

# DC/DC Product Specification

Embedded Power for  
Business-Critical Continuity

- Half brick fully regulated DCDC converter.

## AVE450B-48S28 Half brick

Input voltage: 36-75V  
Single Output: 28V  
Rated O/P power: 450W

## Special Features

- 2:1 Wide input range
- Extra wide trim range
  - 14V - 33V for 28Vo
- Optimised for High density, small space applications
- Low ripple and noise
- Fixed switching frequency
- Super High efficiency
- High capacitive load capability
- Basic insulation system
- Aluminium Substrate design

## Safety

- UL, cUL: UL60950
- TUV/CE: IEC/EN60950



Rev 05/07/2012  
AVE series  
Page 1 of 2

## Product Description

The AVE450B-48S28 is the latest high efficiency half brick. It operates from a wide input range of 36Vdc to 75Vdc and provides a regulated output voltage of 28Vdc. The output is rated to a power level up to 450Watts. Its protection features include Non latching OCP, OTP and OVP. It also has an enable pin on the primary side of the converter. The unit is of an Aluminium Substrate design that is optimised for either contact-cooled applications or forced airflow applications.

## Specifications

Feature	
Output power:	450W
Efficiency:	94.5% at half load
Functions:	Remote control, trim function, Sense; Input LVP, output OVP and OCP, OTP
Isolation:	Basic Insulation
Safety	
UL:	UL60950
TUV/CE:	IEC/EN60950
Input specification	
Input range	36Vdc to 75Vdc
Input Surge	100V for 100mSec
Control specification	
Enable	TTL compatible Positive or Negative enable
Output specification	
Output Voltage	28V dc
Trim range	-50% to+18%Vout
Output Current	16A
Ripple and noise	200mV pk-pk Load regulation = 28mV Typical, Line regulation =14mV Typical
Regulation	Typical
Switching Frequency	260Khz - 320Khz
Isolation Voltage	1500Vdc
Transient response.	500mV deviation 500uS recovery (50% - 75% - 50% Io,m 0.1A/μs)

## Environmental Specification

Storage Temperature	-55 to +125 deg C
Ambient operating temp	-40 to +85 deg C
MTBF at 25degC	1.5 Million hours (80% load, 300LFM, 40°C Ta)
OTP	110°C Typical

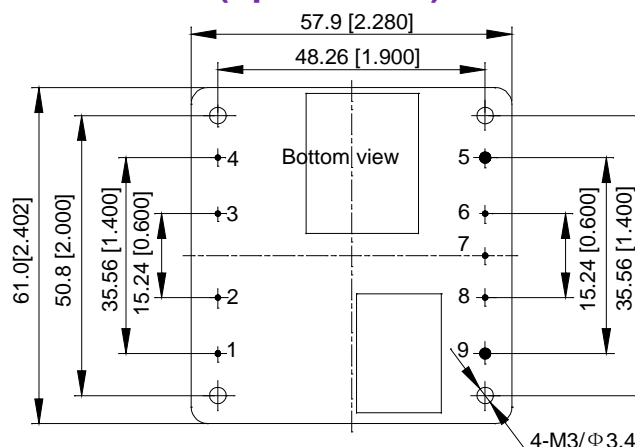
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Rev 05/07/2012  
AVE series  
Page 2 of 2

## Mechanical (open frame)



Pin Assignments	
Pin #	Function
1	+V in
2	Enable
3	Case
4	-V in
5	-V out
6	-Sense
7	Trim
8	+Sense
9	+V out

Unit: mm[inch] Bottom view: pin on upside  
Tolerance: X.Xmm ± 0.5mm[X.X in. ± 0.02in.]  
X.XXmm ± 0.25mm[X.XX in. ± 0.01in.]

## Ordering information

Input voltage	Output voltage	Output current	Efficiency	Part number
48V	28V	16A	94.5%	AVE450B-48S28-6Y/M
48V	28V	16A	94.5%	AVE450B-48S28-6L/M

### Notes

- Standard converter is Negative enable
- '-6' = 3.8mm pin length.
- '-L' = RoHS-6 compliant.
- '-Y' = RoHS-5 compliant.
- '-M' = Thread hole fixture.

### Notes,

- 1\ 20Mhz bandwidth. External 10uF tantalum capacitor placed across +Vout and -Vout; 33 uF e-cap or equivalent placed across +Vin and -Vin.
- 2\ Efficiency measurements taken at full load and nominal line and Tamb = 25degC
- 3\ All specifications taken at nominal line, full load and Tamb = 25degC unless otherwise noted
- 4\ Mechanical dimensions are for reference only. Dimensions are in MM. Mechanical tolerance = +/- 0.5mm
- 5\ Technical reference notes should be consulted for detailed information when available.
- 6\ All specifications subject to change without notice
- 7\ Warranty 2 years
- 8\ The through-hole terminated modules are intended for wave-soldering process – special request for other manufacturing processes to be made to Emerson

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