

SIL10E Series

12Vin single output

NEW Product

- **10A Current rating**
- **Input voltage range: 10V to 14V**
- **Output voltage range: 0.8V to 3.63V**
- **Ultra high efficiency: 94% @ 12Vin 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 a 12V 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 94%.



2 YEAR WARRANTY

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

SPECIFICATIONS

OUTPUT SPECIFICATIONS

Voltage adjustability	Fixed output version 12Vin with wide trim	±10% 0.8V to 3.63V
Setpoint accuracy		±0.4% typ.
Line regulation		±0.2% typ.
Load regulation		±1.0% max.
Temperature co-efficient		±0.01%/°C
Total error band		±3.0% typ.
Minimum load		0A
Overshoot/undershoot		None
Ripple and noise 0 to 20MHz bandwidth		80mV pk-pk 25mV rms max.
Transient response	100mV max. deviation 100µs recovery to within ±1.0%	
Remote sense	10% Vo compensation	

INPUT SPECIFICATIONS

Input voltage range		10 to 14VDC
Input current	No load	70mA
Input current (max.)		3.5A max. @ Io max. and Vout = 3.3V
Input ripple current		120mA
Remote ON/OFF		(See Note 1)
Start-up time		35mS

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	200kHz typ.
Approvals and standards		EN60950 UL/cUL60950
Material flammability		UL94V-0
Dimensions (Vertical model)	(LxWxH)	50.8 x 7.8 x 12.7mm 2.0 x 0.31 x 0.5 inches
Weight		5g (0.18oz)
MTBF	Telcordia 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
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PROTECTION

Short-circuit protection	Continuous
Thermal protection	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

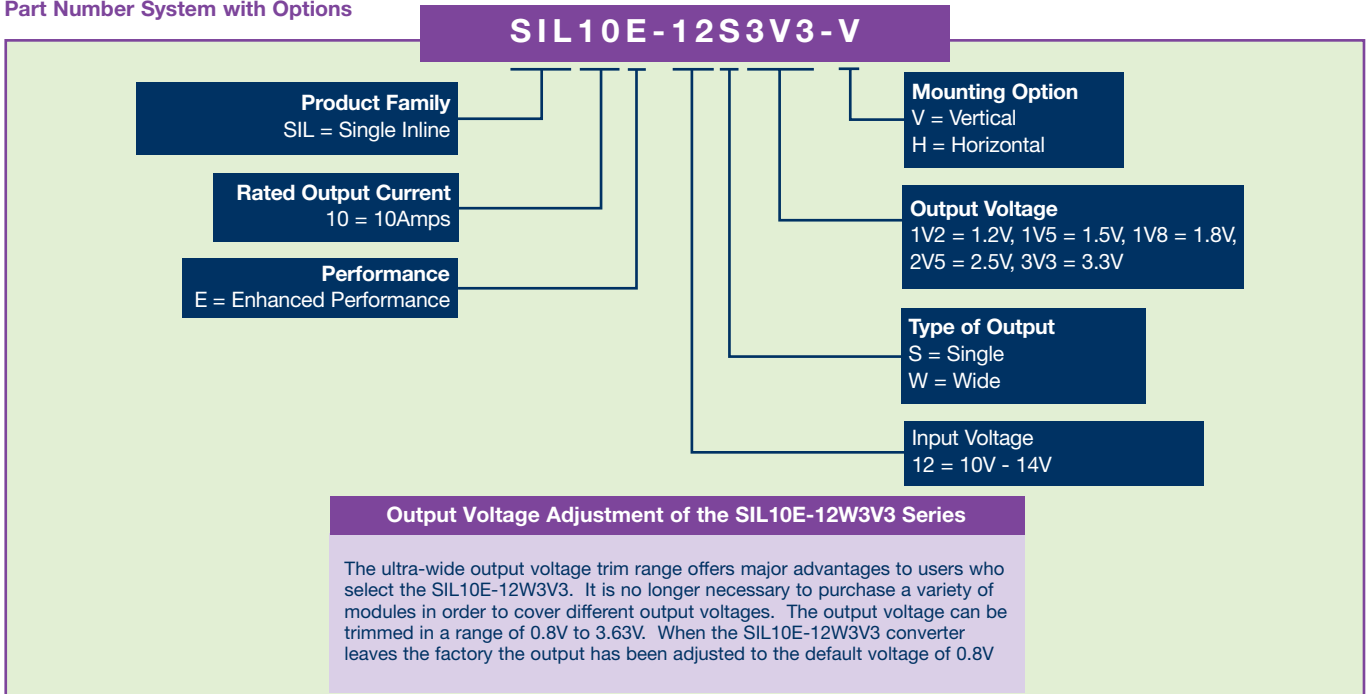
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NEW Product

OUTPUT POWER (MAX.)	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX.)	EFFICIENCY (TYP.)	REGULATION		MODEL NUMBER ⁽³⁾
						LINE	LOAD	
13.2W	10V - 14V	1.2V	0A	10A	84%	±0.2%	±1.0%	SIL10E-12S1V2-V
16.5W	10V - 14V	1.5V	0A	10A	86%	±0.2%	±1.0%	SIL10E-12S1V5-V
19.8W	10V - 14V	1.8V	0A	10A	88%	±0.2%	±1.0%	SIL10E-12S1V8-V
27.5W	10V - 14V	2.5V	0A	10A	91%	±0.2%	±1.0%	SIL10E-12S2V5-V
36.3W	10V - 14V	3.3V	0A	10A	94%	±0.2%	±1.0%	SIL10E-12S3V3-V
36.3W	10V - 14V	0.8V - 3.63V	0A	10A	94%	±0.2%	±1.0%	SIL10E-12W3V3-V

Part Number System with Options



Notes

- The SIL10E features an 'Active High' 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 SIL10E:

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

An 'Active Low' remote ON/OFF version is also possible with this converter. Please consult the factory for details.

- Full de-rating curves available in both the Long Form Data Sheet and Application Note.
- For Horizontal mounting option, please consult factory for details.

SIL10E Series

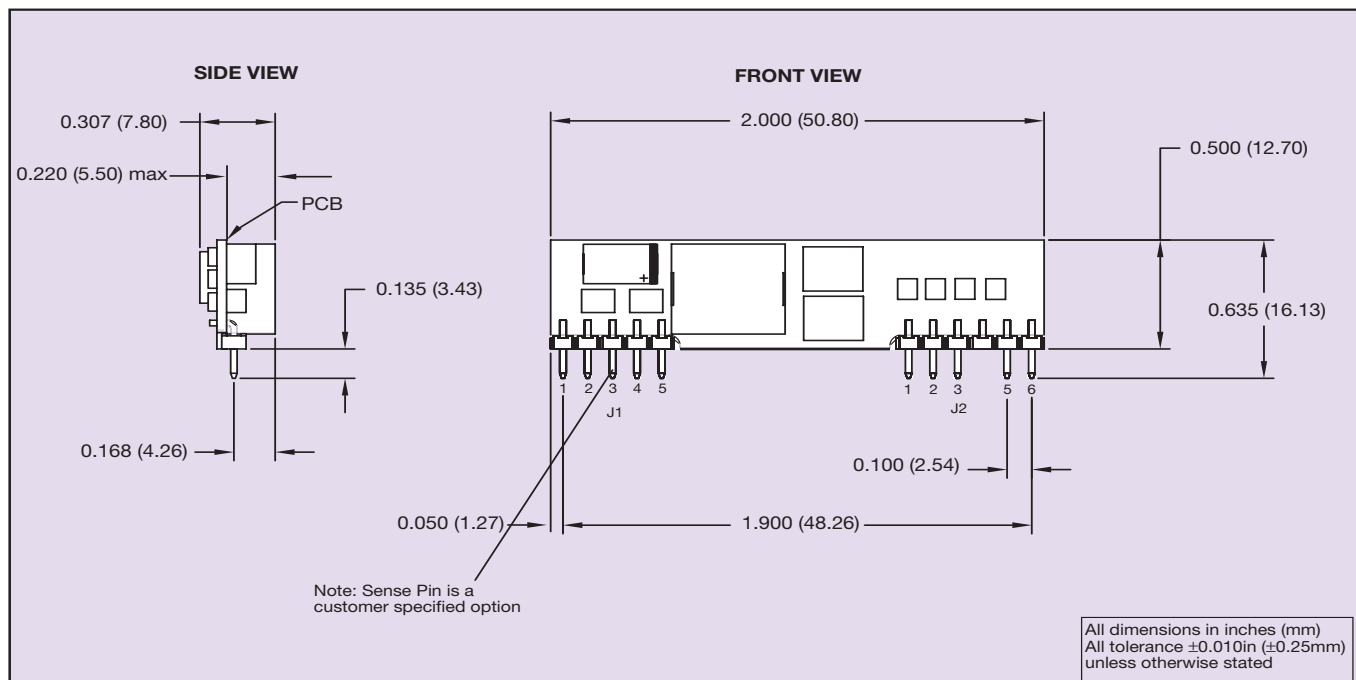
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DC/DC CONVERTERS | E Class Non-isolated

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NEW Product



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

*The sense function is customer specified option and comes as standard.
Please consult factory for details.

Data Sheet © Artesyn Technologies® 2003

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

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