CUI INC®

SERIES: VHB75W | DESCRIPTION: DC-DC CONVERTER

FEATURES

- up to 75 W isolated output
- industry standard half brick package
- 4:1 input range (9~36 V, 18~75 V)
- single output from 3.3~48 V
- 1,500 V isolation
- over current, over temperature, over voltage, and short circuit protections
- remote on/off
- efficiency up to 85%

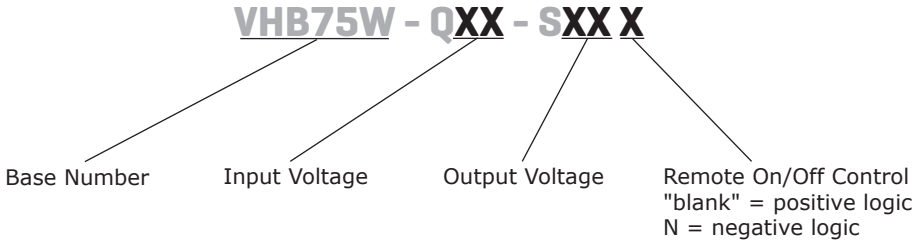


MODEL

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 (%)
VHB75W-Q24-S3R3	9 ~ 36	3.3	15	50	100	79
VHB75W-Q24-S5	9 ~ 36	5	15	75	100	82
VHB75W-Q24-S12	9 ~ 36	12	6.25	75	150	83
VHB75W-Q24-S15	9 ~ 36	15	5	75	150	84
VHB75W-Q24-S24	9 ~ 36	24	3.12	75	240	84
VHB75W-Q24-S48	9 ~ 36	48	1.56	75	480	82
VHB75W-Q48-S3R3	18 ~ 75	3.3	15	50	100	80
VHB75W-Q48-S5	18 ~ 75	5	15	75	100	83
VHB75W-Q48-S12	18 ~ 75	12	6.25	75	150	84
VHB75W-Q48-S15	18 ~ 75	15	5	75	150	85
VHB75W-Q48-S24	18 ~ 75	24	3.12	75	240	85
VHB75W-Q48-S48	18 ~ 75	48	1.56	75	480	84

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		8.8		Vdc
		48 V input		17		Vdc
	power down	24 V input		8		Vdc
		48 V input		16		Vdc
positive logic remote on/off[1]						
filter	PI type					

Notes: 1. logic compatibility, open collector ref to -input
Module ON, >3.5 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	%
transient response	25% step load change			500	µs
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	%
short circuit protection	continuous				
current limit	% nominal output current	110		160	%
thermal shutdown case temp.			100		°C

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		100			MΩ
safety approvals	UL 60950-1				
RoHS compliant	yes				

ENVIRONMENTAL

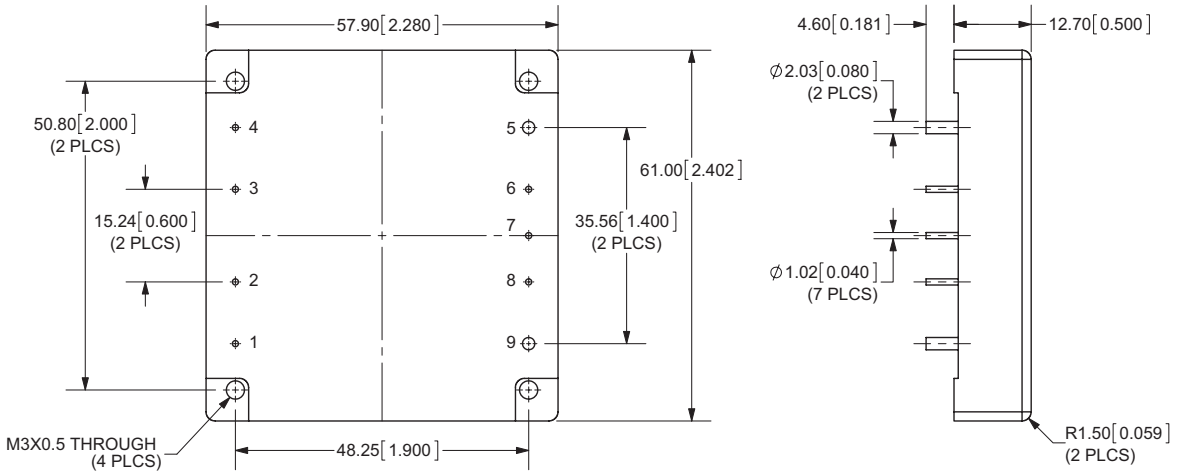
parameter	conditions/description	min	typ	max	units
case operating temperature		-40		100	°C
storage temperature		-55		105	°C
humidity	non-condensing			95	%

MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	57.9 x 61.0 x 12.7 (2.28 x 2.40 x 0.5 inch)				mm
case material	aluminum				
weight			94		g

MECHANICAL DRAWING

units: mm [inches]
tolerance: ±0.25 [±0.01]



Bottom View
All dimensions in mm(inches)

PIN CONNECTIONS	
PIN	FUNCTION
1	+Vin
2	On/Off
3	CASE
4	-Vin
5	-Vo
6	-S
7	TRIM
8	+S
9	+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	10/01/2008
1.01	applied new spec template	09/28/2011
1.02	add remote on/off control to the part number key	11/23/2011
1.03	updated features	12/20/2011
1.04	misc. updates and corrections	02/14/2012
1.05	new template applied, updated trim note, updated pin references	06/07/2012
1.06	updated spec	04/01/2013

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

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Mouser Electronics

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VHB75W-Q48-S12 VHB75W-Q48-S24 VHB75W-Q48-S5 VHB75W-Q24-S12 VHB75W-Q24-S15 VHB75W-Q24-S5 VHB75W-Q48-S48 VHB75W-Q24-S24 VHB75W-Q24-S48 VHB75W-Q48-S15 VHB75W-Q24-S3R3 VHB75W-Q48-S3R3