

# DC/DC Product Specification

Embedded Power for  
Business-Critical Continuity

- 1/8<sup>th</sup> brick fully regulated DCDC converter.

## AVO50C-48S3V3

1/8<sup>th</sup> brick

*Input voltage: 36-75V*  
*Single Output: 3.3V*  
*Rated power: 49.5W*

## Special Features

- 2:1 Wide input range
- Output range from 2.7V to 3.63V
- Optimised for High density, small space applications
- Low ripple and noise
- Fixed switching frequency
- High efficiency
- High capacitive load capability
- Basic insulation system
- Pre-bias start-up capability
- Open-frame structure

## Safety

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



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AVO50C series  
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## Product Description

The AVO50C-48S3V3 is the latest high efficiency 1/8<sup>th</sup> brick series. It operates from a wide input range of 36Vdc to 75Vdc and provides a regulated output voltage of 3.3Vdc. The output is rated to a power level up to 49.5Watts. It's 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.

## Specifications

### Feature

Output power:	49.5W
Super high efficiency:	91.5%(3.3V)
Functions:	Remote control, trim function, Sense; Input LVP, output OVP and OCP, OTP Open frame structure
Insulation system:	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
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### Output specification

Output Voltage	3.3Vdc.
Trim range	+10% to -20% Vout
Output Current	15A
Ripple and noise	50mV pk-pk typical
Regulation	Load regulation = 10mV, Line regulation = 20mV
Switching Frequency	Fixed switching frequency 310Khz
Isolation Voltage	1500Vdc
Transient response.	120mV deviation 50uS recovery (25%-50%,50%-75% Iout,0.1A/us)

## Environmental Specification

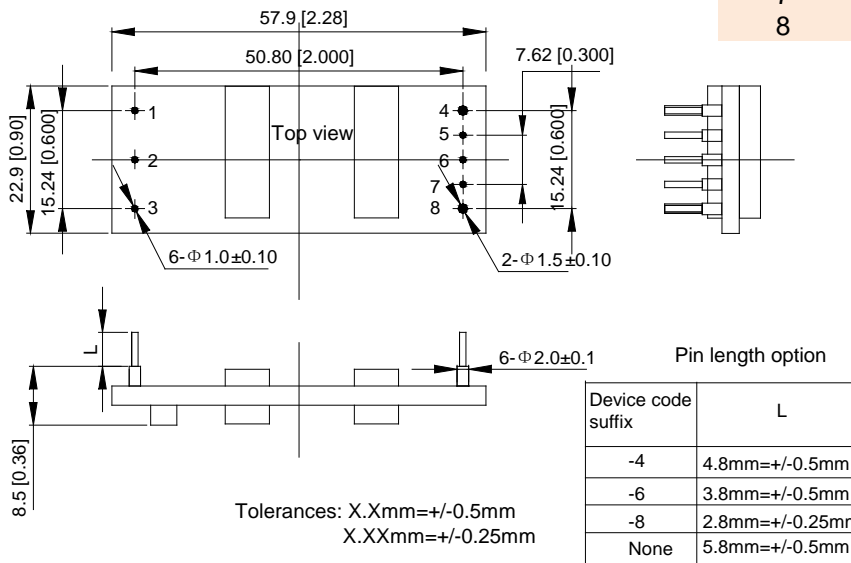
Storage Temperature	-55 to +125 deg C
Ambient operating temp	-40 to +85 deg C
MTBF at 40degC	1.5 Million hours (300LFM, 40°C <sub>Ta</sub> . Normal Input/ Rated Output@80%load)
OTP	115 deg C

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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	3.3V	15A	91.5%	AVO50C-48S3V3-6L
48V	3.3V	15A	91.5%	AVO50C-48S3V3P-6L

### Notes

- Standard converter is Negative enable
- '-6' = 3.8mm pin length.
- '-P' = Positive remote control ,
- '-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