

Features

- 37.5W-75W isolated output
- Efficiency to 85%
- 300KHz switching frequency
- 2:1 input range
- Regulated outputs
- Continuous short circuit protection
- Industry standard half-brick package
- Five-sided metal case


Input

Input Voltage Range	12V 9-18V 24V 18-36V 48V 36-75V
Under Voltage Lockout	12 Vin power up 8.8V power down 8V 24Vin power up 17V power down 16V 48Vin power down 34V power down 32.5V
Positive Logic Remote ON/OFF (see note 4&5)	
Input Filter	PI Type

Output

Voltage Accuracy	±1% max.
Transient Response: 25% Step Load Change	<500μ sec.
External Trim Adj. Range	±10%
Ripple & Noise	20MHz BW, 2.5V, 3.3V, 5V
	12V & 15V
	24V
	20mV RMS., max 75mV pk-pk., max 30mV RMS., max 100mV pk-pk., max 100mV RMS., max 240mV pk-pk., max
Temperature Coefficient	±0.03%/°C
Short Circuit Protection	Continuous
Line Regulation ¹	±0.2% max
Load Regulation ²	±0.2% max
Over Voltage Protection trip Range, % Vo nom.	115-140%
Current Limit	110-150% Nominal Output

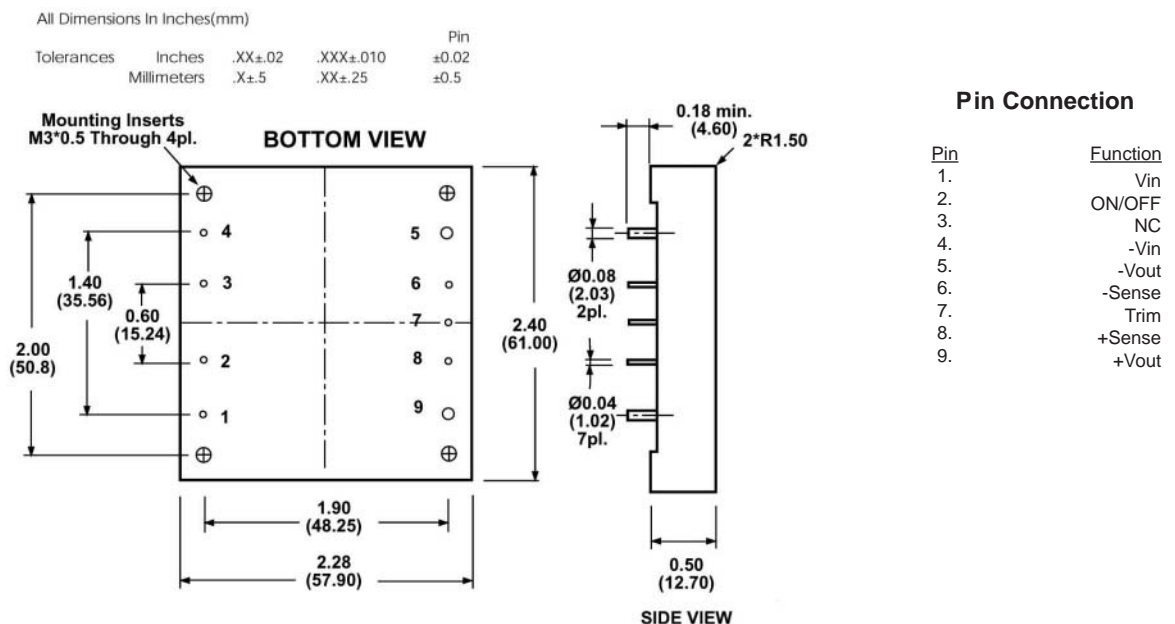
General Specifications

Efficiency		see table
Isolation Voltage	Input/Output	1500VDC min.
	Input/Case	1500VDC min.
	Output/Case	1500VDC min.
Isolation Resistance		10 ⁷ Ohm min.
Switching Frequency	12-24Vin	400KHz, Typ.
	48Vin	300KHz, Typ.
Operating Case Temperature		-40°C to +100°C
Storage Temperature		-55°C to +105°C
Thermal Shutdown, Case Temp.		100°C Typ.
Dimensions		2.28x2.40x0.50 inches (57.9x61.0x12.7mm)
Case Material		aluminum

NOTES:

1. Measured from high line to low line
2. Measured from full load to zero load
3. Logic compatibility...open collector ref to -input
Module ON...open circuit
Module OFF...<0.8Vdc
4. Suffix " N" to the model number with negative logic remote on/off

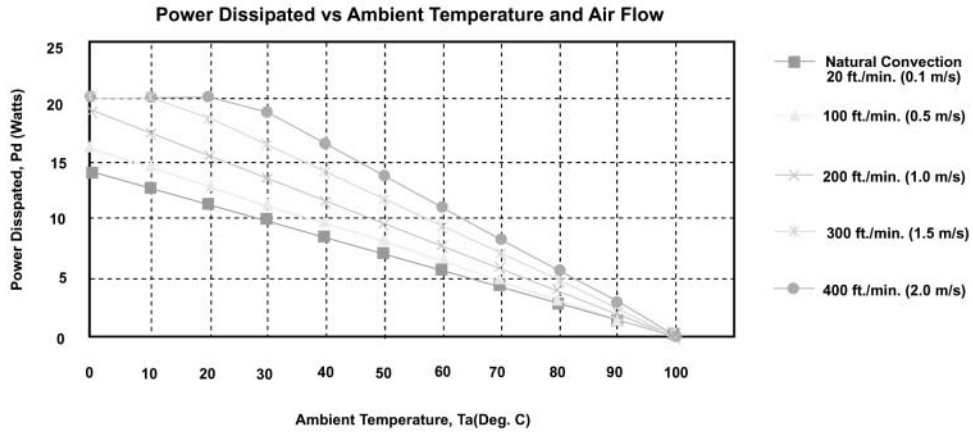
Model Number	Input Voltage	Output Voltage	Output Current	Input Current		Effic.	Case
				No Load	Full Load		
VHB75-D12-S2R5	9-18 VDC	2.5VDC	15A	50mA	4110mA	76%	HB
VHB75-D12-S3R3	9-18 VDC	3.3VDC	15A	50mA	5290mA	78%	HB
VHB75-D12-S5	9-18 VDC	5VDC	15A	50mA	7715mA	81%	HB
VHB75-D12-S12	9-18 VDC	12VDC	6.25A	50mA	7440mA	84%	HB
VHB75-D12-S15	9-18 VDC	15VDC	5A	50mA	7440mA	84%	HB
VHB75-D12-S24	9-18 VDC	24VDC	3.13A	50mA	7440mA	84%	HB
VHB75-D24-S2R5	18-36 VDC	2.5VDC	15A	50mA	2029mA	77%	HB
VHB75-D24-S3R3	18-36 VDC	3.3VDC	15A	50mA	2610mA	79%	HB
VHB75-D24-S5	18-36 VDC	5VDC	15A	50mA	3810mA	82%	HB
VHB75-D24-S12	18-36 VDC	12VDC	6.25A	50mA	3675mA	85%	HB
VHB75-D24-S15	18-36 VDC	15VDC	5A	50mA	3675mA	85%	HB
VHB75-D24-S24	18-36 VDC	24VDC	3.13A	50mA	3640mA	86%	HB
VHB75-D48-S2R5	36-75 VDC	2.5VDC	15A	50mA	1015mA	77%	HB
VHB75-D48-SR33	36-75 VDC	3.3VDC	15A	50mA	1305mA	79%	HB
VHB75-D48-S5	36-75 VDC	5VDC	15A	50mA	1883mA	83%	HB
VHB75-D48-S12	36-75 VDC	12VDC	6.25A	50mA	1838mA	85%	HB
VHB75-D48-S15	36-75 VDC	15VDC	5A	50mA	1838mA	86%	HB
VHB75-D48-S24	36-75 VDC	24VDC	3.13A	50mA	1820mA	86%	HB

Case HB


Application Notes

Derating:

The operating case temperature range of the VHB75 series is -40°C to +100°C. When operating the VHB75, proper derating or cooling is needed. Following is the derating curve of VHB75 without heat sink.



Where:

The power dissipation (Pd) is

$$Pd = Pi - Po = Po (1/n) / \eta$$

The thermal resistances are listed below.

Chart of Thermal Resistance vs Air Flow:

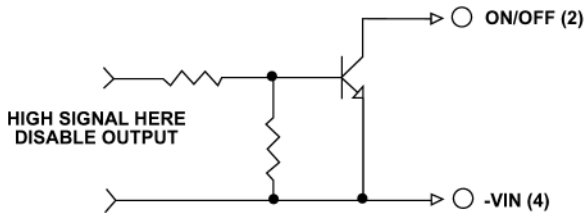
AIR FLOW RATE	TYPICAL Rca
Natural Convection	7.12 °C/W
100 ft./min.	6.21 °C/W
200 ft./min.	5.17 °C/W
300 ft./min.	4.29 °C/W
400 ft./min.	3.64 °C/W

The temperature rise (ΔT):

$$\Delta T = Pd * Rca$$

Remote ON/ OFF Control

The VHB75 series allows the user to switch the module on and off electronically with the remote on/off feature. The VHB75 series is available with “ positive logic” or “ negative logic” options.

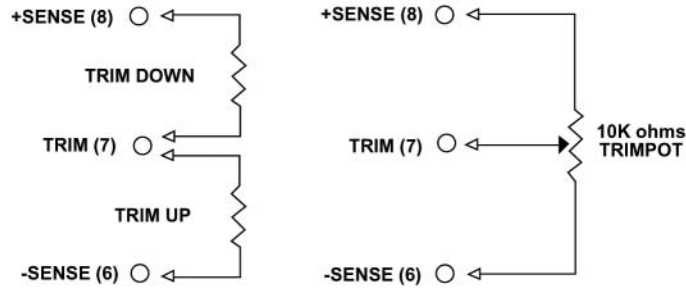


Logic Table

Logic State (PIN 2)	Negative Logic	Positive Logic
Logic Low - Switch Closed	Module on	Module off
Logic High - Switch Open	Module off	Module on

External Output Trimming

Output may optionally be externally trimmed ($\pm 10\%$) with a fixed resistor or an external trimpot as shown.



Output Noise

The output noise is measured with a 10 μ F tantalum capacitor and a 1.0 μ F ceramic capacitor across the output.

