

**SERIES: VHB150R | DESCRIPTION: DC-DC CONVERTER**


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**FEATURES**

- up to 150 W isolated output
- industry standard half brick package
- 3:1 input range (66~160 V)
- single output from 5~24 V
- 2,250 V isolation
- over current, over temperature, over voltage, and short circuit protections
- remote on/off
- efficiency up to 92.5%



MODEL	input voltage range (Vdc)	output voltage (Vdc)	output current max (A)	output power max (W)	ripple and noise <sup>1</sup> max (mVp-p)	efficiency typ (%)
VHB150R-T110-S5	66 ~ 160	5	30	150	100	92.5
VHB150R-T110-S12	66 ~ 160	12	12.5	150	150	92.5
VHB150R-T110-S24	66 ~ 160	24	6.5	150	240	92

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

**PART NUMBER KEY**


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**VHB150R-T110 - SXX**

Base Number

Input Voltage

Output Voltage

**INPUT**

parameter	conditions/description	min	typ	max	units
operating input voltage		66	110	160	Vdc
input surge voltage	100 ms max.			180	Vdc
under voltage lockout	power up power down		62	56	Vdc Vdc
positive logic remote on/off <sup>1</sup>					
filter	PI type				

Notes: 1. logic compatibility, open collector ref to -input  
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	%
start-up time		45			ms
voltage accuracy				±1.5	%
transient response	25% step load change	error band recover time		±5 200	% Vout μs
adjustability <sup>2</sup>			±10		%
switching frequency	100% load, input voltage range	200			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		180	%
thermal shutdown case temp.			105		°C

**SAFETY AND COMPLIANCE**

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output input to case output to case	2,250 2,250 1,500			Vdc Vdc Vdc
isolation resistance		10			MΩ
isolation capacitance			1,000		pF
safety approvals	UL 60950-1				
EMI/EMC	EN 50155 (EN 50121-3-2) with external filter				
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	%

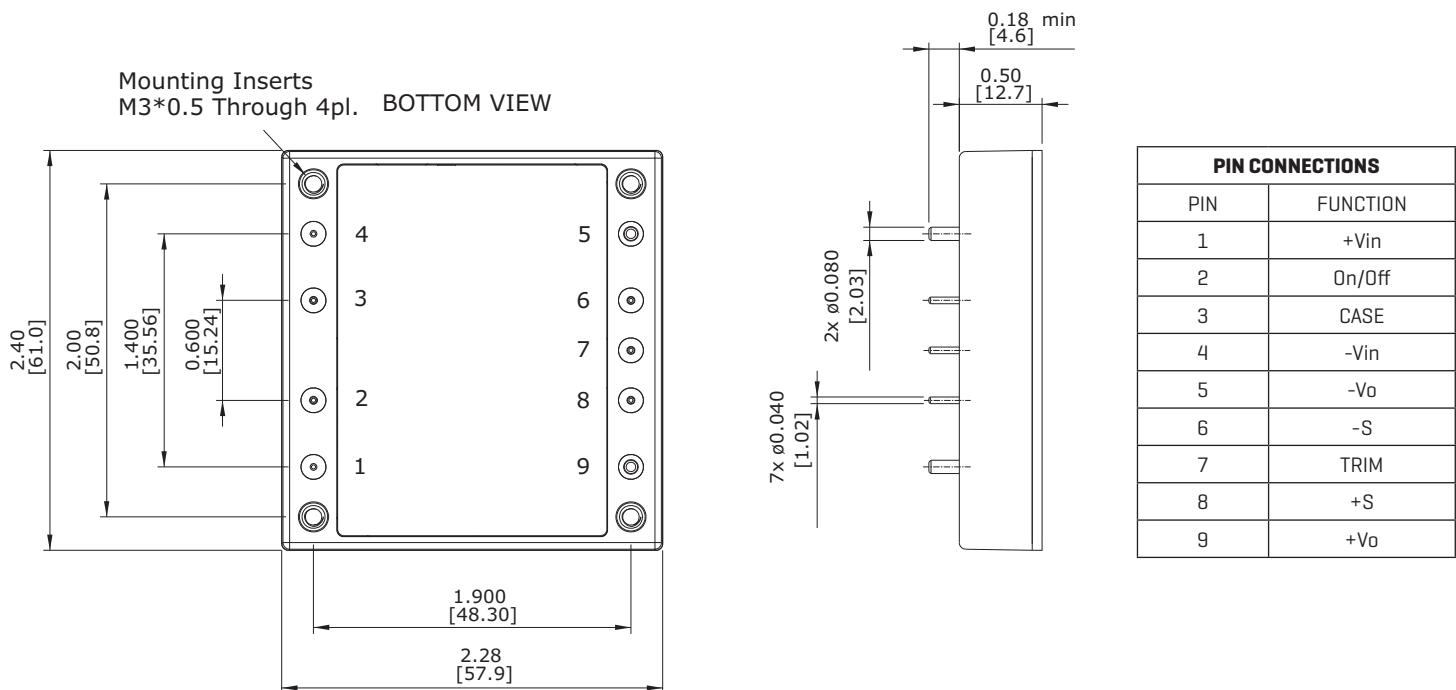
## MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	2.28 x 2.40 x 0.5 (57.9 x 61.0 x 12.7 mm)				inch
case material	aluminum baseplate with plastic case				
weight				90	g

## MECHANICAL DRAWING

units: inches [mm]

tolerance: x.xx  $\pm$  0.2inches [ $\pm$ 0.5mm]  
x.xxx  $\pm$  0.1inches [ $\pm$ 0.25mm]



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	06/20/2012
1.01	misc. updates, added product photo	11/13/2012
1.02	updated input voltage range	01/29/2013
1.03	updated spec	03/14/2013
1.04	updated features section	05/30/2013

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



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