

## 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

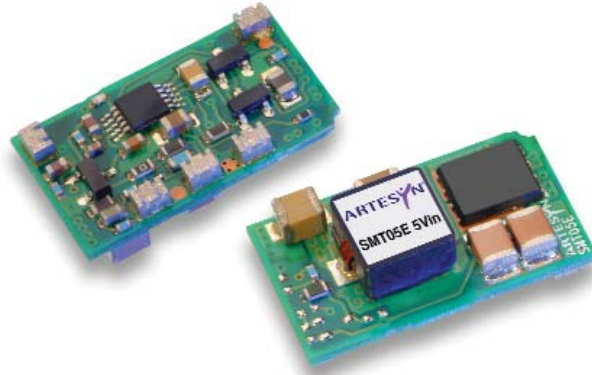
- 5 A Current rating
- Input voltage range:  
3.0 Vdc - 5.5 Vdc
- Output voltage range:  
0.75 Vdc - 3.63 Vdc
- Ultra high efficiency:  
94% @ 5 Vin and 3.3 Vout
- Extremely low internal power  
dissipation
- Minimal thermal  
design concerns
- Designed in reliability:  
MTBF of >9 million hours per  
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%.



# 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<br>5 Hz to 20MHz | 75 mV pk-pk<br>25 mV rms                               |
| Temperature co-efficient          | ±0.01%/°C  |
| Transient response                | 60 mV max. deviation<br>50 μs recovery to<br>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. @ I <sub>o</sub> max.<br>and V <sub>out</sub> = 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<br>UL/cUL60950 |   |
| Material flammability   | UL94V-0                |   |
| Dimensions              | (LxWxH)                | 20.32 x 11.43 x 6.70 mm<br>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<br>(See Note 2) | Operating ambient, temperature | -40 °C to +85 °C  |
|                                     | Non-operating                  | -40 °C to +125 °C |

## PROTECTION

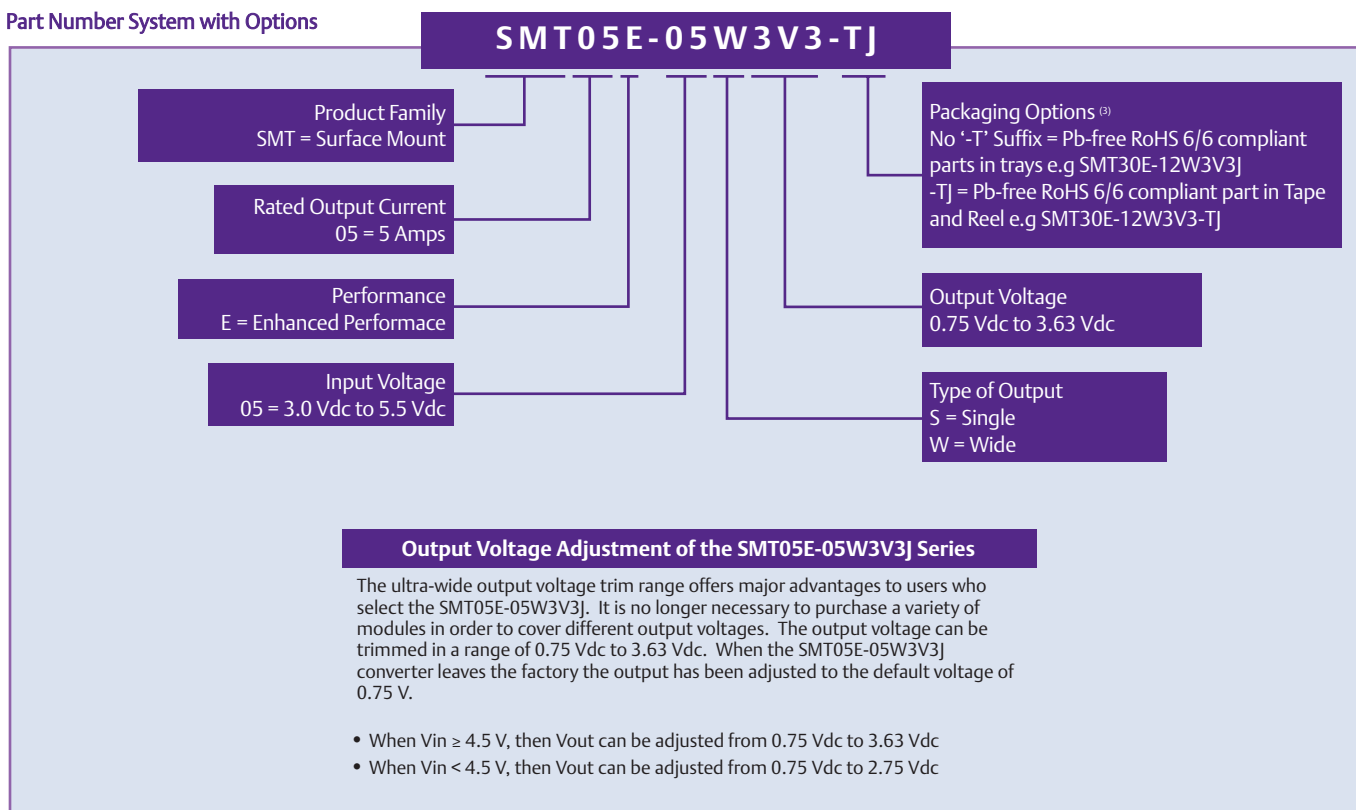
|               |                    |
|---------------|--------------------|
| Short-circuit | Continuous         |
| Thermal       | Automatic recovery |

# 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 <sup>(3,4)</sup> |
|---------------------|---------------|----------------|-----------------------|-----------------------|-------------------|------------|-------|-------------------------------|
|                     |               |                |                       |                       |                   | 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



## 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

Remote pin open circuit

Remote pin pulled low

Remote pin pulled high [ $V_{on/off} > 2.5$  V] Unit is OFF

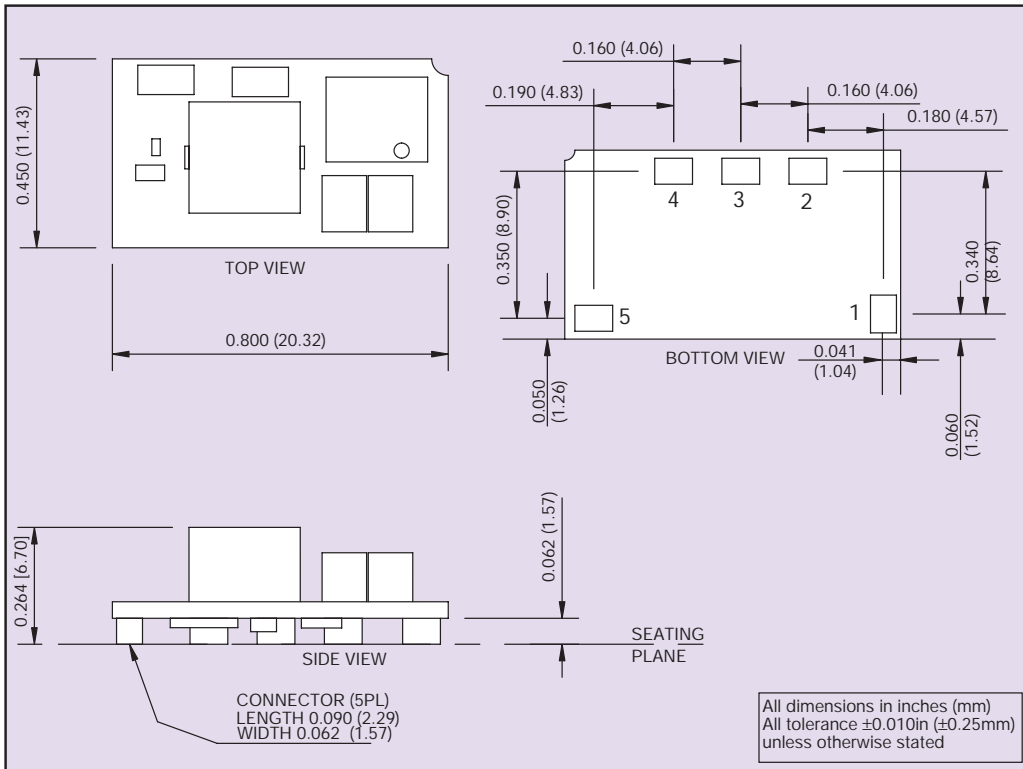
### Converter Operation

Unit is ON

Unit is ON

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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