

SIL15E Series

12 Vin single output

DC-DC CONVERTERS

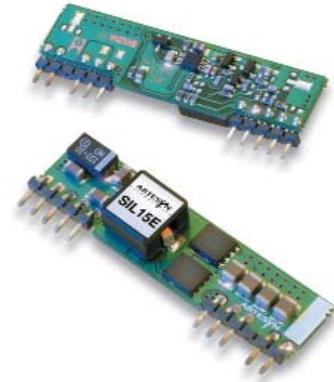
E Class Non-isolated

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NEW Product



- **15 A Current rating**
- **Input voltage range: 10 Vdc to 14 Vdc**
- **Output voltage range: 0.8 Vdc to 3.63 Vdc**
- **Ultra high efficiency: 94% @ 12 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**



The SIL15E series are non-isolated dc-dc converters packaged in a single-in-line footprint giving designers a cost effective solution for conversion from a 12 V source. The SIL15E 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. The SIL15E 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 SIL15E offers compact size and efficiencies of up to 94%.



2 YEAR WARRANTY

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

SPECIFICATIONS

OUTPUT SPECIFICATIONS

| | | |
|--------------------------|---|--------------------------|
| Voltage adjustability | 0.8-3.63 Vdc | |
| Setpoint accuracy | ±0.4% typ. | |
| Line regulation | ±0.2% typ. | |
| Load regulation | ±1.0% typ. | |
| Total error band | ±3.0% typ. | |
| Minimum load | 0 A | |
| Overshoot/undershoot | None | |
| Ripple and noise | 5 Hz to 20 MHz | 60 mV pk-pk 25 mV rms |
| Temperature co-efficient | ±0.01%/°C | |
| Transient response | 100 mV max. deviation 100 µs recovery to within ±1.0% | |
| Remote sense | 10% Vo compensation | |

INPUT SPECIFICATIONS

| | | |
|------------------------|--|-------|
| Input voltage range | 10-14 Vdc | |
| Input current | No load | 70 mA |
| Input current (max.) | 5.5 A max. @ Io max. and Vout = 3.3 V | |
| Input reflected ripple | 60 mA rms | |
| Remote ON/OFF | (See Note 1) | |
| Start-up time | 35 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 | 200 kHz typ. |
| Approvals and standards | EN60950 UL/cUL60950 | |
| Material flammability | UL94V-0 | |
| Dimensions (Vertical model) | (LxWxH) | 50.8 x 7.8 x 12.7 mm 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 | Telcordia SR-332 | 7,042,000 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 |

International Safety Standard Approvals



UL/cUL CAN/CSA 22.2 No. E174104
UL 60950 File No. E174104



TÜV Product Service (EN60950) Certificate No. B 03 10 38572 037
CB report and certificate to DE3-51686M1

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DC-DC CONVERTERS

E Class Non-isolated

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For the most current data and application support visit www.artesyn.com/powergroup/products.htm

NEW Product

| OUTPUT POWER (MAX.) | INPUT VOLTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT (MIN.) | OUTPUT CURRENT (MAX.) | EFFICIENCY (TYP.) | REGULATION | | MODEL NUMBER ⁽³⁾ |
|---------------------|---------------|----------------|-----------------------|-----------------------|-------------------|------------|-------|-----------------------------|
| | | | | | | LINE | LOAD | |
| 49.5 W | 10-14 Vdc | 0.8- 3.63 Vdc | 0 A | 15 A | 94% | ±0.2% | ±1.0% | SIL15E-12W3V3-VJ |

Part Number System with Options

SIL15E-12W3V3-VJ

Product Family
SIL = Single In Line

Rated Output Current
15 = 15 Amps

Performance
E = Enhanced Performance

Packaging Options ⁽³⁾
J = Pb-free (RoHS 6/6 compliant)

Mounting Option
V = Vertical
H = Horizontal

Output Voltage
0.8 Vdc to 3.63 Vdc

Type of Output
W = Wide

Input Voltage
12 = 10 Vdc to 14 Vdc

Output Voltage Adjustment of the SIL15E-12W3V3 Series

The ultra-wide output voltage trim range offers major advantages to users who select the SIL15E-12W3V3. 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 SIL15E-12W3V3 converter leaves the factory the output has been adjusted to the default voltage of 0.8 V.

Notes

- The SIL15E features an 'Positive 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:

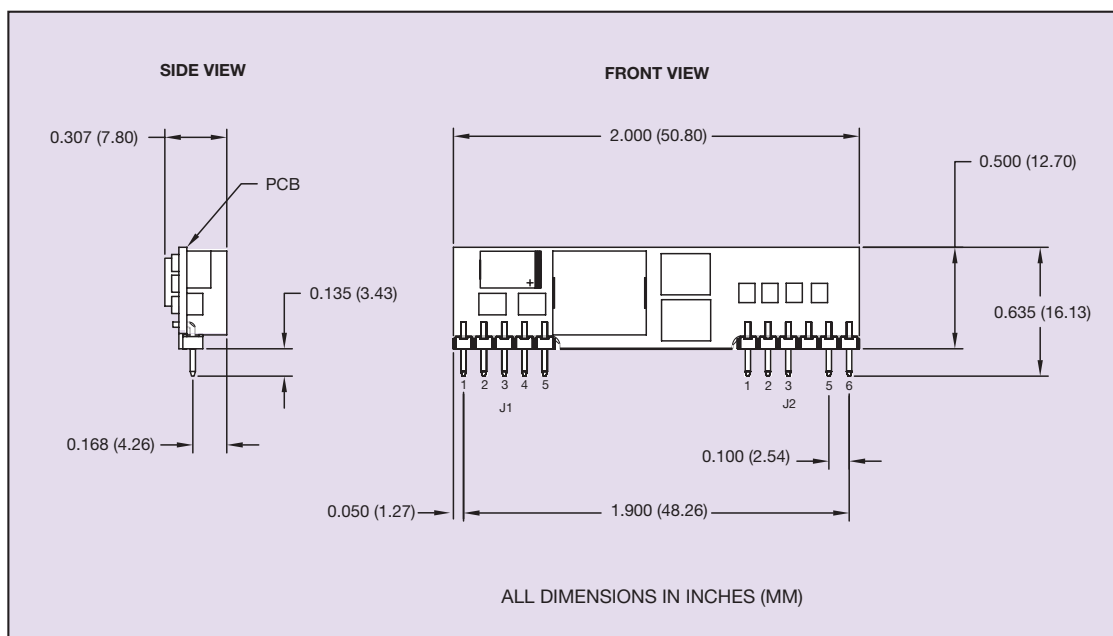
| Configuration | Converter Operation |
|---|---------------------|
| Remote pin open circuit | Unit is ON |
| Remote pin pulled low [Von/off <0.8 V] | Unit is OFF |
| Remote pin pulled high [Von/off >1.6 V] | Unit is ON |

An 'Negative 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-12W3V3-VRJ

- Full derating curves available in both the Longform Datasheet and Application Note.
- TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
- 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.

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J1 PIN CONNECTIONS

| PIN NUMBER | FUNCTION |
|------------|------------------|
| 1 | +Vout |
| 2 | +Vout |
| 3 | Remote Sense (+) |
| 4 | +Vout |
| 5 | Ground |

J2 PIN CONNECTIONS

| PIN NUMBER | FUNCTION |
|------------|---------------|
| 1 | Ground |
| 2 | +Vin |
| 3 | +Vin |
| 4 | No Pin |
| 5 | Trim |
| 6 | Remote ON/OFF |

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<http://moschip.ru/get-element>

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