

# DC/DC Product Specification

Embedded Power for Business-Critical Continuity

- 1/16<sup>th</sup> brick fully regulated DCDC converter.

## AVD85-48S12

### 1/16<sup>th</sup> brick

Input voltage: 36-75V  
Single Output: 12V  
Rated power: 84W



Rev 30.08.2012  
AVD85 series  
1 of 2

## Product Description

The AVD85-48S12 is the latest high efficiency 1/16<sup>th</sup> brick. It operates from a wide input range of 36Vdc to 75Vdc and provides a regulated output voltage of 12Vdc. The output is rated to a power level up to 84 Watts maximum. 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 an open frame design with baseplate option that is optimised for either contact-cooled applications or forced airflow applications.

## Special Features

- 2:1 Wide input range
- Optimised for High density, small space applications
- Low ripple and noise
- Fixed switching frequency
- High efficiency
- High capacitive load capability
- Pre-bias start-up capability
- Basic insulation system
- Through hole or SMT termination
- Openframe structure with Baseplate option

## Safety

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

## Specifications

Feature	
Output power:	84W
Super high efficiency:	92.5%(12V)
Functions:	Remote control, trim function, Sense; Input LVP, output OVP and OCP, OTP
Isolation:	Open frame structure with base plate option. 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	12V dc
Trim range	+10% to -20% Vout
Output Current	7A
Ripple and noise	120mV pk-pk
Regulation	Load regulation = 60mV, Line regulation = 24mV
Switching Frequency	Fixed switching frequency 250Khz
Isolation Voltage	1500Vdc
Transient response.	360mV deviation 150uS recovery (25%-50% Iout)

## Environmental Specification

Storage Temperature	-55 to +125 deg C
Ambient operating temp	-40 to +85 deg C
MTBF at 25degC	2 Million hours (Vin 48V, Io=5.6A)
OTP	125 deg C (baseplate version) 135 deg C (open frame version)

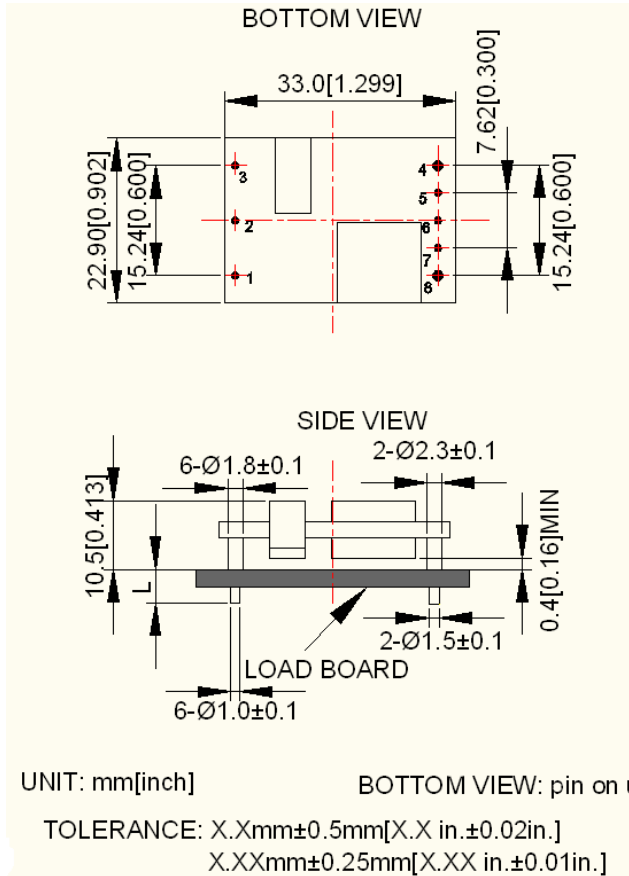
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## Mechanical



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

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## Ordering information

Input voltage	Output voltage	Output current	Efficiency	Part number
48V	12V	7A	92.5%	AVD85-48S12-TL
48V	12V	7A	92.5%	AVD85-48S12-6L
48V	12V	7A	92.5%	AVD85-48S12B-6L

### Notes

- Standard converter is Negative enable
- B = Baseplate (without B is open-frame)
- '6' = 3.8mm pin length.
- 'T' = Surface mount, reel tape package
- 'L' = RoHS-6 compliant

### 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