

### 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 <sup>1</sup>	±0.2% max
Load Regulation <sup>2</sup>	±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 Input/Case Output/Case
	1500VDC min. 1500VDC min. 1500VDC min.
Isolation Resistance	10 <sup>7</sup> Ohm min.
Switching Frequency	12-24Vin 48Vin
	400KHz, Typ. 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



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

## Case HB

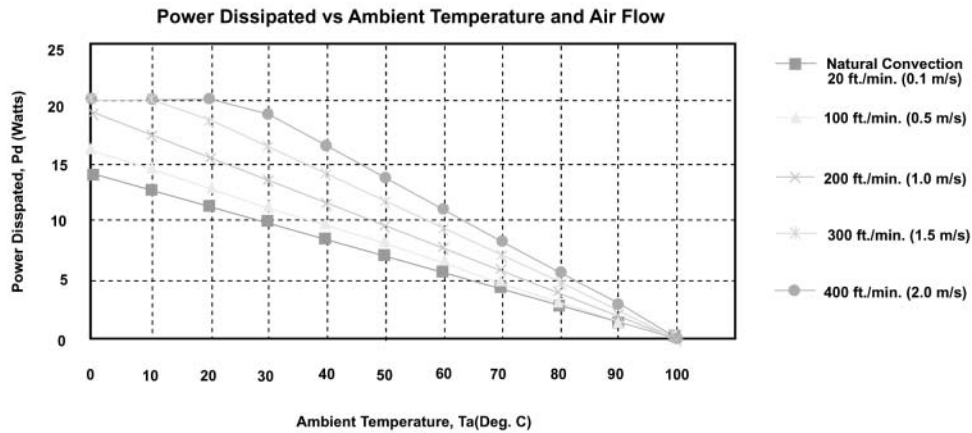


<u>Pin</u>	<u>Function</u>
1.	Vin
2.	ON/OFF
3.	NC
4.	-Vin
5.	-Vout
6.	-Sense
7.	Trim
8.	+Sense
9.	+Vout

## 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

$$P_d = P_i - P_o = P_o \left( \frac{1}{\eta} \right) - P_o$$

The thermal resistances are listed below.

Chart of Thermal Resistance vs Air Flow:

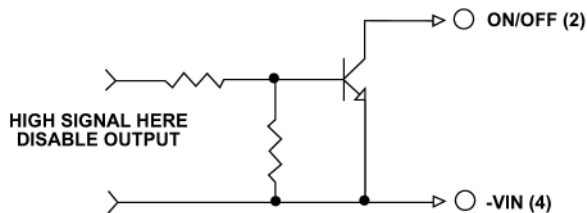
AIR FLOW RATE	TYPICAL R <sub>ca</sub>
Natural Convection	7.12 °C/W
100 ft./min.	6.21 °C/W
200 ft./min.	5.17 °C/W
300 ft./min.	4.29 °C/W
400 ft./min.	3.64 °C/W

The temperature rise (ΔT):

$$\Delta T = P_d \cdot R_{ca}$$

## 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.

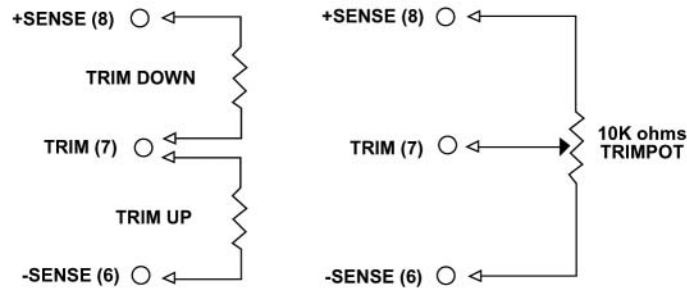


Logic Table

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 $\mu$ F tantalum capacitor and a 1.0 $\mu$ F ceramic capacitor across the output.

