POWER

SMT15E Series

Non-Isolated DC-DC Converter

Data Sheet

Total Power:	49.5 Watts
Input Voltage:	10 - 14 Vdc
# of Outputs:	Single

RoHS 6/6 COMPLIANT

SPECIAL FEATURES

- 15 A current rating
- Input voltage range: 10 - 14 Vdc
- Output voltage range: 0.8 - 3.63 V
- Ultra high efficiency: 94% @ 12 Vin and 3.3 Vout
- Extremely low internal power dissipation
- Minimal thermal design concerns
- Designed-in reliability: MTBF of 6,920,000 hours per Telcordia SR-332
- Ideal solution where board space is at a premium or tighter card pitch is required
- Industry standard surface-mount footprint
- Available RoHS compliant
- Two year warranty

SAFETY

- UL, cUL CAN/CSA 22.2 No. E186249
- TÜV Product Service (EN60950) Certificate No. B 08 05 51485 378
- Certificate No. B 03 10 38572
- CB report and certificate to IEC60950 DE3-51686M1

Electrical Specifications

Input		
Input voltage range		10 - 14 Vdc
Input current	No load (max.)	100 mA typical
Input current (max.)		4.5 A max. @ Io max. and Vout = 3.3 V
Input reflected ripple		100 mA rms
Remote ON/OFF		See Note 1
Start-up time		<20 ms
Output		
Voltage adjustability		0.8 - 3.63 Vdc
Setpoint accuracy		±0.4%
Line regulation		±0.2%
Load regulation		±1.0%
Total error band		±3.0%
Minimum load		0 A
Overshoot/Undershoot		None
Ripple and noise	5 - 20 MHz	60 mV pk-pk 25 mV rms max.
Temperature coefficient		±0.01% / °C
Transient response		100 mV max. deviation 100 µs recovery to within ±1.0%
Remote sense		10% Vo compensation

All specifications are typical at nominal input, full load at 25 °C unless otherwise stated.

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General Specifications

Efficiency		94%
Insulation voltage		Non-isolated
Switching frequency	Fixed	200 kHz
Approvals and standards		EN60950 UL/cUL60950
Material flammability		UL94V-0
Dimensions	L x W x H	33.02 x 13.46 x 8.21 mm 1.3 x 0.53 x 0.323 inches
Weight		6.3 g (0.22 oz)
Coplanarity		100 µm
MTBF	Telcordia SR-332	7,042,000 hours

Environmental Specifications

Thermal performance	Operating ambient temperature	-0 °C to +85 °C
(See Note 2)	Non-operating temperature	-40 °C to +125 °C
Protection		
Short-circuit	Continuous	
Thermal	Automatic recovery	

EMC Characteristics

Electrostatic discharge	EN61000-4-2, IEC801-2
Conducted immunity	EN61000-4-6
Radiated immunity	EN61000-4-3

Ordering Information

Model Number [4]	Output Power (Max.)	Input Voltage	Output Voltage	Output Current (Min.)	Output Current (Max.)	Efficiency (Typical)[3]	Regulation	
							Line	Load
SMT15E-12W3V3J	49.5 W	10 - 14 Vdc	0.8 - 3.63 V	0 A	15 A	94%	±0.2%	±1.0%

Part Number System with Options

Product Family	Rated Output Current	Performance		Input Voltage	Type of Output		Output Voltage	Packaging Options[5]
SMT	**15**	**E**	**-**	**12**	**W**	**-**	**3V3**	**TJ**
SMT - Surface Mount	15 = 15 Amps	E = Enhanced performance		12 = 10 -13 Vdc	W = Wide		0.8 - 3.63 Vdc	No "-T' sufffix = Pb-free (RoHS 6/6 compliant) in trays

Output Voltage Adjustment

The ultra-wide output voltage trim range offers major advantages to users who select the SMT15E-12W3V3J. It is no longer necessary to purchase a variety of modules in order to cover different output voltages. The output voltage can be trimmed in a range of 0.8 Vdc to 3.63 Vdc. When the SMT15E-12W3V3J converter leaves the factory the output has been adjusted to the default voltage of 0.8 V.

Notes:

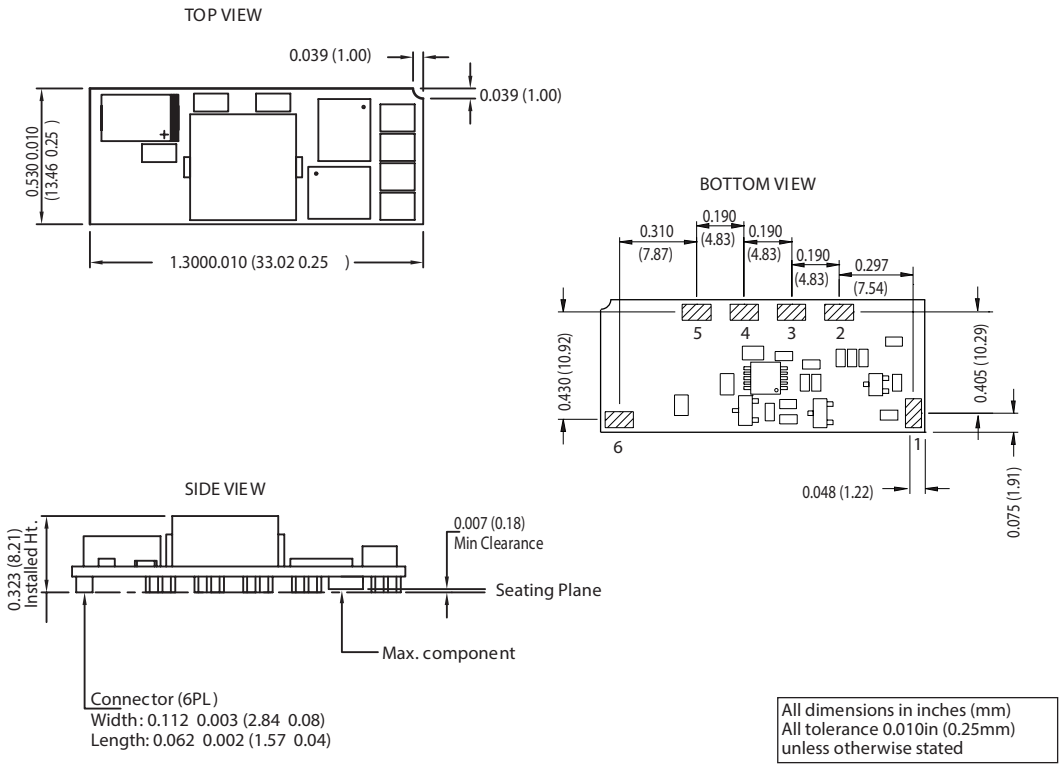
1. The SMT15E features a 'Positive Logic' Remote ON/OFF operation. If not using the Remote ON/OFF pin, leave the pin open (the converter will be on). The Remote ON/OFF pin is referenced to ground. The following conditions apply for the SMT15E:

Configuration	Converter Operation
Remote pin open circuit	Unit is ON
Remote pin pulled low [Von/off < 0.8 V]	Unit is OFF
Remote pin pulled high [Von/off >1.6 V]	Unit is ON

2. Full derating curves available in both the Longform Datasheet and Application Note.
3. Typical efficiency figures for various output voltages are as follows:
   - 1.2 V 83%
   - 1.5 V 85.5%
   - 1.8 V 87.5%
   - 2.0 V 91%
   - 2.5 V 92%
5. NOTICE: Some models do not support all options. Please contact your local Artesyn representative or use the on-line model number search tool at http://www.artesyn.com to find a suitable alternative.

Mechanical Drawings

Pin Assignments	
Pin	*Function*
1	Remote ON/OFF
2	Remote Sense +
3	Trim
4	+Vout
5	Ground
6	+Vin



All dimensions in inches (mm)
All tolerance 0.010in (0.25mm)
unless otherwise stated

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