13.2 | 15 | 15.6 | 15 | 13.2 | 15 | 15.6 | 15 |
| DC OUTPUT | VOLTAGE[V] *1 | 3.3 | 5 | 12 | 15 | 3.3 | 5 | 12 | 15 |
| | CURRENT[A] | 4 | 3 | 1.3 | 1 | 4 | 3 | 1.3 | 1 |

## SPECIFICATIONS

| | MODEL | | MGS15123R3 | MGS151205 | MGS151212 | MGS151215 | MGS15243R3 | MGS152405 | MGS152412 | MGS152415 |
|---|---|---|---|---|---|---|---|---|---|---|
| INPUT | VOLTAGE[V] | | DC9 - 18 | | | | DC18 - 36 | | | |
| | CURRENT[A] | *2 | 1.28typ | 1.44typ | 1.49typ | 1.42typ | 0.63typ | 0.70typ | 0.73typ | 0.70typ |
| | EFFICIENCY[%] | *2 | 86typ | 87typ | 87typ | 88typ | 87typ | 89typ | 89typ | 89typ |
| OUTPUT | VOLTAGE[V] | | 3.3 | 5 | 12 | 15 | 3.3 | 5 | 12 | 15 |
| | CURRENT[A] | | 4 | 3 | 1.3 | 1 | 4 | 3 | 1.3 | 1 |
| | LINE REGULATION[mV] | | 13.2max | 20max | 48max | 60max | 13.2max | 20max | 48max | 60max |
| | LOAD REGULATION[mV] | | 13.2max | 20max | 48max | 60max | 13.2max | 20max | 48max | 60max |
| | RIPPLE[mVp-p] *3 | -20 to +60℃ | 75max | 75max | 100max | 100max | 75max | 75max | 100max | 100max |
| | | -40 to -20℃ | 100max | 100max | 120max | 120max | 100max | 100max | 120max | 120max |
| | RIPPLE NOISE[mVp-p] *3 | -20 to +60℃ | 75max | 75max | 100max | 100max | 75max | 75max | 100max | 100max |
| | | -40 to -20℃ | 150max | 150max | 150max | 150max | 150max | 150max | 150max | 150max |
| | TEMPERATURE REGULATION[mV] | -20 to +60℃ | 50max | 50max | 150max | 180max | 50max | 50max | 150max | 180max |
| | | -40 to +60℃ | 80max | 80max | 240max | 290max | 80max | 80max | 240max | 290max |
| | DRIFT[mV] | *4 | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | START-UP TIME[ms] | | 30max (Minimum input, Io=100%) | | | | | | | |
| | OUTPUT VOLTAGE ADJUSTMENT RANGE | | Fixed (TRM pin open) Available to adjust ±10% by external variable resister | | | | | | | |
| | OUTPUT VOLTAGE SETTING[V] *5 | | 3.296 - 3.404 | 4.975 - 5.137 | 11.857 - 12.243 | 14.839 - 15.321 | 3.296 - 3.404 | 4.975 - 5.137 | 11.857 - 12.243 | 14.839 - 15.321 |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION | | Works over 105% of rating and recovers automatically | | | | | | | |
| | REMOTE ON/OFF | | Provided (Negative logic L:ON, H:OFF) | | | | | | | |

| MODEL | | MGS15483R3 | MGS154805 | MGS154812 | MGS154815 |
|---|---|---|---|---|---|
| MAX OUTPUT WATTAGE[W] | | 13.2 | 15 | 15.6 | 15 |
| DC OUTPUT | VOLTAGE[V] *1 | 3.3 | 5 | 12 | 15 |
| | CURRENT[A] | 4 | 3 | 1.3 | 1 |

## SPECIFICATIONS

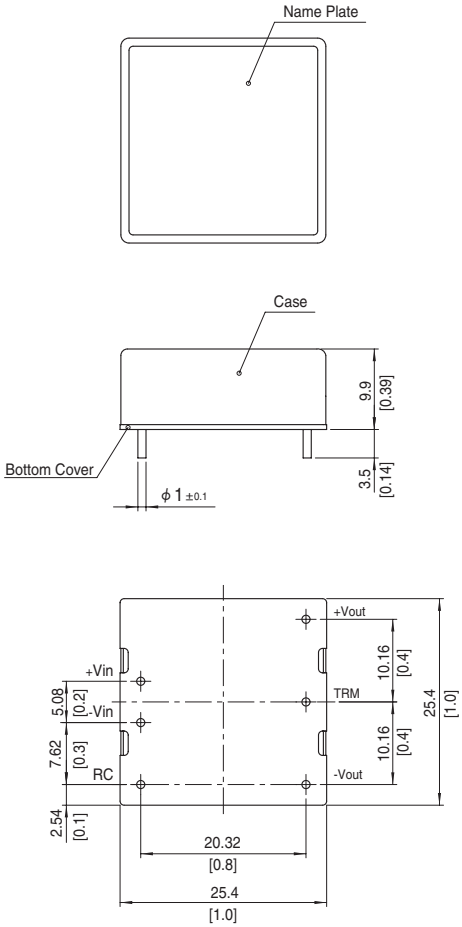
| | MODEL | | MGS15483R3 | MGS154805 | MGS154812 | MGS154815 |
|---|---|---|---|---|---|---|
| INPUT | VOLTAGE[V] | | DC36 - 76 | | | |
| | CURRENT[A] | *2 | 0.32typ | 0.35typ | 0.36typ | 0.35typ |
| | EFFICIENCY[%] | *2 | 87typ | 89typ | 90typ | 90typ |
| OUTPUT | VOLTAGE[V] | | 3.3 | 5 | 12 | 15 |
| | CURRENT[A] | | 4 | 3 | 1.3 | 1 |
| | LINE REGULATION[mV] | | 13.2max | 20max | 48max | 60max |
| | LOAD REGULATION[mV] | | 13.2max | 20max | 48max | 60max |
| | RIPPLE[mVp-p] *3 | -20 to +60℃ | 75max | 75max | 100max | 100max |
| | | -40 to -20℃ | 100max | 100max | 120max | 120max |
| | RIPPLE NOISE[mVp-p] *3 | -20 to +60℃ | 75max | 75max | 100max | 100max |
| | | -40 to -20℃ | 150max | 150max | 150max | 150max |
| | TEMPERATURE REGULATION[mV] | -20 to +60℃ | 50max | 50max | 150max | 180max |
| | | -40 to +60℃ | 80max | 80max | 240max | 290max |
| | DRIFT[mV] | *4 | 20max | 20max | 48max | 60max |
| | START-UP TIME[ms] | | 30max (Minimum input, Io=100%) | | | |
| | OUTPUT VOLTAGE ADJUSTMENT RANGE | | Fixed (TRM pin open) ±10% adjustable by external VR | | | |
| | OUTPUT VOLTAGE SETTING[V] *5 | | 3.296 - 3.404 | 4.975 - 5.137 | 11.857 - 12.243 | 14.839 - 15.321 |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION | | Works over 105% of rating and recovers automatically | | | |
| | REMOTE ON/OFF | | Provided (Negative logic L:ON, H:OFF) | | | |

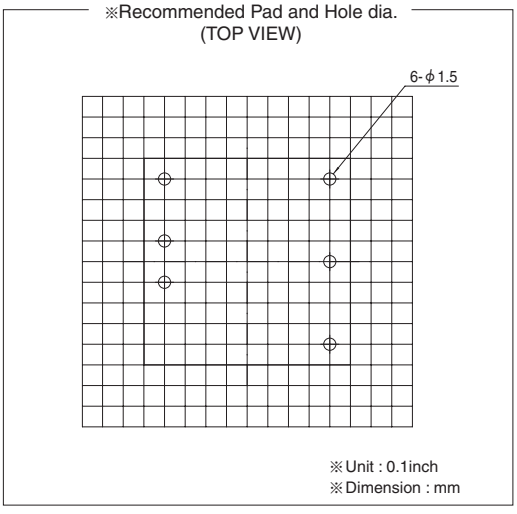
## GENERAL SPECIFICATIONS

| | | |
|---|---|---|
| ISOLATION | INPUT-OUTPUT | DC1,500V 1minute, Cutoff current = 10mA, DC500V 1,000MΩ min (20±15℃) |
| | INPUT-CASE | DC1,000V 1minute, Cutoff current = 10mA, DC500V 1,000MΩ min (20±15℃) |
| | OUTPUT-CASE | DC1,000V 1minute, Cutoff current = 10mA, DC500V 1,000MΩ min (20±15℃) |
| ENVIRONMENT | OPERATING TEMP.,HUMID.AND ALTITUDE | -40 to +85℃, 20 to 95%RH (Non condensing) (Required Derating), 3,000m (10,000feet) max |
| | STORAGE TEMP.,HUMID.AND ALTITUDE | -40 to +100℃, 20 to 95%RH (Non condensing), 9,000m (30,000feet) max |
| | VIBRATION | 10 - 55Hz, 98.0m/s² (10G), 3minutes period, 60minutes each along X, Y and Z axis |
| | IMPACT | 490.3m/s² (50G), 11ms, once each along X, Y and Z axis |
| SAFETY | AGENCY APPROVALS | UL60950-1, C-UL, EN60950-1 |
| OTHERS | CASE SIZE/WEIGHT | 25.4×9.9×25.4mm [1×0.39×1 inches] (W×H×D) / 20g max |
| | COOLING METHOD | Convection/Forced air |

*1 MGW15xx05/MGW15xx12/MGW15xx15 is available as single output, +10V/+24V/+30V
*2 Rated input 12V, 24V or 48V DC Io=100%
*3 Ripple and Ripple Noise is measured by using test board with ceramic capacitor 22μF at 50mm from output pins. (20MHz Osilloscope)
*4 Drift is the DC output accuracy for eight hours period after a half-hour warm-up at 25℃.
*5 Rated input voltage (DC12V, DC24V, DC48V), rated output wattage, ambient temperature at 25℃.
* Parallel operation with other model is not possible.

## External view




※ Tolerance ±0.5 [±0.02]
※ Dimensions in mm, [ ]=inches
※ Pin terminal material : Copper
※ Plating treatment of terminal : Lead free plating
※ Case material : Brass
※ Plating treatment of case : Nickel plating
※ Bottom Cover : FR4 (t=0.6) [t=0.024]
※ Please keep enough creepage distance with the pattern on PCB and other components.
※ Weight 20g max

COSEL DC-DC Converters PCB Mount Type

# MGS30

**Ordering information**

| MG | S | 30 | 24 | 05 | -□ |
|---|---|---|---|---|---|
| ① | ② | ③ | ④ | ⑤ | ⑧ |

①Series name
②Single output
③Output wattage
④Input voltage
⑤Output voltage
⑥Optional
G: Capacitor between Input and Output is removed.
R: with Remote ON/OFF (Positive logic control)




| MODEL | | MGS30123R3 | MGS301205 | MGS301212 | MGS301215 | MGS30243R3 | MGS302405 | MGS302412 | MGS302415 |
|---|---|---|---|---|---|---|---|---|---|
| MAX OUTPUT WATTAGE[W] | | 26.4 | 30 | 30 | 30 | 26.4 | 30 | 30 | 30 |
| DC OUTPUT | VOLTAGE[V] *1 | 3.3 | 5 | 12 | 15 | 3.3 | 5 | 12 | 15 |
| | CURRENT[A] | 8 | 6 | 2.5 | 2 | 8 | 6 | 2.5 | 2 |

## SPECIFICATIONS

| | MODEL | | MGS30123R3 | MGS301205 | MGS301212 | MGS301215 | MGS30243R3 | MGS302405 | MGS302412 | MGS302415 |
|---|---|---|---|---|---|---|---|---|---|---|
| INPUT | VOLTAGE[V] | | DC9 - 18 | | | | DC18 - 36 | | | |
| | CURRENT[A] | *2 | 2.45typ | 2.75typ | 2.78typ | 2.78typ | 1.21typ | 1.36typ | 1.36typ | 1.36typ |
| | EFFICIENCY[%] | *2 | 90typ | 91typ | 90typ | 90typ | 91typ | 92typ | 92typ | 92typ |
| OUTPUT | VOLTAGE[V] | | 3.3 | 5 | 12 | 15 | 3.3 | 5 | 12 | 15 |
| | CURRENT[A] | | 8 | 6 | 2.5 | 2 | 8 | 6 | 2.5 | 2 |
| | LINE REGULATION[mV] | | 13.2max | 20max | 48max | 60max | 13.2max | 20max | 48max | 60max |
| | LOAD REGULATION[mV] | | 13.2max | 20max | 48max | 60max | 13.2max | 20max | 48max | 60max |
| | RIPPLE[mVp-p] *3 | -20 to +60℃ | 75max | 75max | 100max | 100max | 75max | 75max | 100max | 100max |
| | | -40 to -20℃ | 100max | 100max | 120max | 120max | 100max | 100max | 120max | 120max |
| | RIPPLE NOISE[mVp-p] *3 | -20 to +60℃ | 75max | 75max | 100max | 100max | 75max | 75max | 100max | 100max |
| | | -40 to -20℃ | 150max | 150max | 150max | 150max | 150max | 150max | 150max | 150max |
| | TEMPERATURE REGULATION[mV] | -20 to +60℃ | 50max | 50max | 150max | 180max | 50max | 50max | 150max | 180max |
| | | -40 to +60℃ | 80max | 80max | 240max | 290max | 80max | 80max | 240max | 290max |
| | DRIFT[mV] | *4 | 20max | 20max | 48max | 60max | 20max | 20max | 48max | 60max |
| | START-UP TIME[ms] | | 30max (Minimum input, Io=100%) | | | | | | | |
| | OUTPUT VOLTAGE ADJUSTMENT RANGE | | Fixed (TRM pin open) ±10% adjustable by external VR | | | | | | | |
| | OUTPUT VOLTAGE SETTING[V] *5 | | 3.296 - 3.404 | 4.975 - 5.137 | 11.857 - 12.243 | 14.839 - 15.321 | 3.296 - 3.404 | 4.975 - 5.137 | 11.857 - 12.243 | 14.839 - 15.321 |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION | | Works over 105% of rating and recovers automatically | | | | | | | |
| | OVERVOLTAGE PROTECTION[V] | | Works over 120 to 160% of rating | | | | | | | |
| | REMOTE ON/OFF | | Provided (Negative logic L:ON, H:OFF) | | | | | | | |

| MODEL | | MGS30483R3 | MGS304805 | MGS304812 | MGS304815 |
|---|---|---|---|---|---|
| MAX OUTPUT WATTAGE[W] | | 26.4 | 30 | 30 | 30 |
| DC OUTPUT | VOLTAGE[V] *1 | 3.3 | 5 | 12 | 15 |
| | CURRENT[A] | 8 | 6 | 2.5 | 2 |

## SPECIFICATIONS

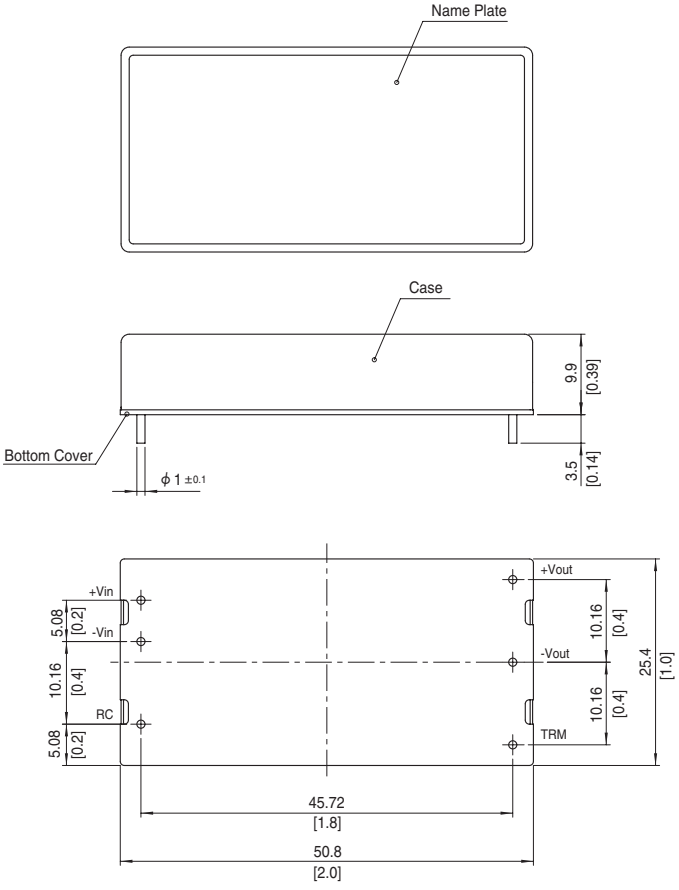
| | MODEL | | MGS30483R3 | MGS304805 | MGS304812 | MGS304815 |
|---|---|---|---|---|---|---|
| INPUT | VOLTAGE[V] | | DC36 - 76 | | | |
| | CURRENT[A] | *2 | 0.61typ | 0.68typ | 0.68typ | 0.68typ |
| | EFFICIENCY[%] | *2 | 91typ | 92typ | 92typ | 92typ |
| OUTPUT | VOLTAGE[V] | | 3.3 | 5 | 12 | 15 |
| | CURRENT[A] | | 8 | 6 | 2.5 | 2 |
| | LINE REGULATION[mV] | | 13.2max | 20max | 48max | 60max |
| | LOAD REGULATION[mV] | | 13.2max | 20max | 48max | 60max |
| | RIPPLE[mVp-p] *3 | -20 to +60℃ | 75max | 75max | 100max | 100max |
| | | -40 to -20℃ | 100max | 100max | 120max | 120max |
| | RIPPLE NOISE[mVp-p] *3 | -20 to +60℃ | 75max | 75max | 100max | 100max |
| | | -40 to -20℃ | 150max | 150max | 150max | 150max |
| | TEMPERATURE REGULATION[mV] | -20 to +60℃ | 50max | 50max | 150max | 180max |
| | | -40 to +60℃ | 80max | 80max | 240max | 290max |
| | DRIFT[mV] | *4 | 20max | 20max | 48max | 60max |
| | START-UP TIME[ms] | | 30max (Minimum input, Io=100%) | | | |
| | OUTPUT VOLTAGE ADJUSTMENT RANGE | | Fixed (TRM pin open) ±10% adjustable by external VR | | | |
| | OUTPUT VOLTAGE SETTING[V] *5 | | 3.296 - 3.404 | 4.975 - 5.137 | 11.857 - 12.243 | 14.839 - 15.321 |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION | | Works over 105% of rating and recovers automatically | | | |
| | OVERVOLTAGE PROTECTION[V] | | Works over 120 to 160% of rating | | | |
| | REMOTE ON/OFF | | Provided (Negative logic L:ON, H:OFF) | | | |

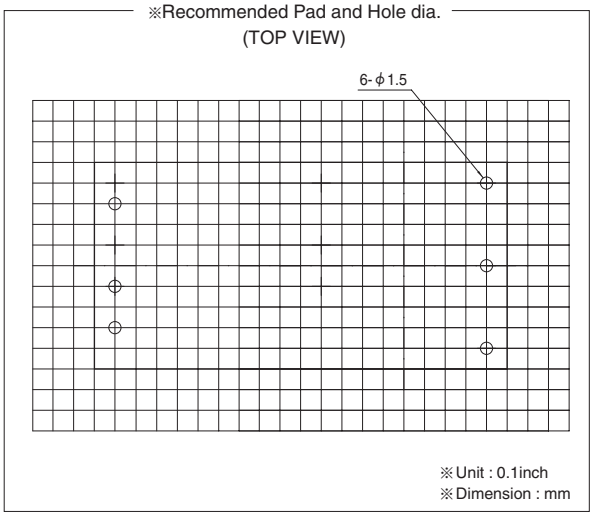
## GENERAL SPECIFICATIONS

| | | |
|---|---|---|
| ISOLATION | INPUT-OUTPUT | DC1,500V 1minute, Cutoff current = 10mA, DC500V 1,000MΩ min (20±15℃) |
| | INPUT-CASE | DC1,000V 1minute, Cutoff current = 10mA, DC500V 1,000MΩ min (20±15℃) |
| | OUTPUT-CASE | DC1,000V 1minute, Cutoff current = 10mA, DC500V 1,000MΩ min (20±15℃) |
| ENVIRONMENT | OPERATING TEMP.,HUMID.AND ALTITUDE | -40 to +85℃, 20 to 95%RH (Non condensing) (Required Derating), 3,000m (10,000feet) max |
| | STORAGE TEMP.,HUMID.AND ALTITUDE | -40 to +100℃, 20 to 95%RH (Non condensing), 9,000m (30,000feet) max |
| | VIBRATION | 10 - 55Hz, 98.0m/s² (10G), 3minutes period, 60minutes each along X, Y and Z axis |
| | IMPACT | 490.3m/s² (50G), 11ms, once each along X, Y and Z axis |
| SAFETY | AGENCY APPROVALS | UL60950-1, C-UL, EN60950-1 |
| OTHERS | CASE SIZE/WEIGHT | 25.4×9.9×50.8mm [1×0.39×2 inches] (W×H×D) / 40g max |
| | COOLING METHOD | Convection/Forced air |

*1 MGW30xx05/MGW30xx12/MGW30xx15 is available as single output, +10V/+24V/+30V
*2 Rated input 12V, 24V or 48V DC Io=100%
*3 Ripple and Ripple Noise is measured by using test board with ceramic capacitor 22μF at 50mm from output pins. (20MHz Osilloscope)
*4 Drift is the DC output accuracy for eight hours period after a half-hour warm-up at 25℃.
*5 Rated input voltage (DC12V, DC24V, DC48V), rated output wattage, ambient temperature at 25℃.
* Parallel operation with other model is not possible.

## External view




※ Tolerance ±0.5 [±0.02]
※ Dimensions in mm, [ ]=inches
※ Pin terminal material : Copper
※ Plating treatment of terminal : Lead free plating
※ Case material : Brass
※ Plating treatment of case : Nickel plating
※ Bottom Cover : FR4 (t=0.6) [t=0.024]
※ Please keep enough creepage distance with the pattern on PCB and other components.
※ Weight 40g max