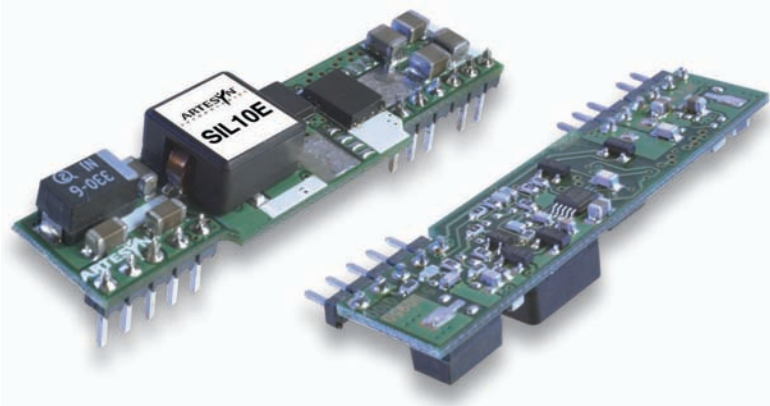


SIL10E Series

3.0 Vin - 5.5 Vin

Total Power: 49.9 Watts
Input Voltage: 3.0-5.5 Vdc
of Outputs: Single



Special Features

- 10 A Current rating
- Input voltage range: 3 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 7,000,000 hours per Telcordia SR-332
- Ideal solution where board space is at a premium or tighter card pitch is required
- Industry standard footprint and pin out
- Available RoHS compliant
- 2 year warranty

Safety

- UL/cUL CAN/CSA 22.2 No. 60950-1-03/UL 60950-1, File No. E186249
- TÜV Product Service (EN60950) Certificate No. B 08 05 51485 378
- CB report and certificate to IEC60950, Certificate No. DE3-51686M1

Electrical Specifications

| Input | | |
|-------------------------------------|---|---|
| Input voltage range: | | 3.0-5.5 Vdc |
| Input current: | No load | 70 mA |
| Input current (max.): | | 8 A max. @ Io max. and Vout = 3.3 V |
| Input reflected ripple: | | 65 mA rms |
| Remote ON/OFF: | | (See Note 2) |
| Start-up time: | | 20 ms |
| Output | | |
| Voltage adjustability: (See Note 1) | Fixed output versions 5 Vin with wide trim 3.3 Vin with wide trim | ±10% 0.8 - 3.63 Vdc 0.8 - 2.75 Vdc |
| Setpoint accuracy: | | ±0.4% typ. |
| Line regulation: | | ±0.2% typ. |
| Load regulation: | | ±1.0% typ. |
| Minimum load: | | 0 A |
| Overshoot/Undershoot: | | None |
| Ripple and noise: | | 50 mV pk-pk 25 mV rms max. |
| Temperature co-efficient: | | ±0.01%/°C |
| Transient response: | | 50 mV max. deviation 50µs recovery to within ±1.0% |
| Remote sense: | | 10% Vo compensation |

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



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) | 50.8 x 7.8 x 12.7 mm 2.0 x 0.31 x 0.5 inches |
| Pin length: | (Vertical) | 0.135 ± 0.02 in (3.43 ± 0.5 mm) |
| Weight: | | 5 g (0.18 oz) |
| 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

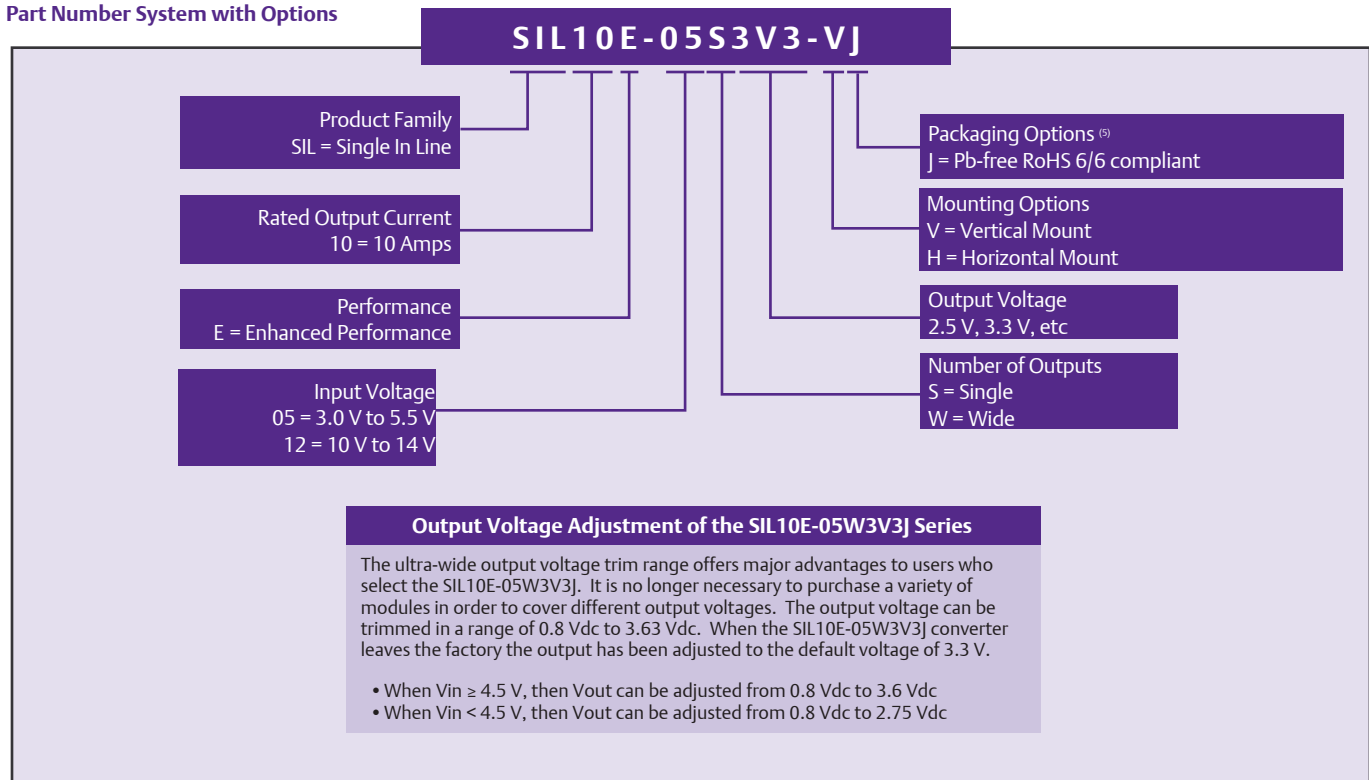
| | |
|----------------|--------------------|
| Short circuit: | Continuous |
| Thermal: | Automatic recovery |

Ordering Information

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

| Ordering Information | | | | | | | | |
|----------------------|---------------|----------------|-----------------|------|-------------------|------------|-------|------------------------------------|
| Output Power (Max.) | Input Voltage | Output Voltage | Output Currents | | Efficiency (typ.) | Regulation | | Model Numbers ^(4, 5, 6) |
| | | | Min | Max | | Line | Load | |
| 8.8 W | 3.0 - 5.5 Vdc | 0.8 V | 0 A | 10 A | 83% | ±0.2% | ±1.5% | SIL10E-05S0V8-VJ |
| 11 W | 3.0 - 5.5 Vdc | 1 V | 0 A | 10 A | 86% | ±0.2% | ±1.5% | SIL10E-05S1V0-VJ |
| 13.2 W | 3.0 - 5.5 Vdc | 1.2 V | 0 A | 10 A | 88% | ±0.2% | ±1.0% | SIL10E-05S1V2-VJ |
| 16.5 W | 3.0 - 5.5 Vdc | 1.5 V | 0 A | 10 A | 90% | ±0.2% | ±1.0% | SIL10E-05S1V5-VJ |
| 19.8 W | 3.0 - 5.5 Vdc | 1.8 V | 0 A | 10 A | 92% | ±0.2% | ±1.0% | SIL10E-05S1V8-VJ |
| 22 W | 3.0 - 5.5 Vdc | 2 V | 0 A | 10 A | 93% | ±0.2% | ±1.0% | SIL10E-05S2V0-VJ |
| 27.5 W | 3.0 - 5.5 Vdc | 2.5 V | 0 A | 10 A | 94% | ±0.2% | ±1.0% | SIL10E-05S2V5-VJ |
| 36.3 W | 4.5 - 5.5 Vdc | 3.3 V | 0 A | 10 A | 95% | ±0.2% | ±1.0% | SIL10E-05S3V3-VJ |
| 36.3 W | 4.5 - 5.5 Vdc | 0.8 - 3.63 V | 0 A | 10 A | 95% | ±0.2% | ±1.0% | SIL10E-05W3V3-VJ |

Part Number System with Options



Notes

- 1 When $V_{in} \geq 4.5$ V, then V_{out} can be adjusted from 0.8 V to 3.6 V. When $V_{in} < 4.5$ V, then V_{out} can be adjusted from 0.8 V to 2.75 V.
- 2 The SIL10E features a 'Negative Logic' Remote ON/OFF operation. If you are 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 SIL10E:

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

Notes Continued

- 3 Full derating curves available in both the Longform Datasheet and Application Note 136.
- 4 For certain applications that use low ESR capacitors on the output of the converter and to insure maximum converter stability, please add the suffix '02' to the model, e.g. SIL10E-05S2V5-V02J.
- 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 Emerson Network Power representative or use the on-line model number search tool at <http://www.PowerConversion.com> to find a suitable alternative.

Mechanical Drawings

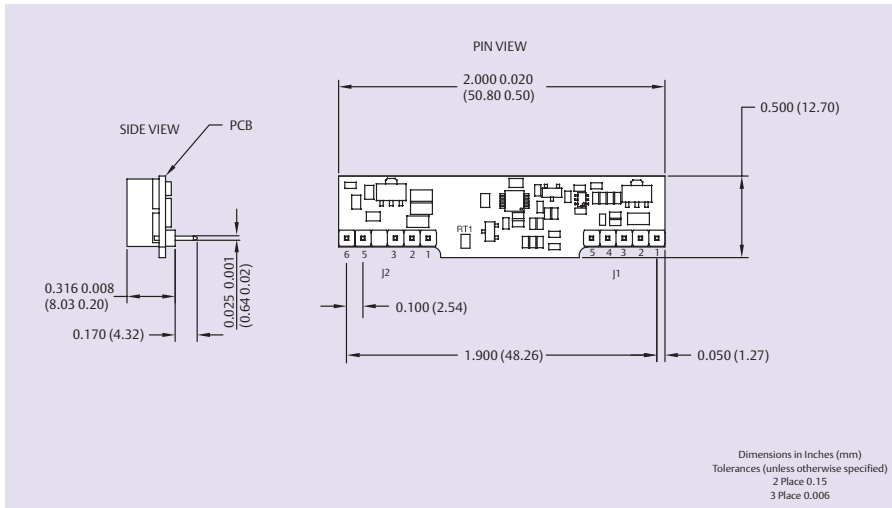


Figure 1: Horizontal Mount Version

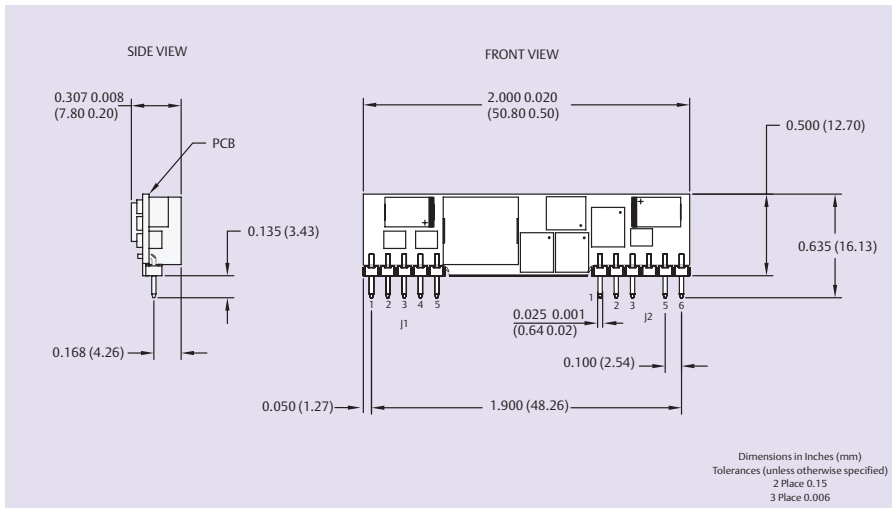


Figure 2: Vertical Mount Version

| Input Pin Connections | |
|-----------------------|------------------|
| J1 | |
| Pin 1 | +Vout |
| Pin 2 | +Vout |
| Pin 3 | Remote Sense (+) |
| Pin 4 | +Vout |
| Pin 5 | Ground |

| Input Pin Connections | |
|-----------------------|---------------|
| J2 | |
| Pin 1 | Ground |
| Pin 2 | +Vin |
| Pin 3 | +Vin |
| Pin 4 | No Pin |
| Pin 5 | Trim |
| Pin 6 | Remote ON/OFF |

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