

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/d	escription	min	typ	max	units	
operating input voltage	24 V input		9	24	36	Vdc	
operating input voltage	48 V input		18	48	75	Vdc	
	100	24 V input			50	Vdc	
surge voltage	100 ms max.	48 V input			100	Vdc	
		24 V input		8.8		Vdc	
under veltage leekeut	power up	48 V input		17			
under voltage lockout	nower down	24 V input		8		Vdc	
		48 V input		16		Vdc	
positive logic remote on/off¹							
filter	PI type						

Notes:

1. logic compatibility, open collector ref to -input Module ON, 3.5 \sim 75 Vdc or open circuit Module OFF, <1.2 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	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				
current limit	% nominal output current	110		140	%
thermal shutdown case temp			105		°C

SAFETY AND COMPLIANCE

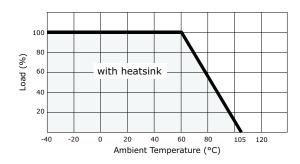
parameter	conditions/description	min	typ	max	units
	input to output	1,500			Vdc
isolation voltage	input to case	1,500			Vdc
	output to case	1,500			Vdc
isolation resistance		10			MΩ
isolation capacitance			1,000		pF
safety approvals	UL 60950-1, CE				
RoHS compliant	yes				
MTBF	MIL-STD-217F, GB, 25°C,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

^{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]

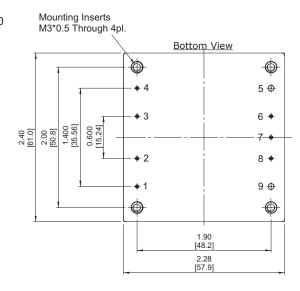
TOLERANCE:

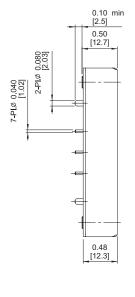
inches: $X.XX = \pm 0.02$

 $X.XXX = \pm 0.010$

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				

CUI Inc | SERIES: VHE100W | DESCRIPTION: DC-DC CONVERTER

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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