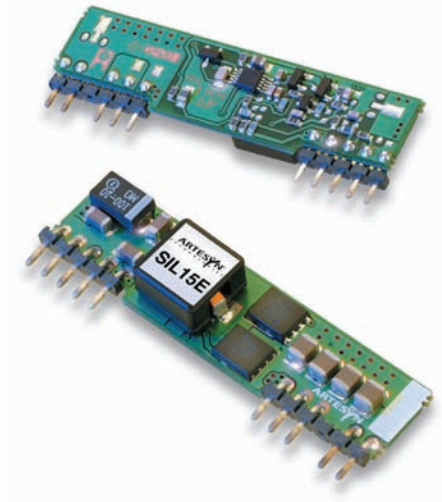


SIL15E Series

3.0 Vin to 5.5 Vin Single Output

Total Power: 54.5W
Input Voltage: 5.5VDC
of Outputs: Single



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: 95% @ 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 footprint and pin out
- 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

Electrical Specifications

Output

| | | |
|------------------------------------|---|---|
| Voltage adjustability: | ± 10.0% 0.8-3.63 Vdc | Fixed output version Wide trim version |
| Setpoint accuracy | ± 0.4% | |
| Line regulation: | ± 0.2% | |
| Load regulation: | ± 1.0% | |
| Minimum load: | 0 A | |
| Overshoot/undershoot: | None | |
| Ripple and noise: (0-20 MHz BW) | 60 mV pk-pk 25 mV rms max. | |
| Temperature coefficient: | ± 0.01%/ °C | |
| Transient response: | 60 mV max. deviation 50 µs recovery to within ± 1.0% | |
| Short circuit protection: | Continuous | |
| Thermal protection: | Automatic recovery | |

Input

| | | |
|-----------------------|---|---------|
| Input voltage range: | 3.0-5.5 Vdc | |
| Input current: | 70 mA typ. | No load |
| Input current (max): | 11.8 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 | |



Specifications

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: (see note 13) | EN60950 UL/cUL60950 | |
| Material flammability: | UL94V-0 | |
| Dimensions: | (LxWxH) | 50.8 x 7.8 x 12.7mm 2.0 x 0.31 x 0.5 inches |
| Pin length: | 0.135 ± 0.02 in (3.43 ± 0.5 mm) | |
| Weight: | 5 g (0.18 oz) | |
| MTBF (see note 9): | Telecordia SR-332 MIL-HDBK-217F | 7,042,000 hours 680,000 hours |

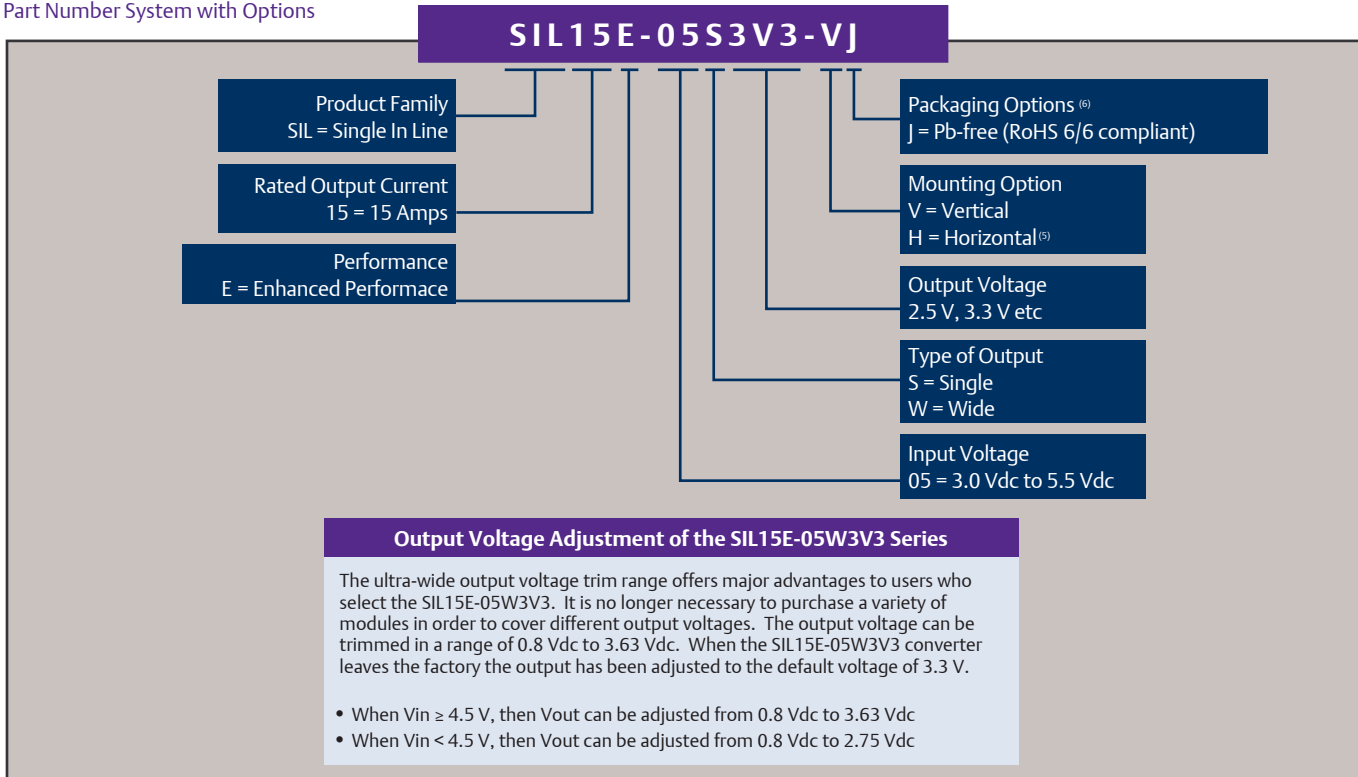
Environmental Specifications

| | | |
|----------------------|-------------------|--------------------|
| Thermal performance: | Operating ambient | -40° C to +100 °C |
| (See Note 3) | Non-operating | -40 °C to +1255 °C |

Ordering Information

| Output Power (Max.) | Input Voltage | Output Voltage | Output Currents | | Efficiency (Typ.) | Regulation | | Model Numbers ^(2, 5, 6, 7) |
|---------------------|---------------|----------------|-----------------|------|--------------------|------------|-------|---------------------------------------|
| | | | Min | Max | | Line | Load | |
| 29.7 W | 3.0 - 5.5 Vdc | 1.8 V | 0 A | 15 A | 89% | ±0.2% | ±1.0% | SIL15E-05S1V8-VJ (EOL) |
| 41.2 W | 3.0 - 5.5 Vdc | 2.5 V | 0 A | 15 A | 92% | ±0.2% | ±1.0% | SIL15E-05S2V5-VJ (EOL) |
| 54.5 W | 4.5 - 5.5 Vdc | 3.3 V | 0 A | 15 A | 94% | ±0.2% | ±1.0% | SIL15E-05S3V3-VJ (EOL) |
| 54.5 W | 3.0 - 5.5 Vdc | 0.8 - 3.63 Vdc | 0 A | 15 A | 94% ⁽⁴⁾ | ±0.2% | ±1.0% | SIL15E-05W3V3-VJ |

Part Number System with Options



Notes

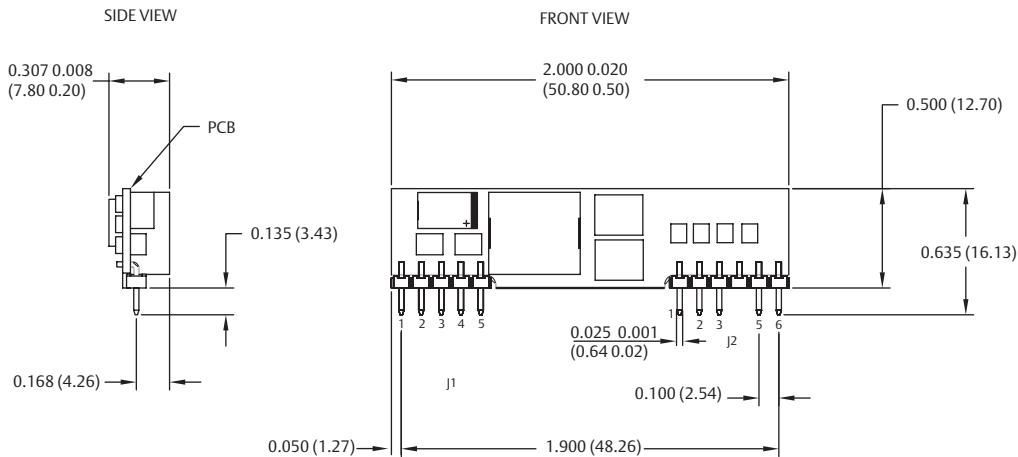
- 1 When $V_{in} \geq 4.5$ V, then V_{out} can be adjusted from 0.8 Vdc to 3.63 Vdc. When $V_{in} < 4.5$ V, then V_{out} can be adjusted from 0.8 Vdc to 2.75 Vdc.
- 2 The SIL15E 5 V features a 'Negative Logic' Remote ON/OFF operation. If not using the Remote ON/OFF pin, leave the pin open (the converter will be on). The Remote ON/OFF pin is referenced to ground.

The following conditions apply for the SIL15E:

| Configuration | Converter Operation |
|--|---------------------|
| Remote pin open circuit | Unit is ON |
| Remote pin pulled low | Unit is ON |
| Remote pin pulled high [$V_{on/off} > 1.2$ V] | Unit is OFF |

A 'Positive Logic' Remote ON/OFF version is also possible with this converter. To order please place the suffix 'R' towards the end of the model number, e.g. SIL15E-05W3V3-VRJ.

- 3 Full derating curves available in both the Longform Datasheet and Application Note 134.
- 4 When the unit is trimmed down to 0.8 V, the efficiency is 82%.
- 5 For horizontal mounting option please consult factory for details.
- 6 TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
- 7 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.



Dimensions in Inches (mm)
Tolerances (unless otherwise specified)
2 Place 0.15
3 Place 0.006

Pin Connections

J1

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

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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