

Embedded Power for
Business-Critical Continuity

SMT05E Series 12 Vin single output

Total Power: 16.5W
Input Voltage: 10 - 14 Vdc
of Outputs: Single

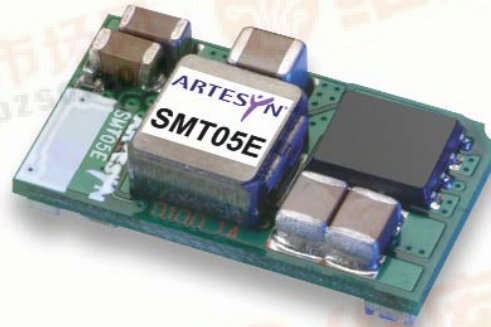
Special Features

- 5 A Current rating
- Input voltage range:
10 Vdc to 14 Vdc
- Output voltage range:
0.8 Vdc to 3.63 Vdc
- Ultra high efficiency:
91% @ 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
- 2 year warranty

Safety

UL/cUL CAN/CSA 22.2 No.
E174104
UL 60950 File No. E174104

TÜV Product Service (EN60950)
Certificate No. B 03 10 38572



The SMT05E 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 SMT05E 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 5A load, which allows for maximum design flexibility and a pathway for future upgrades. The SMT05E 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 SMT05E offers compact size and efficiencies of up to 91%.

Specifications

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

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	50 mV max. deviation 50 μs recovery to within ±1.0%	

INPUT SPECIFICATIONS

Input voltage range	10-14 Vdc	
Input current	No load (max.)	100 mA
Input current (max.)	1.85 A max. @ Io max. and Vout = 3.3 V	
Input reflected ripple	30 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	91%	
Insulation voltage	Non-isolated	
Switching frequency	Fixed	330 kHz typ.
Approvals and standards	EN60950 UL/cUL60950	
Material flammability	UL94V-0	
Dimensions	(LxWxH)	20.32 x 11.43 x 5.97 mm 0.800 x 0.450 x 0.235 inches
Weight	3 g (0.11 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 +100 °C
	Non-operating	-40 °C to +125 °C

PROTECTION

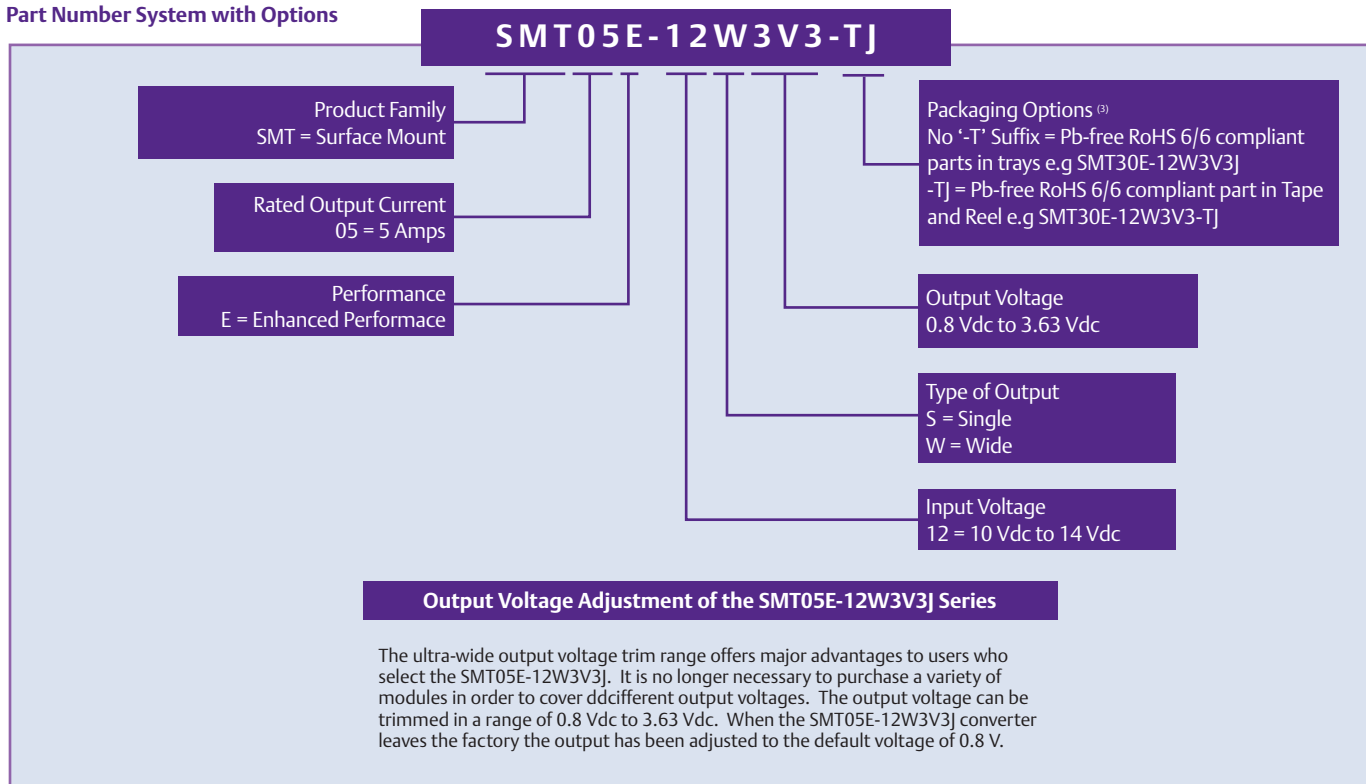
Short-circuit	Continuous
Thermal	Automatic recovery

Specifications

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

OUTPUT POWER (MAX.)	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX.)	EFFICIENCY (TYP.)	REGULATION		MODEL NUMBER ^(3,4)
						LINE	LOAD	
16.5 W	10-14 Vdc	0.8-3.63 Vdc	0 A	5 A	91%	±0.2%	±1.0%	SMT05E-12W3V3J

Part Number System with Options



Notes

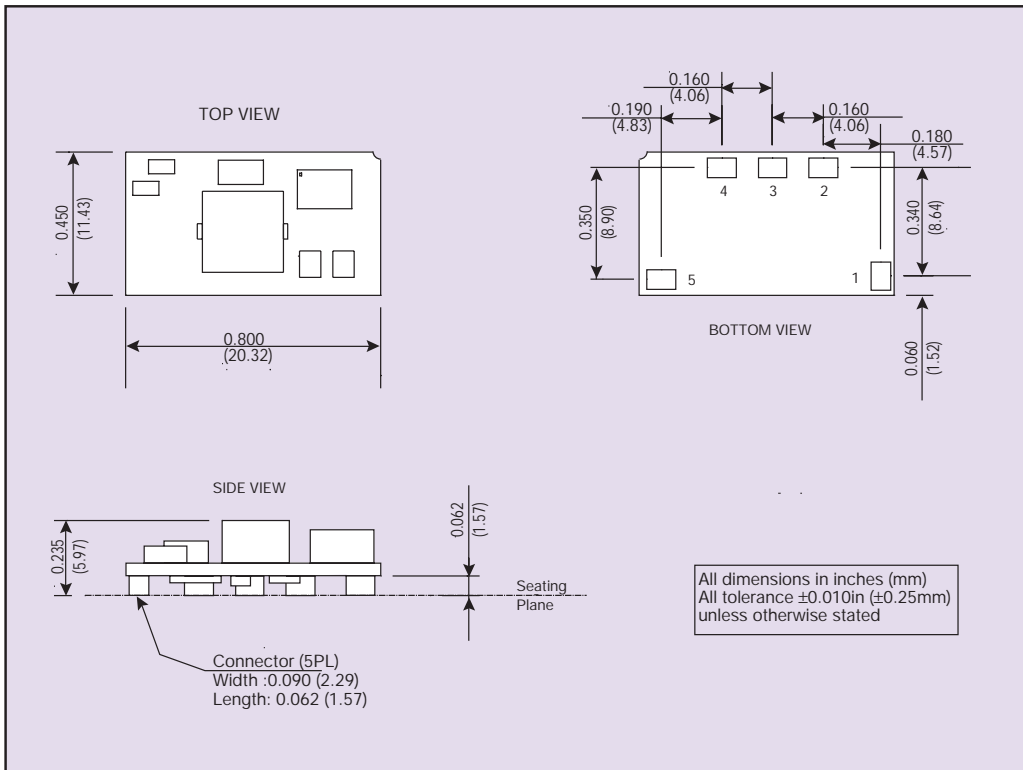
- The SMT05E features an 'Positive Logic' Remote ON/OFF operation. If not using the Remote ON/OFF pin, leave the pin open (the converter will be on). The Remote ON/OFF pin is referenced to ground.

The following conditions apply for the SMT05E:

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. SMT05E-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.



PIN CONNECTIONS	
PIN NUMBER	FUNCTION
1	Remote ON/OFF
2	Vout
3	Trim
4	Ground
5	Vin

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