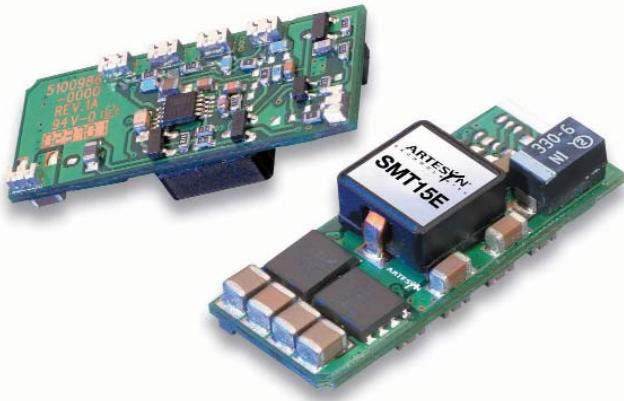


SMT15E Series

3.0-5.5 Vin single
output

Total Power: 41.25W
Input Voltage: 3.0-5.5 Vdc
of Outputs: Single



Rev.06.26.07
SMT15E_05
1 of 4

Special Features

- 15 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. E174104
UL 60950 File No. E174104

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

CB report and certificate to
DE3-51686M1

The SMT15E series are non-isolated dc-dc converters packaged in a surface-mount footprint giving designers a cost effective solution for conversion from either a 3.3 Vdc or 5 Vdc input to output voltages of 0.8 Vdc and 3.63 Vdc. The SMT15E offers a range of fixed outputs (and one wide trim output unit) at an industry leading 15 A which allows maximum design flexibility and a pathway for future upgrades. Local voltage conversion by the SMT15E series from existing 3.3 Vdc or 5 Vdc system voltages eliminates the need for redesign of existing power architectures when voltage requirements change. The SMT15E 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 SMT15E offers compact size and efficiencies of up to 96%.

ARTESYN[®]

EMERSON
Network Power

Specifications

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

OUTPUT SPECIFICATIONS			EMC CHARACTERISTICS		
Voltage adjustability (See Note 1)	Fixed output versions Wide trim version	±10% 0.8-3.63 Vdc	Electrostatic discharge	EN61000-4-2, IEC801-2	
Setpoint accuracy		±0.4%	Conducted immunity	EN61000-4-6	
Line regulation		±0.2%	Radiated immunity	EN61000-4-3	
Load regulation		±1.0%			
Minimum load		0 A			
Overshoot/undershoot		None			
Ripple and noise (0 to 20 MHz BW)		60 mV pk-pk 25 mV rms max.			
Temperature co-efficient		±0.01%/°C			
Transient response		60 mV max. deviation 50 µs recovery to within ±1.0%			
Remote sense		10% Vo compensation			
INPUT SPECIFICATIONS			GENERAL SPECIFICATIONS		
Input voltage range		3.0-5.5 Vdc	Efficiency	See table	
Input current	No load	70 mA typ.	Insulation voltage	Non-isolated	
Input current (max.)		11.8 A max. @ Io max. and Vout = 3.63 V	Switching frequency	Fixed	300 kHz typ.
Input current ripple		110 mA rms	Approvals and standards	EN60950 UL/cUL60950	
Remote ON/OFF		(See Note 2)	Material flammability	UL94V-0	
Start-up time		20 ms	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 MIL-HDBK-217F	7,042,000 hours 680,000 hours
ENVIRONMENTAL SPECIFICATIONS			PROTECTION		
Thermal performance (See Note 3)			Short-circuit	Operating ambient, temperature Non-operating	
				-40 °C to +100 °C -40 °C to +125 °C	
			Thermal	Continuous Automatic recovery	

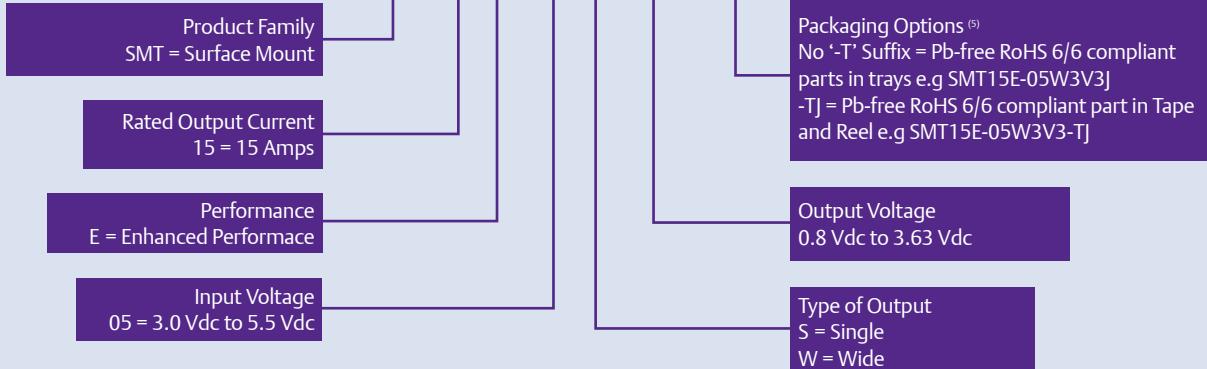
Specifications

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 ^(5,6)
						LINE	LOAD	
41.25 W	3.0-5.5 Vdc	2.5 Vdc	0 A	15 A	93.5%	±0.2%	±1.0%	SMT15E-05S2V5J (EOL)
54.45 W	4.5-5.5 Vdc	3.3 Vdc	0 A	15 A	95%	±0.2%	±1.0%	SMT15E-05S3V3J (EOL)
54.45 W	3.0-5.5 Vdc	0.8-3.63 Vdc	0 A	15 A	95% ⁽⁴⁾	±0.2%	±1.0%	SMT15E-05W3V3J

Part Number System with Options

SMT15E-05W3V3-TJ



Output Voltage Adjustment of the SMT15E-05W3V3J Series

The ultra-wide output voltage trim range offers major advantages to users who select the SMT15E-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 SMT15E-05W3V3J converter leaves the factory the output has been adjusted to the default voltage of 3.3 V.

- When $V_{in} \geq 4.5$ V, then V_{out} can be adjusted from 0.8 Vdc to 3.6 Vdc
- When $V_{in} < 4.5$ V, then V_{out} can be adjusted from 0.8 Vdc to 2.75 Vdc

Notes

- 1 When $V_{in} \geq 4.5$ V, then V_{out} can be adjusted from 0.8 Vdc to 3.6 Vdc. When $V_{in} < 4.5$ V, then V_{out} can be adjusted from 0.8 Vdc to 2.75 Vdc.
- 2 The SMT15E 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 SMT15E:

Configuration

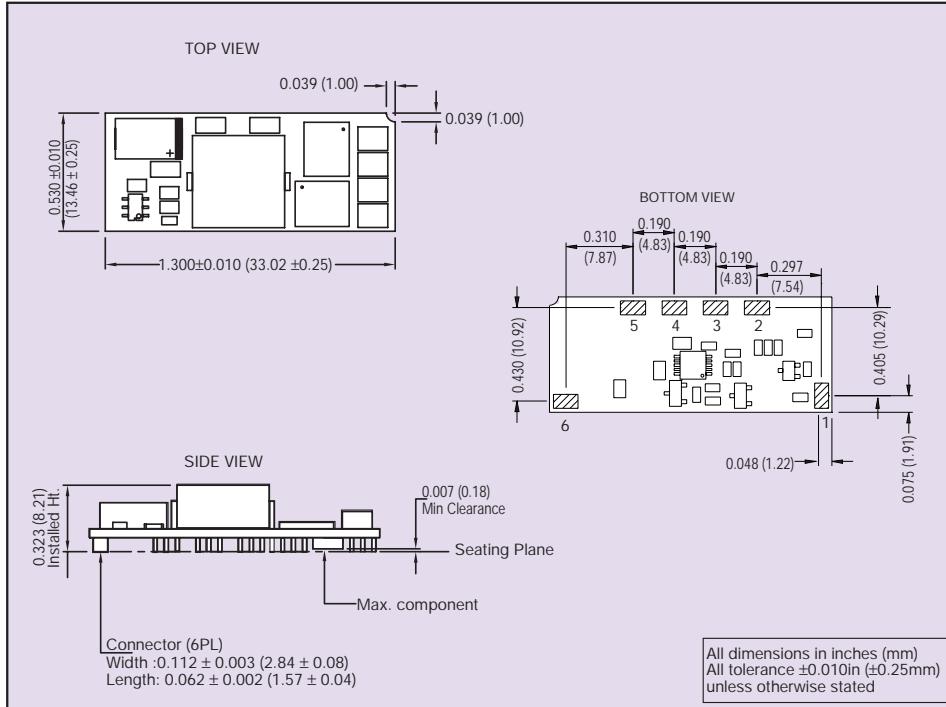
- Remote pin open circuit
- Remote pin pulled low
- Remote pin pulled high [$V_{on/off} > 1.2$ V]

Converter Operation

- Unit is ON
- Unit is ON
- 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. SMT15E-05S3V3-R.

- 3 Full derating curves available in both the Longform Datasheet and Application Note 136.
- 4 When the unit is trimmed down to 0.8 V, the efficiency is 82.5%.
- 5 TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
- 6 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	Remote Sense +
3	Trim
4	+Vout
5	Ground
6	+Vin

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