

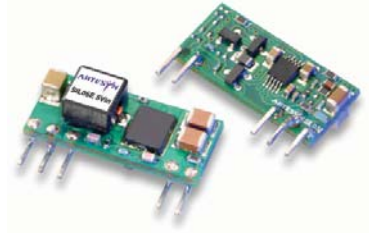
SIL05E Series

3 Vin to 5.5 Vin single output

NEW Product



- **5 A Current rating**
- **Input voltage range: 3.0 Vin to 5.5 Vin**
- **Output voltage range: 0.75 Vdc to 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 footprint**
- **Available RoHS compliant**



The SIL05E series are non-isolated dc-dc converters packaged in a single-in-line footprint giving designers a cost effective solution for conversion from a 3.3 Vin to 5 Vin source. The SIL05E 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 SIL05E 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 SIL05E offers compact size and efficiencies of up to 94%.



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

SPECIFICATIONS

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 20 MHz | 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 | 94% typ. |
| Insulation voltage | Non-isolated |
| Switching frequency | Fixed 300 kHz typ. |
| Approvals and standards | EN60950 UL/cUL60950 |
| Material flammability | UL94V-0 |
| Dimensions (LxWxH) | 0.902 x 0.279 x 0.402 inches 22.90 x 7.09 x 10.21 mm |
| Weight | 2.5 g (0.09 oz) |
| 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 |

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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3.0-5.5Vin single output

DC-DC CONVERTERS

E Class Non-isolated

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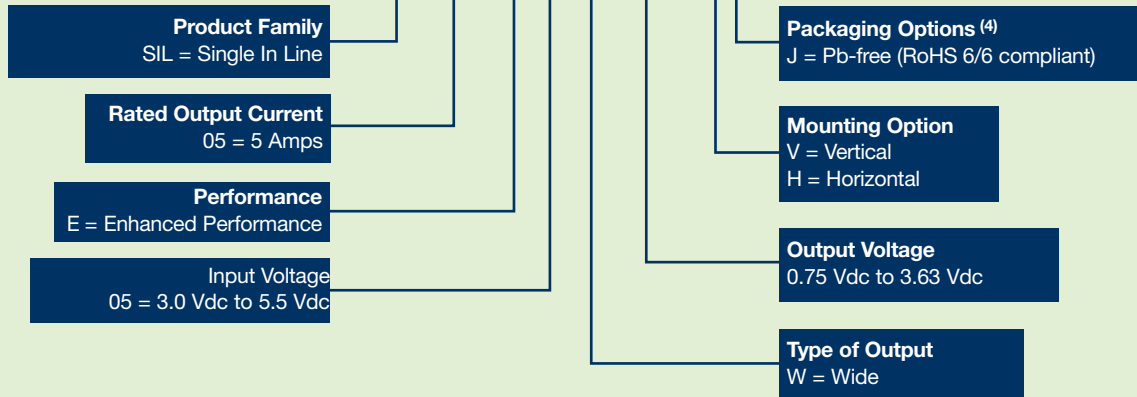
For the most current data and application support visit www.artesyn.com/powergroup/products.htm

NEW Product

| OUTPUT POWER (MAX.) | INPUT VOLTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT (MIN.) | OUTPUT CURRENT (MAX.) | EFFICIENCY (TYP.) | REGULATION | | MODEL NUMBER (3,4,5) |
|---------------------|---------------|----------------|-----------------------|-----------------------|-------------------|------------|-------|----------------------|
| | | | | | | LINE | LOAD | |
| 18.15 W | 3.0-5.5 Vin | 0.75-3.63 Vdc | 0 A | 5 A | 94% | ±1.0% | ±1.0% | SIL05E-05W3V3-VJ |

Part Number System with Options

SIL05E-05W3V3-VJ



Output Voltage Adjustment of the SIL05E-05W3V3 Series

The ultra-wide output voltage trim range offers major advantages to users who select the SIL05E-05W3V3. 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 SIL05E-05W3V3 converter leaves the factory the output has been adjusted to the default voltage of 0.75 V

- When $V_{in} \geq 4.5$ V, then V_{out} can be adjusted from 0.75 Vdc to 3.63 Vdc
- When $V_{in} < 4.5$ V, then V_{out} can be adjusted from 0.75 Vdc to 2.75 Vdc

Notes

- 1 The SIL05E 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 SIL05E:

| Configuration | Converter Operation |
|--|---------------------|
| Remote pin open circuit | Unit is ON |
| Remote pin pulled low | Unit is ON |
| Remote pin pulled high [$V_{on/off} > 2.5$ V] | Unit is OFF |

An '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. SIL05E-05W3V3-VRJ.

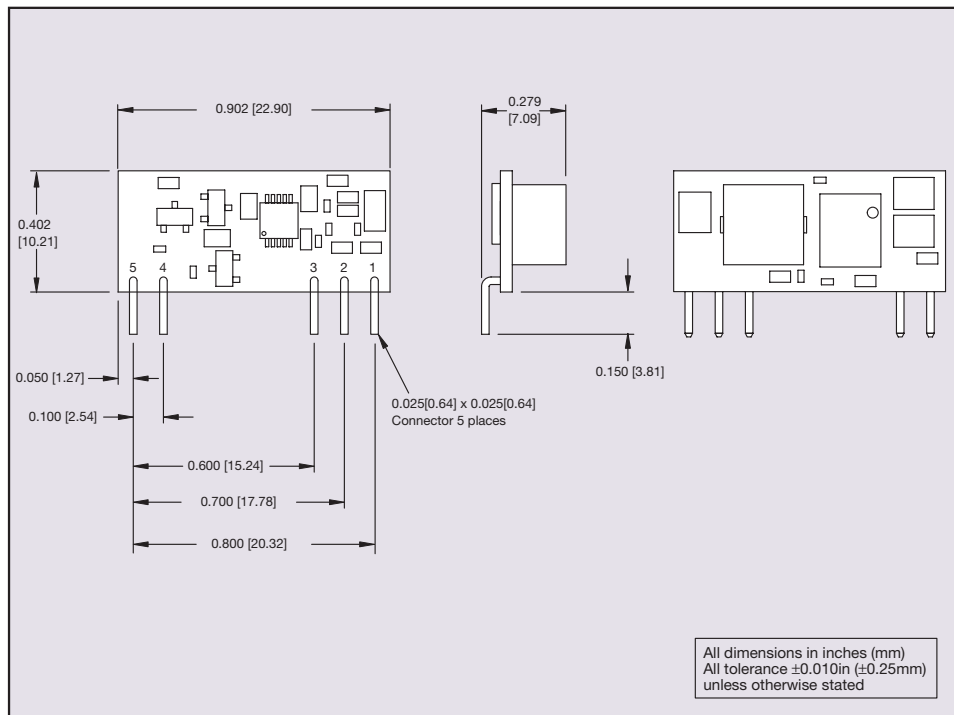
- 2 Full derating curves available in both the Longform Datasheet and Application Note.
- 3 For horizontal mounting option please consult factory for details.
- 4 TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
- 5 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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NEW Product



PIN CONNECTIONS

| PIN NUMBER | FUNCTION |
|------------|---------------|
| 1 | Vout |
| 2 | Trim |
| 3 | GND |
| 4 | Vin |
| 5 | Remote ON/OFF |

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Please consult our website for the following items: ✓ Application Note ✓ Longform Datasheet

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