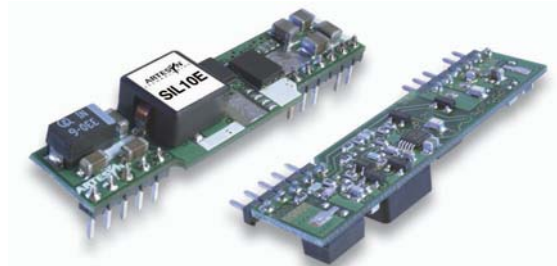


SIL10E Series

3.0-5.5Vin single output

NEW Product

- **10A Current rating**
- **Input voltage range: 3.0V - 5.5V**
- **Output voltage range: 0.8V - 3.63V**
- **Ultra high efficiency: 96% @ 5Vin and 3.3Vout**
- **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**



The SIL10E series are non-isolated DC/DC converters packaged in a single-in-line footprint giving designers a cost effective solution for conversion from either a 5V or a 3.3V source. The SIL10E offers a range of fixed outputs and one wide trim output unit at an industry leading 10A which allows maximum design flexibility and a pathway for future upgrades. The SIL10E 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 SIL10E offers compact size and efficiencies of up to 96%.

CULUS TÜV
2 YEAR WARRANTY

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

SPECIFICATIONS

OUTPUT SPECIFICATIONS

Voltage adjustability (See Note 1)	Fixed output versions	±10%
	5Vin with wide trim	0.8V to 3.63V
	3.3Vin with wide trim	0.8V to 2.75V
Setpoint accuracy		±0.4%
Line regulation		±0.2%
Load regulation		±1.0%
Minimum load		0A
Overshoot/undershoot		None
Ripple and noise 0 to 20MHz BW		50mV pk-pk 25mV rms max.
Temperature co-efficient		±0.01%/°C
Transient response	50mV max. deviation	
	50µs recovery to within ±1.0%	
Remote sense	10% Vo compensation	

INPUT SPECIFICATIONS

Input voltage range		3.0 to 5.5VDC
Input current	No load	70mA
Input current (max.)	8A max. @ Io max. and Vout = 3.3V	
Input current ripple		65mA rms
Remote ON/OFF		(See Note 2)
Start-up time		20ms

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	300kHz typ.
Approvals and standards		EN60950 UL/cUL60950
Material flammability		UL94V-0
Dimensions (vertical version)	(LxWxH)	50.8 x 7.8 x 12.7mm 2.0 x 0.31 x 0.5 inches
Pin length	(Vertical)	0.135 ±0.02 in (3.43 ±0.5mm)
Weight		5g (0.18oz)
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

International Safety Standard Approvals



UL/cUL CAN/CSA 22.2 No. E174104
UL60950 file No. E174104

TÜV Product Service (EN60950) Certificate No. B02 12 38572 035
CB report and certificate to IEC60950

SIL10E Series

3.0-5.5Vin single output

DC/DC CONVERTERS | E Class Non-isolated

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
						LINE	LOAD	
8.8W	3.0V - 5.5V	0.8V	0A	10A	83%	±0.2%	±1.5%	SIL10E-05S0V8-V
11W	3.0V - 5.5V	1.0V	0A	10A	86%	±0.2%	±1.5%	SIL10E-05S1V0-V
13.2W	3.0V - 5.5V	1.2V	0A	10A	88%	±0.2%	±1.0%	SIL10E-05S1V2-V ⁽⁴⁾
16.5W	3.0V - 5.5V	1.5V	0A	10A	90%	±0.2%	±1.0%	SIL10E-05S1V5-V
19.8W	3.0V - 5.5V	1.8V	0A	10A	92%	±0.2%	±1.0%	SIL10E-05S1V8-V
22W	3.0V - 5.5V	2.0V	0A	10A	93%	±0.2%	±1.0%	SIL10E-05S2V0-V
27.5W	3.0V - 5.5V	2.5V	0A	10A	94%	±0.2%	±1.0%	SIL10E-05S2V5-V ⁽⁴⁾
36.3W	4.5V - 5.5V	3.3V	0A	10A	95%	±0.2%	±1.0%	SIL10E-05S3V3-V
36.3W	4.5V - 5.5V	3.3V	0A	10A	95%	±0.2%	±1.0%	SIL10E-05W3V3-V

Part Number System with Options

SIL10E-05S3V3-V

Product Family
SIL = Single In Line

Rated Output Current
10 = 10Amps

Performance
E = Enhanced Performance

Input Voltage
05 = 3.0V - 5.5V
12 = 10V - 14V

Mounting Option
V = Vertical Mount
H = Horizontal Mount

Output Voltage
2.5V, 3.3V etc

Number of Outputs
S = Single
W = Wide

Output Voltage Adjustment of the SIL10E-05W3V3 Series

The ultra-wide output voltage trim range offers major advantages to users who select the SIL10E-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 0.8V to 3.63V. When the SIL10E-05W3V3 converter leaves the factory the output has been adjusted to the default voltage of 3.3V

- When $V_{in} \geq 4.5V$, then V_{out} can be adjusted from 0.8V to 3.6V
- When $V_{in} < 4.5V$, then V_{out} can be adjusted from 0.8V to 2.75V

Notes

- 1 When $V_{in} \geq 4.5V$, then V_{out} can be adjusted from 0.8V to 3.6V. When $V_{in} < 4.5V$, then V_{out} can be adjusted from 0.8V to 2.75V.
- 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 [$V_{on/off} > 1.2V$]

Converter Operation

Unit is ON
Unit is ON
Unit is OFF

A 'Positive Logic' Remote ON/OFF version is also possible with this converter. Please consult the factory for details.

Notes

- 3 Full de-rating curves available in both the Long Form Data Sheet 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-V02.

CAUTION: High internal temperatures. Ensure that unit is not user accessible.

SIL10E Series

3.0-5.5Vin single output

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

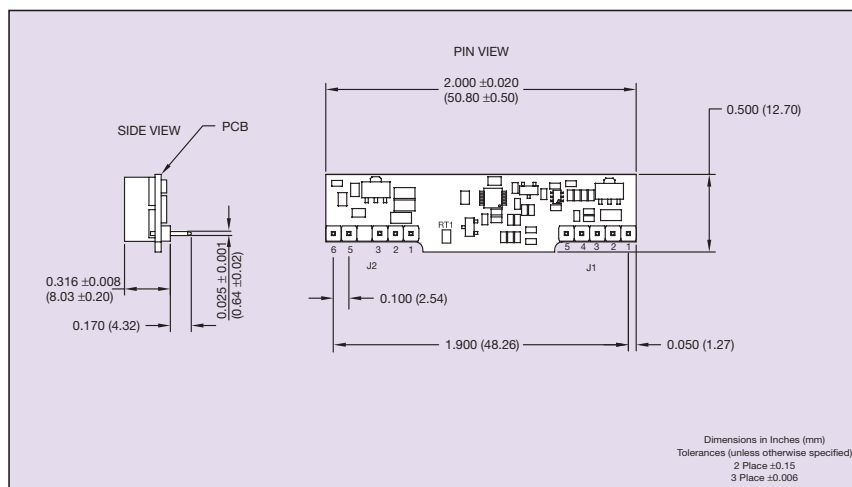


Figure 1: Mechanical Drawing - Horizontal Mount Version

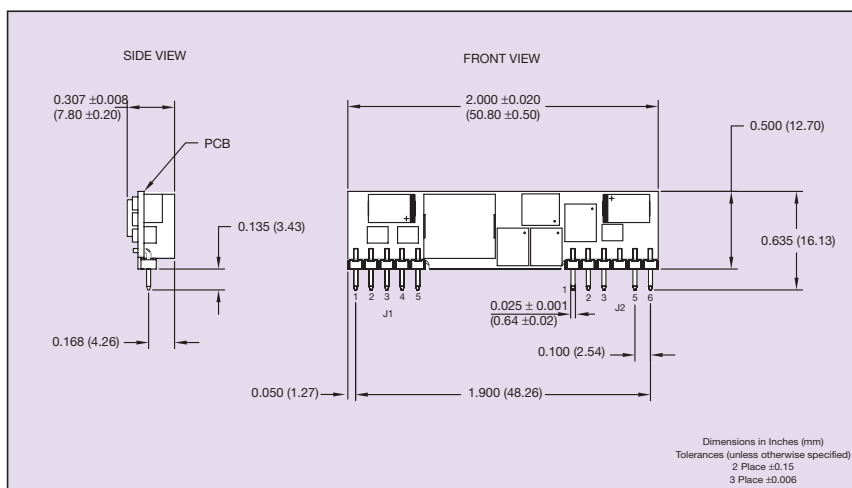


Figure 2: Mechanical Drawing - Vertical Mount Version