

SIL05E Series

3 Vin to 5.5 Vin single output

DC-DC CONVERTERS

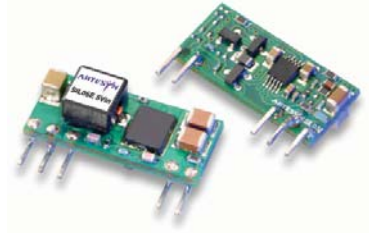
E Class Non-isolated

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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
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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

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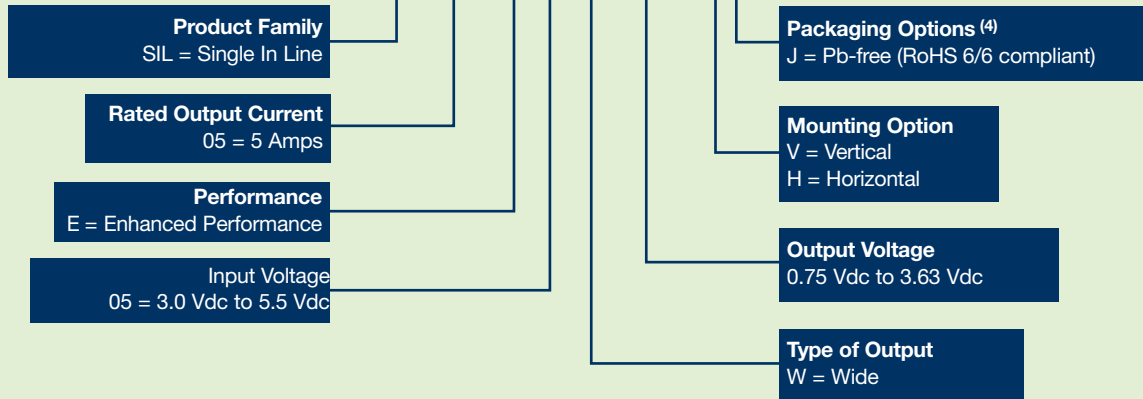
For the most current data and application support visit www.artesyn.com/powergroup/products.htm

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.

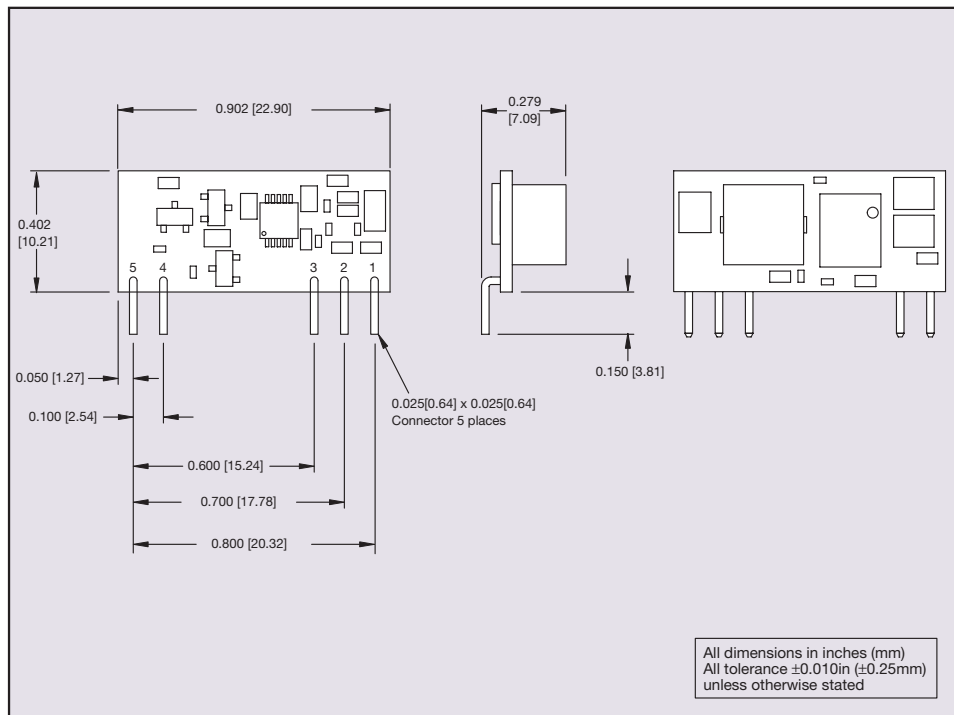
- 2 Full derating curves available in both the Longform Datasheet and Application Note.
- 3 For horizontal mounting option please consult factory for details.
- 4 TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.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