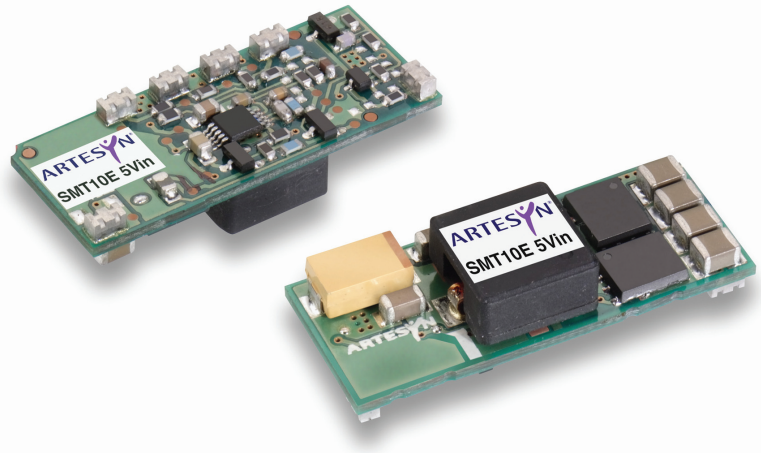
SMT10E Series
3.0 - 5.5 Vin

Total Power: 13.2 Watts
Input Voltage: 3.0 - 5.5 Vdc
# of Outputs: Single



RoHS 2002/95/EC

Special Features

- 10 A current rating
- Input voltage range: 3.0 Vdc to 5.5 Vdc
- Output voltage range: 0.8 Vdc to 3.63 Vdc
- Ultra high efficiency: 96% @ 5 Vin and 3.3 Vout
- Extremely low internal power dissipation
- Minimal thermal design concerns
- Designed in reliability: MTBF of >7 million 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. E186249
- TÜV Product Service (EN60950) Certificate No. B 08 05 51485 378
- CB report and certificate to DE3-51686M1

Electrical Specifications

Input		
Input voltage range:		3.0-5.5 Vdc
Input current:	No load	70 mA typ.
Input current (max.):		8 A max. @ Io max. and Vout = 3.63 V
Input current ripple:		110 mA rms
Remote ON/OFF:		(See Note 2)
Start-up time:		20 ms
Output		
Voltage adjustability: (See Note 1)	Fixed output versions Wide trim version	±10% 0.8 - 3.63 Vdc
Setpoint accuracy:		±0.4%
Line regulation:		±0.2%
Load regulation:		±1.0%
Minimum load:		0 A
Overshoot/Undershoot:		None
Ripple and noise:	0 to 20 mHz BW	50 mV pk-pk 25 mV rms max.
Temperature co-efficient:		±0.01%/˚C
Transient response:		60 mV max. deviation 50µs recovery to within ±1.0%
Remote sense:		10% Vo compensation

All specifications are typical at 5 Vin and 3.3 Vout, full load at 25 °C unless otherwise stated.

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EMC Characteristics

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

General Specifications

Efficiency:		See table
Insulation voltage:		Non-isolated
Switching frequency:	Fixed	300 kHz typ.
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 MIL-HDBK-217F	7,042,000 hours 680,000 hours

Environmental Specifications

Thermal performance: (See Note 3)	Operating ambient temperature	-40° C to +100 °C
	Non-operating	-40 °C to +125 °C

Protection

Short circuit:	Continuous
Thermal:	Automatic recovery

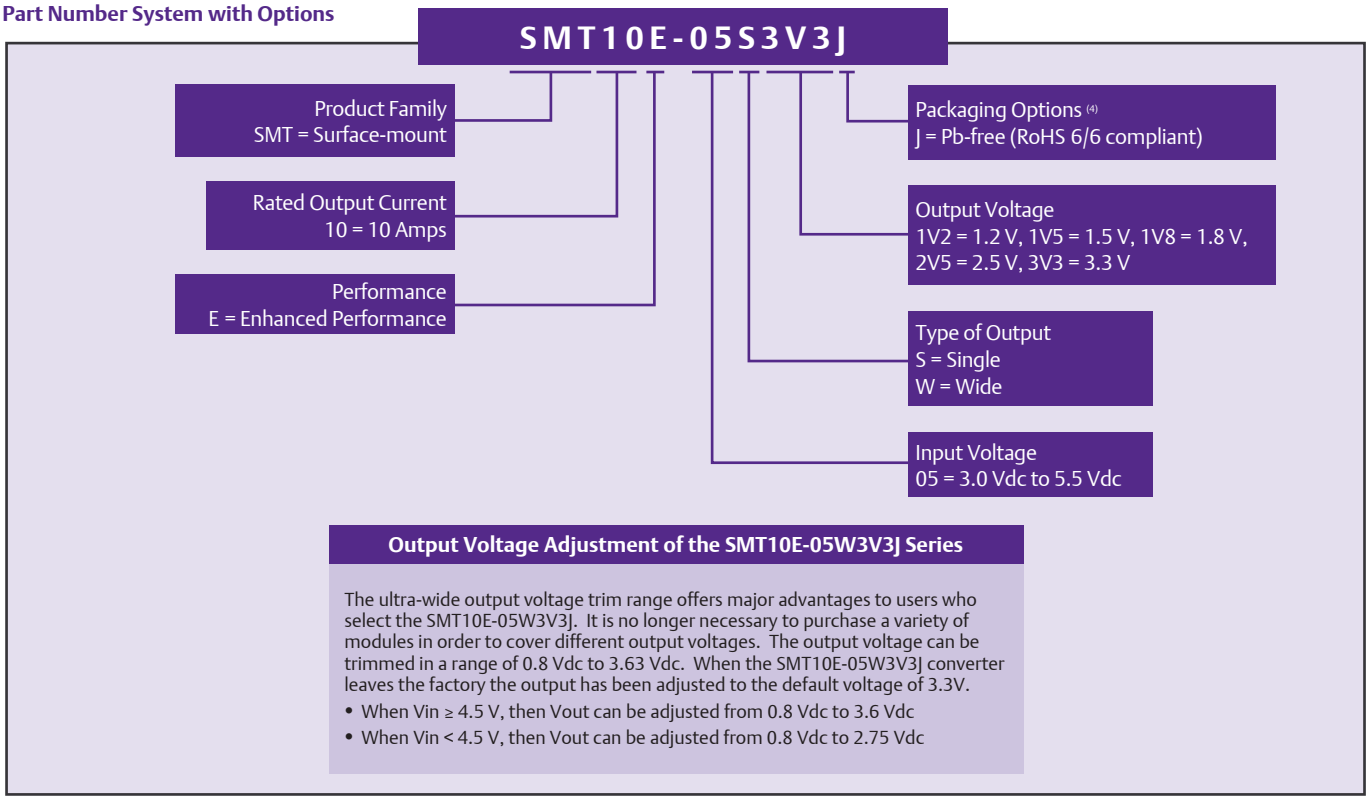
Ordering Information

All specifications are typical at 5 Vin and 3.3 Vout, full load at 25 °C unless otherwise stated.

Ordering Information

Output Power (Max.)	Input Voltage	Output Voltage	Output Currents		Efficiency (typ.)	Regulation		Model Numbers [2, 4, 5]
			Min	Max		Line	Load	
13.2 W	3.0 - 5.5 Vdc	1.2 Vdc	0 A	10 A	89%	±0.2%	±1.0%	SMT10E-05S1V2J
16.5 W	3.0 - 5.5 Vdc	1.5 Vdc	0 A	10 A	90%	±0.2%	±1.0%	SMT10E-05S1V5J
19.8 W	3.0 - 5.5 Vdc	1.8 Vdc	0 A	10 A	92%	±0.2%	±1.0%	SMT10E-05S1V8J
27.5 W	3.0 - 5.5 Vdc	2.5 Vdc	0 A	10 A	95%	±0.2%	±1.0%	SMT10E-05S2V5J
36.3 W	4.5 - 5.5 Vdc	3.3 Vdc	0 A	10 A	96%	±0.2%	±1.0%	SMT10E-05S3V3J
36.3 W	3.0 - 5.5 Vdc	0.8 - 3.63 Vdc	0 A	10 A	96%	±0.2%	±1.0%	SMT10E-05W3V3J

Part Number System with Options



Output Voltage Adjustment of the SMT10E-05W3V3J Series

The ultra-wide output voltage trim range offers major advantages to users who select the SMT10E-05W3V3J. 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-05W3V3J converter leaves the factory the output has been adjusted to the default voltage of 3.3V.

- When Vin ≥ 4.5 V, then Vout can be adjusted from 0.8 Vdc to 3.6 Vdc
- When Vin < 4.5 V, then Vout can be adjusted from 0.8 Vdc to 2.75 Vdc

Notes

1 When Vin ≥ 4.5 V, then Vout can be adjusted from 0.8 Vdc to 3.6 Vdc.
When Vin < 4.5 V, then Vout can be adjusted from 0.8 Vdc to 2.75 Vdc.

2 The SMT10E features a 'Negative 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	Unit is ON
Remote pin pulled high [Von/off >1.2 V]	Unit is OFF

A 'Positive 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-05W3V3-RJ.

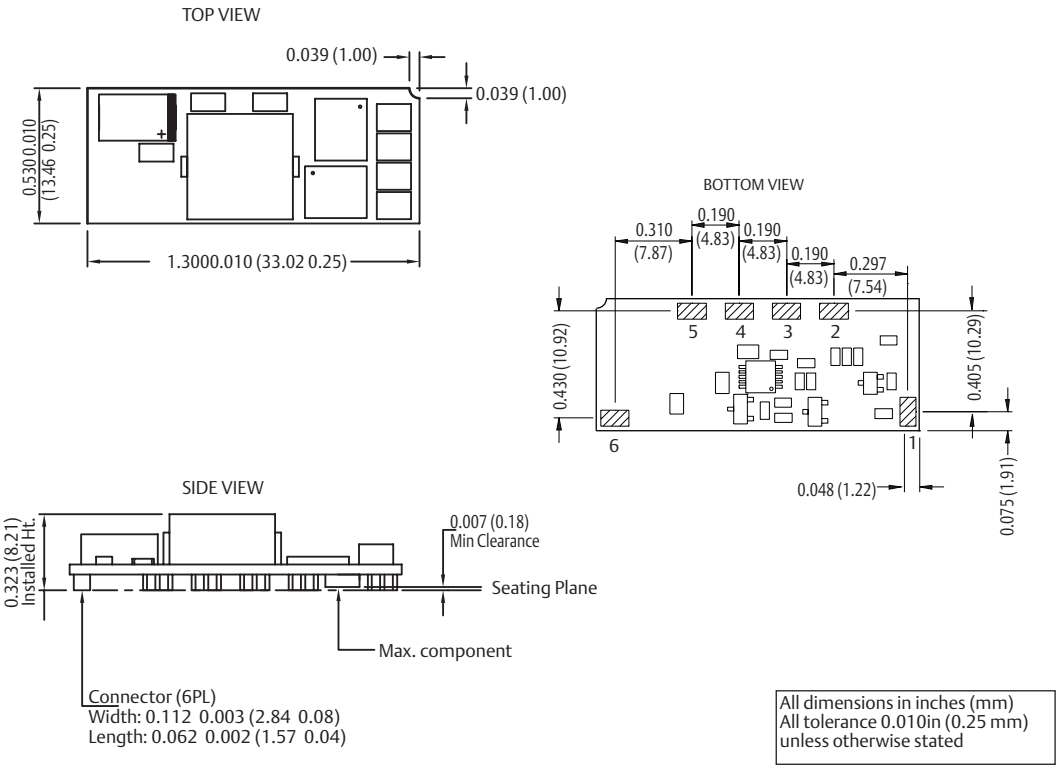
Notes Continued

3 Full derating curves available in both the Longform Datasheet and Application Note 168.

4 TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.

5 NOTICE: Some models do not support all options. Please contact your local Emerson Network Power representative or use the on-line model number search tool at http://www.PowerConversion.com to find a suitable alternative.

Mechanical Drawing



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

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

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