



**SERIES:** VHB75W | **DESCRIPTION:** DC-DC CONVERTER

**FEATURES**

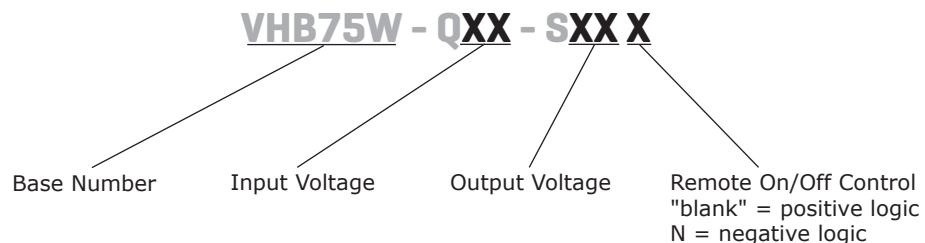
- up to 75 W isolated output
- industry standard half brick package
- 4:1 input range (9~36 V, 18~75 V)
- single output from 3.3~48 V
- 1,500 V isolation
- over current, over temperature, over voltage, and short circuit protections
- remote on/off
- efficiency up to 85%



MODEL	input voltage range	output voltage	output current	output power	ripple and noise <sup>1</sup>	efficiency
	(Vdc)	(Vdc)	max (A)	max (W)	max (mVp-p)	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	24	36	Vdc
		18	48	75	Vdc
under voltage lockout	power up		8.8		Vdc
		24 V input			
		48 V input		17	Vdc
	power down	24 V input		8	Vdc
	48 V input		16	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 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 <sup>2</sup>			±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	1,500			Vdc
	input to case	1,500			Vdc
	output to case	1,500			Vdc
isolation resistance		100			MΩ
safety approvals	UL 60950-1				
RoHS compliant	yes				

## ENVIRONMENTAL

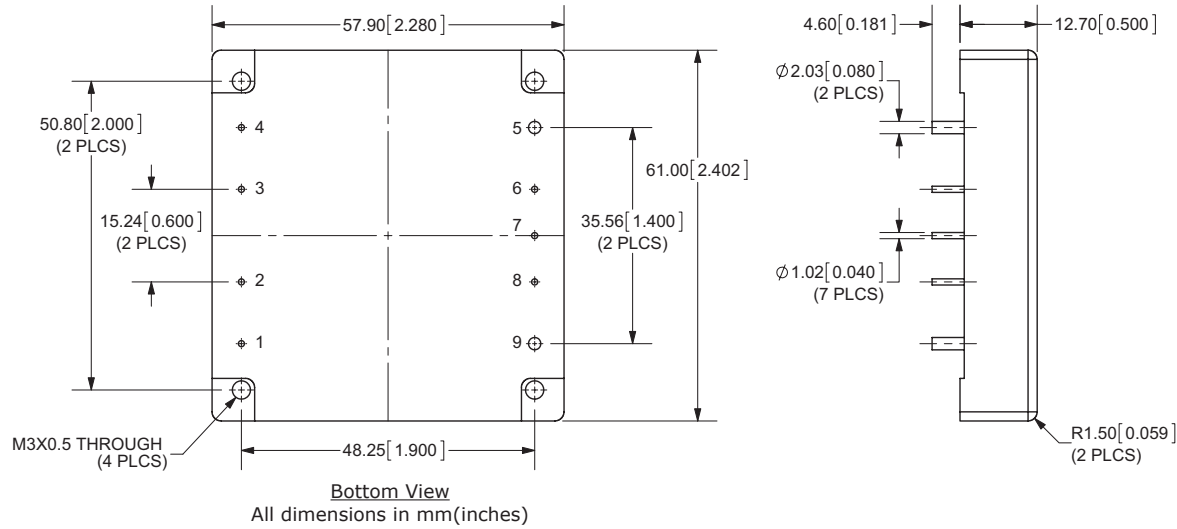
parameter	conditions/description	min	typ	max	units
case operating temperature		-40		100	°C
storage temperature		-55		105	°C
humidity	non-condensing			95	%

## 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:  $\pm 0.25$  [ $\pm 0.01$ ]



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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