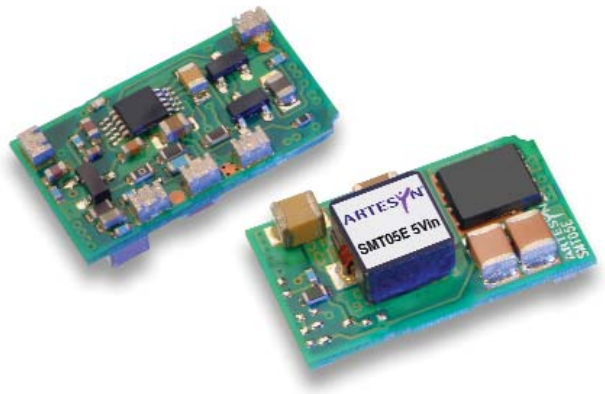
Rev.06.26.07
smt05e

SMT05E Series

3.0-5.5 Vin single output

Total Power: **8.25W**
Input Voltage: **3.0 - 5.5 Vdc**
# of Outputs: **Single**



Special Features

- 5 A Current rating
- Input voltage range: 3.0 Vdc - 5.5 Vdc
- Output voltage range: 0.75 Vdc - 3.63 Vdc
- Ultra high efficiency: 94% @ 5 Vin and 3.3 Vout
- Extremely low internal power dissipation
- Minimal thermal design concerns
- Designed in reliability: MTBF of >9 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 SMT05E series are non-isolated dc-dc converters packaged in a surface mount footprint giving designers a cost effective solution for conversion from a 3.3 Vdc to 5 Vdc source. The SMT05E has a wide input range (3.0 Vdc to 5.5 Vdc) and offers a wide 0.75 Vdc to 3.63 Vdc output voltage range with a 5 A 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 94%.

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Network Power

Specifications

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

OUTPUT SPECIFICATIONS

Voltage adjustability	0.75-3.63 Vdc
Setpoint accuracy	±0.4%
Line regulation	±1.0%
Load regulation	±1.0%
Minimum load	0 A
Overshoot/undershoot	None
Ripple and noise 5 Hz to 20MHz	75 mV pk-pk 25 mV rms
Temperature co-efficient	±0.01%/°C
Transient response	60 mV max. deviation 50 µs recovery to within 1%

INPUT SPECIFICATIONS

Input voltage range		3.0-5.5 Vdc
Input current	No load (max.)	150 mA
Input current (max.)		3.9 A max. @ Io max. and Vout = 3.3 V
Input reflected ripple		40 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		See Table
Insulation voltage		Non-isolated
Switching frequency	Fixed	300 kHz typ.
Approvals and standards		EN60950 UL/cUL60950
Material flammability		UL94V-0
Dimensions	(LxWxH)	20.32 x 11.43 x 6.70 mm 0.800 x 0.450 x 0.264 inches
Weight		2.8 g (0.10 oz)
Coplanarity		100 µm
MTBF	Telcordia SR-332	9,009,000 hours

ENVIRONMENTAL SPECIFICATIONS

Thermal performance (See Note 2)	Operating ambient, temperature Non-operating	-40 °C to +85 °C -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	
8.25 W	3.0-5.5 Vdc	1.5 Vdc	0 A	5 A	87.5%	±1.0%	±1.0%	SMT05E-05S1V5J
18.15 W	3.0-5.5 Vdc	0.75-3.63 Vdc	0 A	5 A	94%	±1.0%	±1.0%	SMT05E-05W3V3J

Part Number System with Options

SMT05E-05W3V3-TJ

- Product Family: SMT = Surface Mount
- Rated Output Current: 05 = 5 Amps
- Performance: E = Enhanced Performace
- Input Voltage: 05 = 3.0 Vdc to 5.5 Vdc
- Packaging Options (3): No '-T' Suffix = Pb-free RoHS 6/6 compliant parts in trays e.g SMT30E-12W3V3J; -TJ = Pb-free RoHS 6/6 compliant part in Tape and Reel e.g SMT30E-12W3V3-TJ
- Output Voltage: 0.75 Vdc to 3.63 Vdc
- Type of Output: S = Single, W = Wide

Output Voltage Adjustment of the SMT05E-05W3V3J Series

The ultra-wide output voltage trim range offers major advantages to users who select the SMT05E-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 0.75 Vdc to 3.63 Vdc. When the SMT05E-05W3V3J converter leaves the factory the output has been adjusted to the default voltage of 0.75 V.

- When Vin ≥ 4.5 V, then Vout can be adjusted from 0.75 Vdc to 3.63 Vdc
- When Vin < 4.5 V, then Vout can be adjusted from 0.75 Vdc to 2.75 Vdc

Notes

1 The SMT05E 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 SMT05E:

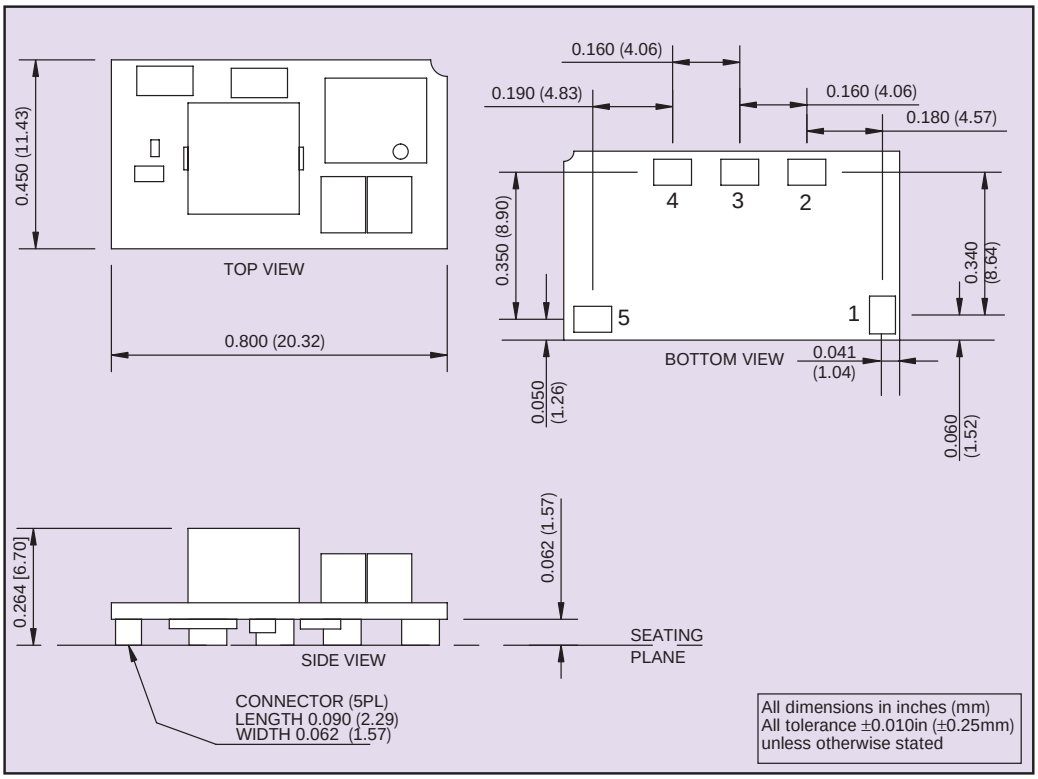
Configuration	Converter Operation
Remote pin open circuit	Unit is ON
Remote pin pulled low	Unit is ON
Remote pin pulled high [Von/off > 2.5 V]	Unit is OFF

An 'Positive Logic' Remote ON/OFF version is also possible with this converter. To order please use part number SMT05E-05W3V3-RJ or SMT05E-05W3V3-RTJ.

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

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

4 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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