

SMT10E Series

12 Vin single output

DC-DC CONVERTERS

E Class Non-isolated

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NEW Product



- **10 A Current rating**
- **Input voltage range: 10 Vdc to 14 Vdc**
- **Output voltage range: 0.8 Vdc to 3.63 Vdc**
- **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**



The SMT10E series are non-isolated dc-dc converters packaged in a surface-mount footprint giving designers a cost effective solution for conversion from a 12 V source. The SMT10E has a wide input range (10 Vdc to 14 Vdc) and offers a wide 0.8 Vdc to 3.63 Vdc output voltage range with a 10 A load, which allows for maximum design flexibility and a pathway for future upgrades. The SMT10E is designed for applications that include distributed power, workstations, optical network and wireless applications. Implemented using state of the art surface-mount technology and automated manufacturing techniques, the SMT10E offers compact size and efficiencies of up to 94%.



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

SPECIFICATIONS

OUTPUT SPECIFICATIONS

Voltage adjustability	0.8-3.63 Vdc	
Setpoint accuracy	±0.4% typ.	
Line regulation	±0.2% typ.	
Load regulation	±1.0%typ.	
Total error band	±3.0% typ.	
Minimum load	0 A	
Overshoot/undershoot	None	
Ripple and noise	5 Hz to 20 MHz	60 mV pk-pk 25 mV rms
Temperature co-efficient	±0.01%/°C	
Transient response	100 mV max. deviation 100 µs recovery to within ±1.0%	
Remote sense	10% Vo compensation	

INPUT SPECIFICATIONS

Input voltage range	10-14 Vdc	
Input current	No load (max.)	100 mA
Input current (max.)	3 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	

EMC CHARACTERISTICS

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

GENERAL SPECIFICATIONS

Efficiency	94%	
Insulation voltage	Non-isolated	
Switching frequency	Fixed	200 kHz typ.
Approvals and standards	EN60950 UL/cUL60950	
Material flammability	UL94V-0	
Dimensions	(LxWxH)	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	6,920,000 hours

ENVIRONMENTAL SPECIFICATIONS

Thermal performance (See Note 2)	Operating ambient, temperature	-40 °C to +85 °C
	Non-operating	-40 °C to +125 °C

PROTECTION

Short-circuit	Continuous
Thermal	Automatic recovery

International Safety Standard Approvals



UL/cUL CAN/CSA-C22.2 No. 60950-1-03/UL 60950-1,
File No. E174104



TÜV Product Service (EN60950) Certificate No. B03 10 38572 037
CB Report and Certificate to IEC60950, Certificate No.
DE3-51686M1

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For the most current data and application support visit www.artesyn.com/powergroup/products.htm

NEW Product

OUTPUT POWER (MAX.)	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX.)	EFFICIENCY (TYP.)	REGULATION		MODEL NUMBER ^(3,4)
						LINE	LOAD	
33 W	10-14 Vdc	0.8-3.63 Vdc	0 A	10 A	94%	±0.2%	±1.0%	SMT10E-12W3V3J

Part Number System with Options

SMT10E-12W3V3-TJ

Product Family
SMT = Surface Mount

Rated Output Current
10 = 10 Amps

Performance
E = Enhanced Performance

Packaging Options ⁽³⁾
No '-T' Suffix = Pb-free RoHS 6/6 compliant parts in trays e.g SMT10E-12W3V3J
-TJ = Pb-free RoHS 6/6 compliant part in Tape and Reel e.g SMT10E-12W3V3-TJ

Output Voltage
0.8 Vdc to 3.63 Vdc

Type of Output
W = Wide

Input Voltage
12 = 10 Vdc to 14 Vdc

Output Voltage Adjustment of the SMT10E-12W3V3J Series

The ultra-wide output voltage trim range offers major advantages to users who select the SMT10E-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 SMT10E-12W3V3J converter leaves the factory the output has been adjusted to the default voltage of 0.8 V.

Notes

- The SMT10E features an '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 SMT10E:

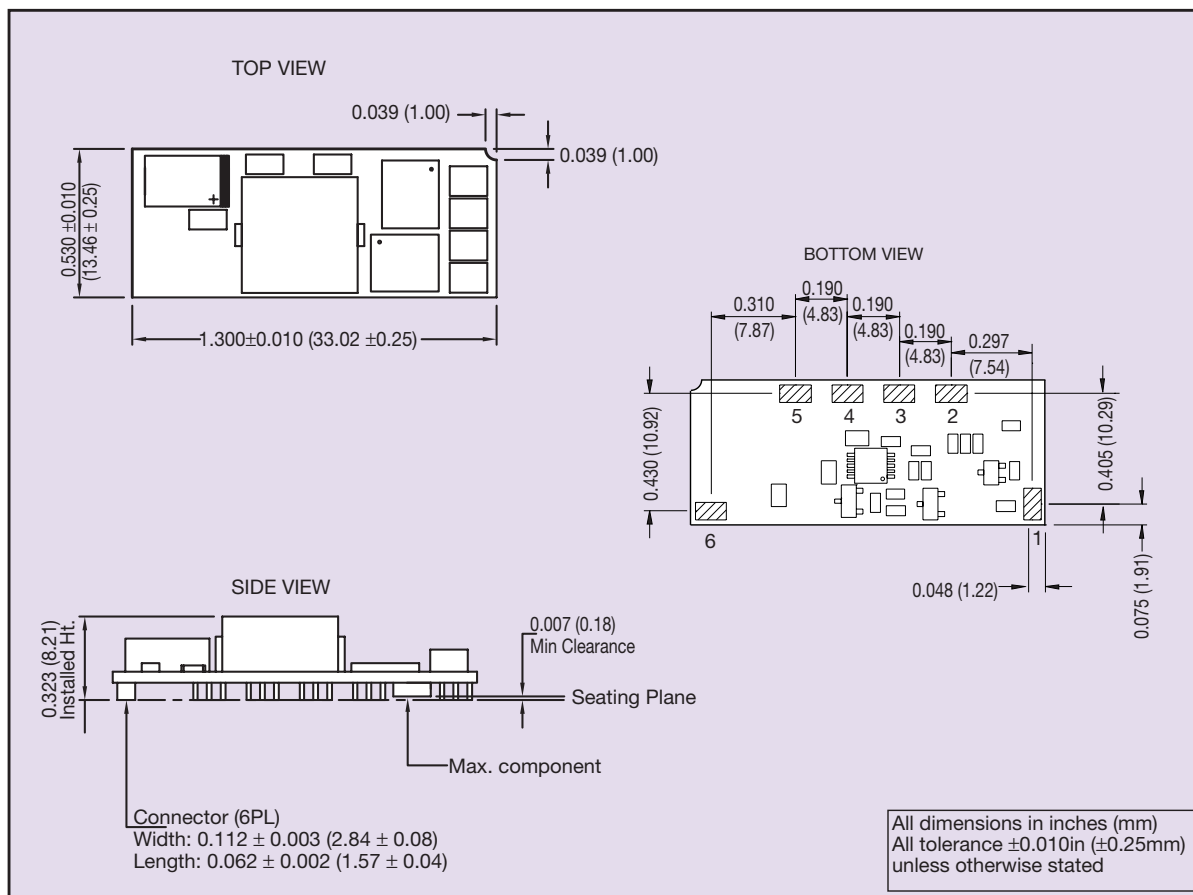
Configuration	Converter Operation
Remote pin open circuit	Unit is ON
Remote pin pulled low [Von/off < 0.8 V]	Unit is OFF
Remote pin pulled high [Von/off > 1.6 V]	Unit is ON

An 'Negative Logic' Remote ON/OFF version is also possible with this converter. To order please place the suffix '-R' at the end of the model number, e.g. SMT10E-12W3V3-RJ.

- Full derating curves available in both the Longform Datasheet and Application Note.
- TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
- 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/powergroup/products.htm> to find a suitable alternative.

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PIN CONNECTIONS

PIN NUMBER	FUNCTION
1	Remote ON/OFF
2	Remote Sense +*
3	Trim*
4	+Vout
5	Ground
6	+Vin

*The sense function and the trim function are customer specified options. Please consult factory for details.