

Features

- 75W isolated output
- Efficiency to 84%
- 400KHz switching frequency
- 2:1 input range
- Regulated outputs
- Continuous short circuit protection
- Industry standard half-brick package
- Total power 75W with 15A Max per channel



Input

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

Output

Voltage Accuracy	±2% max.
Transient Response: 25% Step Load Change	<500µ sec.
External Trim Adj. Range	±5%
Ripple & Noise 20MHz BW, 2.5V, 3.3V, 5V	40mV RMS., max 100mV pk-pk., max
Temperature Coefficient	±0.03%/°C
Short Circuit Protection	Continuous
Line Regulation ¹	±0.2% max
Load Regulation ²	±0.5% max
Over Voltage Protection trip Range, % Vo nom.	115-140%
Current Limit	110-140% Nominal Output

General Specifications

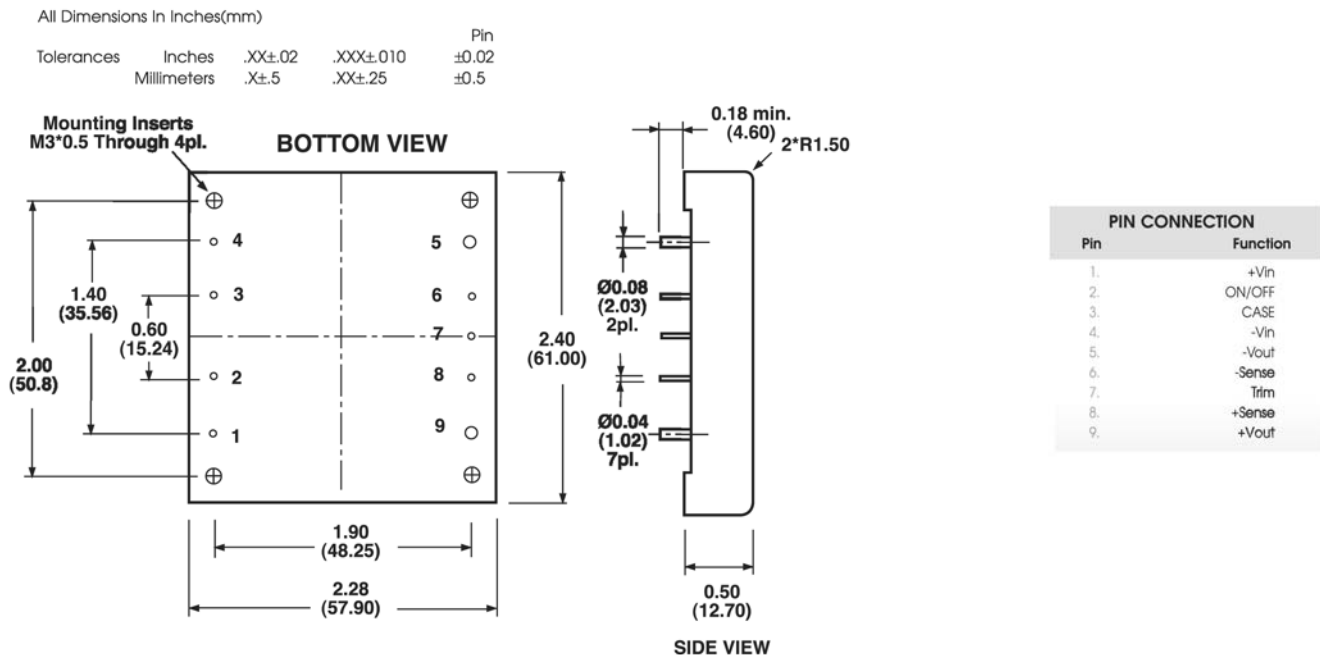
Efficiency	see table
Isolation Voltage	Input/Output 1500VDC min. Input/Case 1500VDC min. Output/Case 1500VDC min.
Isolation Resistance	10 ⁷ Ohm min.
Switching Frequency	400KHz, Typ.
Operating Case Temperature	-40°C to +100°C
Storage Temperature	-55°C to +105°C
Thermal Shutdown, Case Temp.	100°C Typ.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

NOTES:

1. Measured from high line to low line
2. Measured from full load to min. load
3. Measured with output current on output 1 (vol)
4. Logic compatibility...open collector ref to -input
Module ON...open circuit
Module OFF...<0.8Vdc
5. Suffix "N" to the model number with negative logic remote on/off
6. The output noise is measured with 10uf tantalum and 1uf ceramic capacitor across output

Model Number	Input Voltage	Output Voltage	Output Current	Input Current		Effic.	Case
				No Load	Full Load		
VHB75-D24-D53R3	18-36Vdc	Vo1=5V Vo2=3.3V	0-15A 0-15A	50mA	3765mA	83%	HB
VHB75-D24-D52R5	18-36Vdc	Vo1=5V Vo2=2.5V	0-15A 0-15A	50mA	3765mA	83%	HB
VHB75-D48-D53R3	36-75 Vdc	Vo1=5V Vo2=3.3V	0-15A 0-15A	30mA	1860mA	84%	HB
VHB75-D48-D52R5	36-75 Vdc	Vo1=5V Vo2=2.5V	0-15A 0-15A	30mA	1860mA	84%	HB

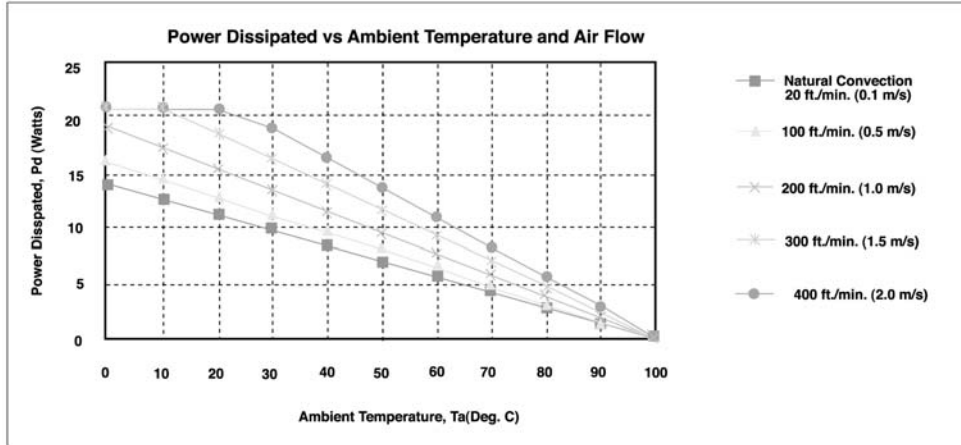
Case HB



Application Notes

Derating:

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



Where:

The power dissipation (Pd) is

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

The thermal resistances are listed below.

Chart of Thermal Resistance vs Air Flow:

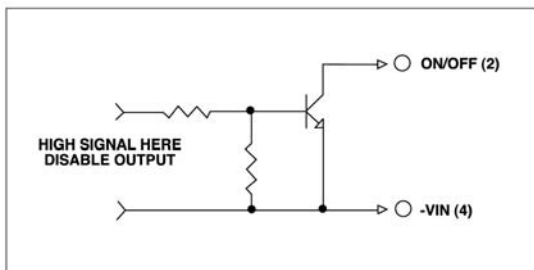
AIR FLOW RATE	TYPICAL Rca
Natural Convection 20 ft./min. (0.1 m/s)	7.12 °C/W
100 ft./min.	6.21 °C/W
200 ft./min.	5.17 °C/W
300 ft./min.	4.29 °C/W
400 ft./min.	3.64 °C/W

The temperature rise (ΔT):

$$\Delta T = Pd * Rca$$

Remote ON/OFF Control

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

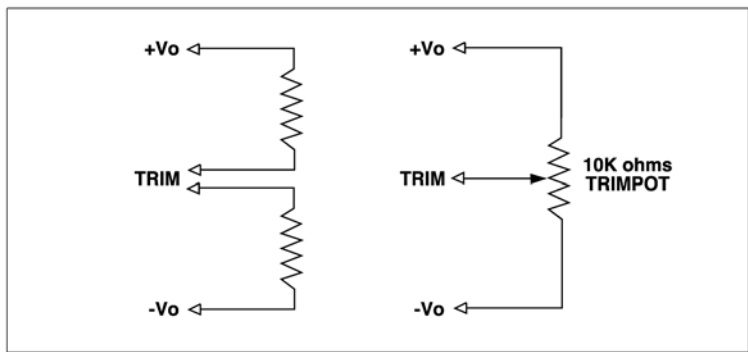


Logic Table

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

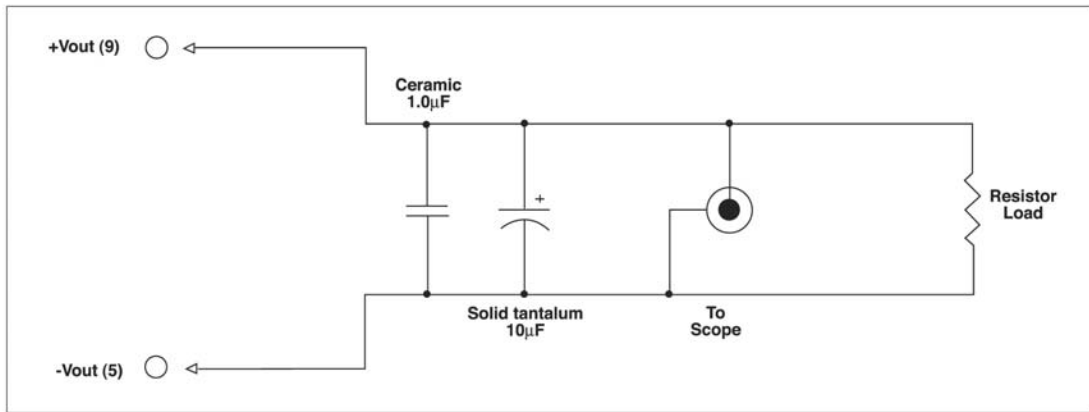
External Output Trimming

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 $10\mu\text{F}$ tantalum capacitor and a $1.0\mu\text{F}$ ceramic capacitor across the output.



Output Noise Test Circuit schematic