CUI INC
a bel group

SERIES: VQB75W | DESCRIPTION: DC-DC CONVERTER

FEATURES

- up to 75 W isolated output
- 4:1 input range (9~36 V, 18~75 V)
- single output from 3.3~24 V
- 1,500 V isolation
- over current, over temperature, over voltage, and short circuit protections
- remote on/off
- efficiency up to 87%



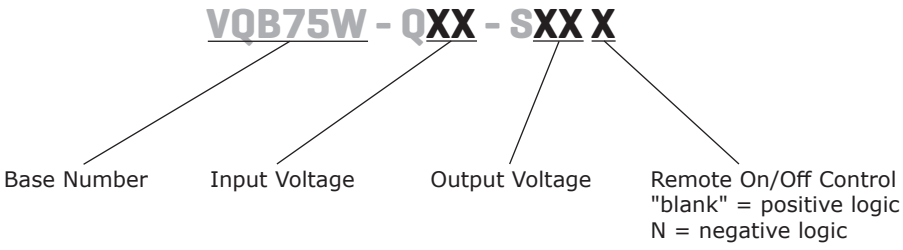
RoHS

MODEL

MODEL	input voltage range (Vdc)	output voltage (Vdc)	output current max (A)	output power max (W)	ripple and noise[1] max (mVp-p)	efficiency typ (%)
VQB75W-Q24-S3R3	9 ~ 36	3.3	12	40	100	81
VQB75W-Q24-S5	9 ~ 36	5	12	60	100	84
VQB75W-Q24-S12	9 ~ 36	12	6.25	75	150	86
VQB75W-Q24-S15	9 ~ 36	15	5	75	150	86
VQB75W-Q24-S24	9 ~ 36	24	3.12	75	240	86
VQB75W-Q48-S3R3	18 ~ 75	3.3	12	40	100	82
VQB75W-Q48-S5	18 ~ 75	5	12	60	100	85
VQB75W-Q48-S12	18 ~ 75	12	6.25	75	150	86
VQB75W-Q48-S15	18 ~ 75	15	5	75	150	87
VQB75W-Q48-S24	18 ~ 75	24	3.12	75	240	87

Notes: 1. ripple and noise are measured at 20 MHz BW with 10µF tantalum capacitor and 1µF ceramic capacitor across output

PART NUMBER KEY



INPUT

parameter	conditions/description		min	typ	max	units
operating input voltage			9 18	24 48	36 75	Vdc Vdc
under voltage lockout	power up	24 V input 48 V input		8.8 17		Vdc Vdc
	power down	24 V input 48 V input		8 16		Vdc Vdc
remote on/off[1]						
filter	PI type					

Notes: 1. logic compatibility, open collector ref to -input
for positive logic
Module ON, >3.5~75 Vdc or open circuit
Module OFF, <1.8 Vdc

OUTPUT

parameter	conditions/description	min	typ	max	units
line regulation	measured from high line to low line			±0.2	%
load regulation	measured from full load to zero load			±0.2	%
voltage accuracy				±1.5	%
transient response	75~100% step load change recovery time error band		 ±5	500	 µs %Vout
adjustability[2]			±10		%
switching frequency	100% load, input voltage range		300		kHz
temperature coefficient			±0.03		%/°C

Notes: 2. trim-up: connect a resistor between the trim pin and -Sense
trim-down: connect a resistor between the trim pin and +Sense

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	%Vo	115		140	%
over current protection	% nominal output current	110		140	%
short circuit protection	continuous				

SAFETY AND COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output input to case output to case	1,500 1,500 1,500			Vdc Vdc Vdc
isolation resistance	tested at 500 Vdc	100			MΩ
RoHS compliant	yes				

ENVIRONMENTAL

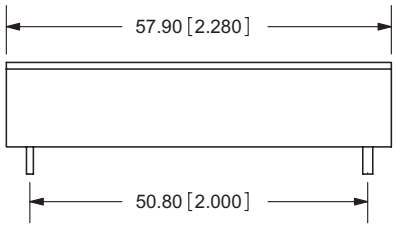
parameter	conditions/description	min	typ	max	units
case operating temperature		-40		100	°C
storage temperature		-55		105	°C
thermal shutdown case temp.			105		°C

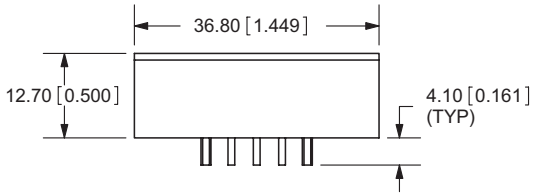
MECHANICAL

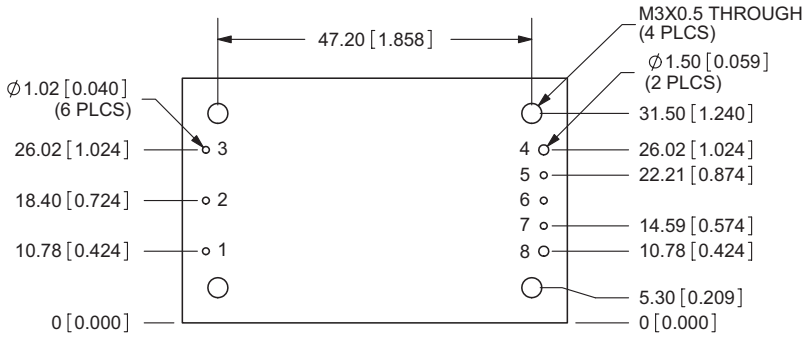
parameter	conditions/description	min	typ	max	units
dimensions	36.8 x 57.90 x 12.70 (1.449 x 2.280 x 0.500 inch)				mm
case material	aluminum baseplate, plastic case				

MECHANICAL DRAWING

units: mm[inch]
tolerance:
X.X = ±0.5mm
X.XX = ±0.25mm







PIN CONNECTIONS	
PIN	FUNCTION
1	+Vin
2	on/off
3	-Vin
4	-Vo
5	-S
6	trim
7	+S
8	+Vo

Note: All specifications measured at 25°C, nominal input voltage, and full load unless otherwise noted.

REVISION HISTORY

rev.	description	date
1.0	initial release	12/04/2008
1.01	updated mechanical drawing	01/08/2009
1.02	V-Infinity branding removed	09/25/2012
1.03	updated spec	03/18/2013
1.04	company logo updated	02/08/2021
1.05	company address updated	11/14/2024

The revision history provided is for informational purposes only and is believed to be accurate.

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CUI offers a two (2) year limited warranty. Complete warranty information is listed on our website.

CUI reserves the right to make changes to the product at any time without notice. Information provided by CUI is believed to be accurate and reliable. However, no responsibility is assumed by CUI for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

CUI products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.