

date 02/14/2013

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SERIES: VHE100W | DESCRIPTION: DC-DC CONVERTER

FEATURES

- up to 100 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
- tantalum free capacitors used
- over current, over temperature, over voltage, and short circuit protections
- remote on/off
- very high efficiency up to 93%





MODEL	input voltage	output voltage	output current	output power	ripple and noise¹	efficiency
	range (Vdc)	(Vdc)	max (A)	max (W)	max (mVp-p)	typ (%)
VHE100W-Q24-S3R3	9 ~ 36	3.3	25	82.5	100	87
VHE100W-Q24-S5	9 ~ 36	5	20	100	100	89.5
VHE100W-Q24-S12	9 ~ 36	12	8.4	100	120	90.5
VHE100W-Q24-S15	9 ~ 36	15	6.7	100	120	90.5
VHE100W-Q24-S24	9 ~ 36	24	4.2	100	240	89
VHE100W-Q24-S48	9 ~ 36	48	2.1	100	480	88.5
VHE100W-Q48-S3R3	18 ~ 75	3.3	25	82.5	100	88
VHE100W-Q48-S5	18 ~ 75	5	20	100	100	92
VHE100W-Q48-S12	18 ~ 75	12	8.4	100	120	93
VHE100W-Q48-S15	18 ~ 75	15	6.7	100	120	92.5
VHE100W-Q48-S24	18 ~ 75	24	4.2	100	240	91
VHE100W-Q48-S48	18 ~ 75	48	2.1	100	480	90.5

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

PART NUMBER KEY

WHE100W - QXX - SXXX X

Base Number Input Voltage Output Voltage Remote On/Off Control "blank" = positive logic N = negative logic

INPUT

parameter	conditions/c	lescription	min	typ	max	units
operating input voltage	24 V input 48 V input		9 18	24 48	36 75	Vdc Vdc
surge voltage	100 ms max.	24 V input 48 V input			50 100	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
positive logic remote on/off¹						
filter	PI type					

Notes:

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	25% step load change			500	μs
adjustability			±10		%
switching frequency	100% load, input voltage range		250		kHz
temperature coefficient			±0.03		%/°C

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	%Vo	115		140	%
short circuit protection	continuous	113		140	
current limit	% nominal output current	110		140	%
thermal shutdown case temp.			105		°C

SAFETY AND COMPLIANCE

parameter	conditions/description	min	typ	max	units
.=	input to output	1,500			Vdc
isolation voltage	input to case	1,500			Vdc
J	output to case	1,500			Vdc
isolation resistance		10			МΩ
isolation capacitance			1,000		pF
safety approvals	UL 60950-1, CE				
RoHS compliant	yes				
MTBF	MIL-STD-217F, GB, 25°C, full load		TBD		hours

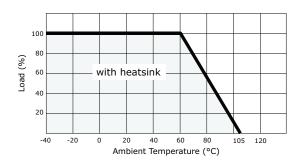
ENVIRONMENTAL

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

^{1.} logic compatibility, open collector ref to -input Module ON, 3.5 \sim 75 Vdc or open circuit Module OFF, <1.2 Vdc

^{2.} negative logic remote on/off available Module ON, <1.2 Vdc current limit, $110{\sim}165\%$ nominal output Module OFF, $3.5\sim75$ Vdc or open circuit

DERATING CURVE



MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	2.28 x 2.40 x 0.50 (57.9 x 61.0 x 12.7 mm)				inch
case material	aluminum				
weight			95		g

MECHANICAL DRAWING

units: inches[mm]

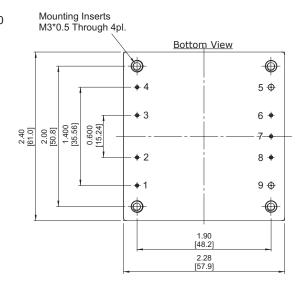
TOLERANCE:

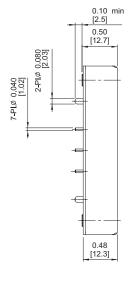
inches: $X.XX = \pm 0.02$

 $X.XXX = \pm 0.010$

mm: $X.XX = \pm 0.5$

 $X.XXX = \pm 0.25$





PIN CONNECTIONS					
PIN	FUNCTION				
1	+Vin				
2	On/Off				
3	CASE				
4	-Vin				
5	-Vo				
6	-S				
7	TRIM				
8	+S				
9	+Vo				

REVISION HISTORY

rev.	description	date
1.0	initial release	08/22/2012
1.01	added negative logic option to part number key	02/14/2013

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.

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