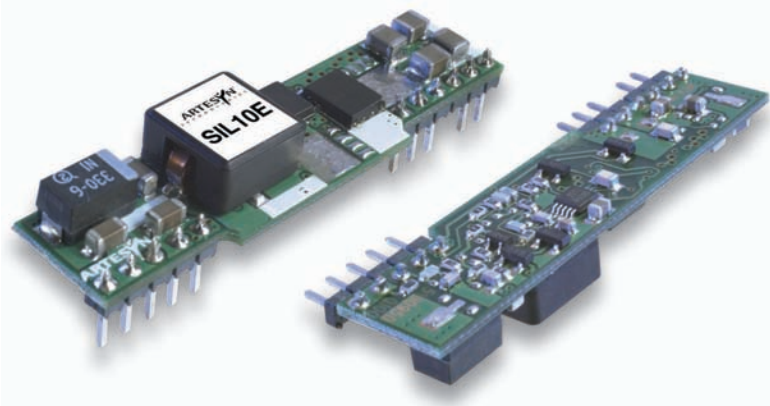


## SIL10E Series

### 3.0 Vin - 5.5 Vin

**Total Power:** 49.9 Watts  
**Input Voltage:** 3.0-5.5 Vdc  
**# of Outputs:** Single



## Special Features

- 10 A Current rating
- Input voltage range: 3 Vdc to 5.5 Vdc
- Output voltage range: 0.8 Vdc to 3.63 Vdc
- Ultra high efficiency: 96% @ 5 Vin and 3.3 Vout
- Extremely low internal power dissipation
- Minimal thermal design concerns
- Designed in reliability: MTBF of 7,000,000 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
- 2 year warranty

## Safety

- UL/cUL CAN/CSA 22.2 No. 60950-1-03/UL 60950-1, File No. E186249
- TÜV Product Service (EN60950) Certificate No. B 08 05 51485 378
- CB report and certificate to IEC60950, Certificate No. DE3-51686M1

## Electrical Specifications

Input		
Input voltage range:		3.0-5.5 Vdc
Input current:	No load	70 mA
Input current (max.):		8 A max. @ Io max. and Vout = 3.3 V
Input reflected ripple:		65 mA rms
Remote ON/OFF:		(See Note 2)
Start-up time:		20 ms
Output		
Voltage adjustability: (See Note 1)	Fixed output versions 5 Vin with wide trim 3.3 Vin with wide trim	±10% 0.8 - 3.63 Vdc 0.8 - 2.75 Vdc
Setpoint accuracy:		±0.4% typ.
Line regulation:		±0.2% typ.
Load regulation:		±1.0% typ.
Minimum load:		0 A
Overshoot/Undershoot:		None
Ripple and noise:		50 mV pk-pk 25 mV rms max.
Temperature co-efficient:		±0.01%/°C
Transient response:		50 mV max. deviation 50µs recovery to within ±1.0%
Remote sense:		10% Vo compensation

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



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

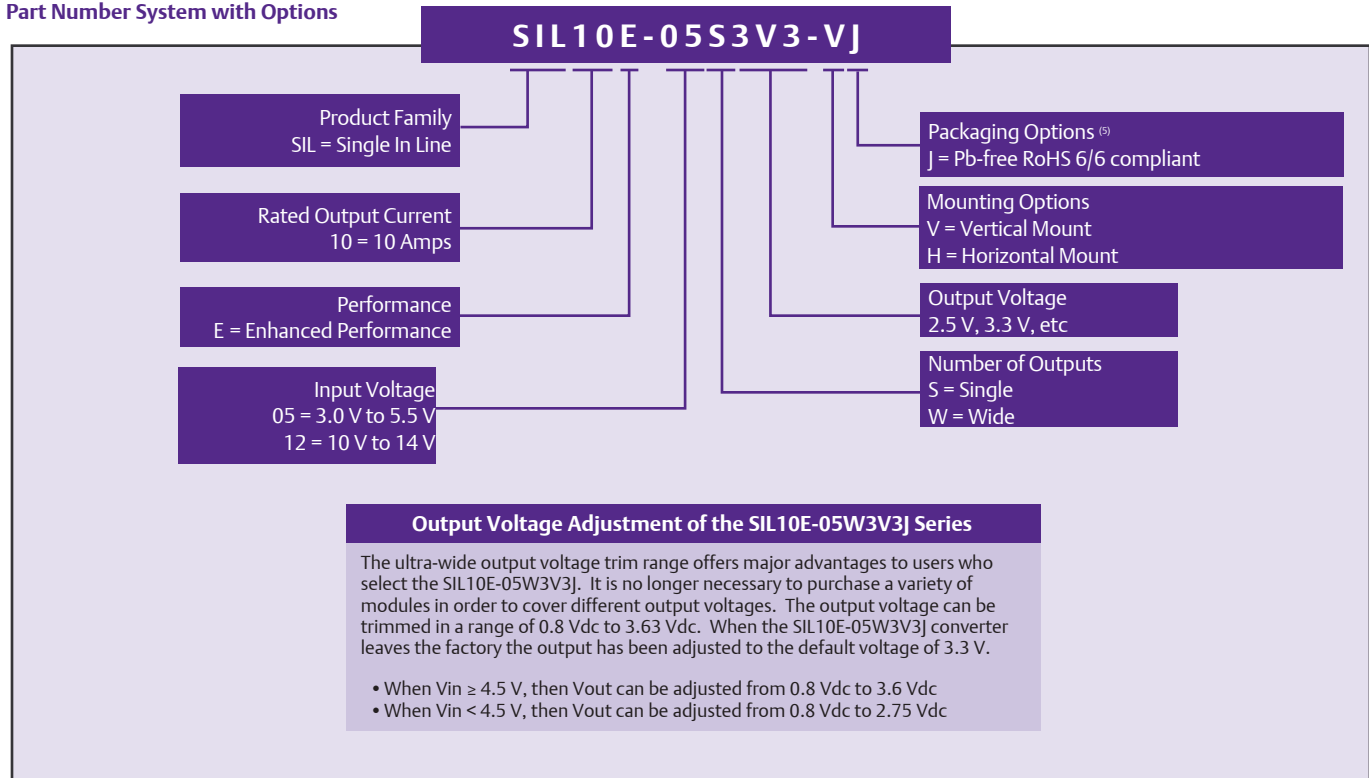
Short circuit:	Continuous
Thermal:	Automatic recovery

# Ordering Information

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

Ordering Information								
Output Power (Max.)	Input Voltage	Output Voltage	Output Currents		Efficiency (typ.)	Regulation		Model Numbers <sup>(4, 5, 6)</sup>
			Min	Max		Line	Load	
8.8 W	3.0 - 5.5 Vdc	0.8 V	0 A	10 A	83%	±0.2%	±1.5%	SIL10E-05S0V8-VJ (EOL)
11 W	3.0 - 5.5 Vdc	1 V	0 A	10 A	86%	±0.2%	±1.5%	SIL10E-05S1V0-VJ (EOL)
13.2 W	3.0 - 5.5 Vdc	1.2 V	0 A	10 A	88%	±0.2%	±1.0%	SIL10E-05S1V2-VJ (EOL)
16.5 W	3.0 - 5.5 Vdc	1.5 V	0 A	10 A	90%	±0.2%	±1.0%	SIL10E-05S1V5-VJ (EOL)
19.8 W	3.0 - 5.5 Vdc	1.8 V	0 A	10 A	92%	±0.2%	±1.0%	SIL10E-05S1V8-VJ (EOL)
22 W	3.0 - 5.5 Vdc	2 V	0 A	10 A	93%	±0.2%	±1.0%	SIL10E-05S2V0-VJ (EOL)
27.5 W	3.0 - 5.5 Vdc	2.5 V	0 A	10 A	94%	±0.2%	±1.0%	SIL10E-05S2V5-VJ (EOL)
36.3 W	4.5 - 5.5 Vdc	3.3 V	0 A	10 A	95%	±0.2%	±1.0%	SIL10E-05S3V3-VJ (EOL)
36.3 W	4.5 - 5.5 Vdc	0.8 - 3.63 V	0 A	10 A	95%	±0.2%	±1.0%	SIL10E-05W3V3-VJ

## Part Number System with Options



## Notes

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

### Converter Operation

Unit is ON  
Unit is ON  
Unit is OFF

## Notes Continued

- 3 Full derating curves available in both the Longform Datasheet and Application Note 136.
- 4 For certain applications that use low ESR capacitors on the output of the convertor and to insure maximum converter stability, please add the suffix '02' to the model, e.g. SIL10E-05S2V5-V02J.
- 5 TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
- 6 NOTICE: Some models do not support all options. Please contact your local Emerson Network Power representative or use the on-line model number search tool at <http://www.PowerConversion.com> to find a suitable alternative.

# Mechanical Drawings

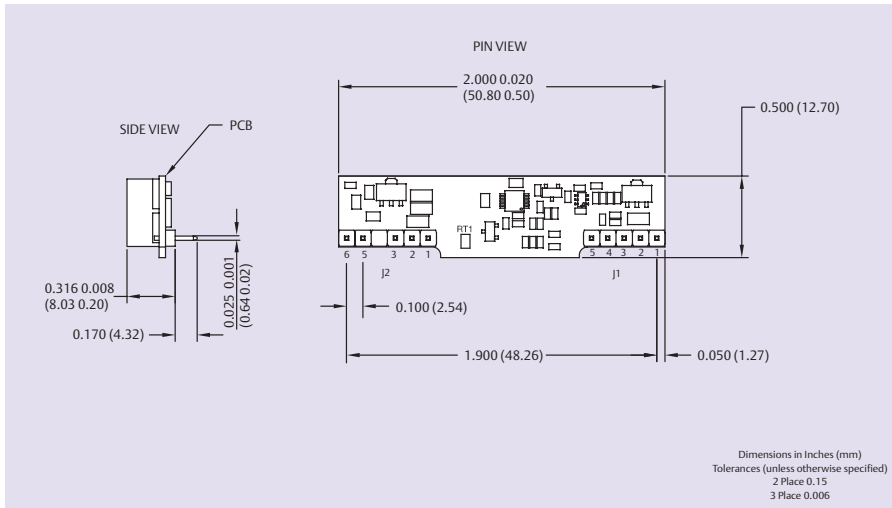


Figure 1: Horizontal Mount Version

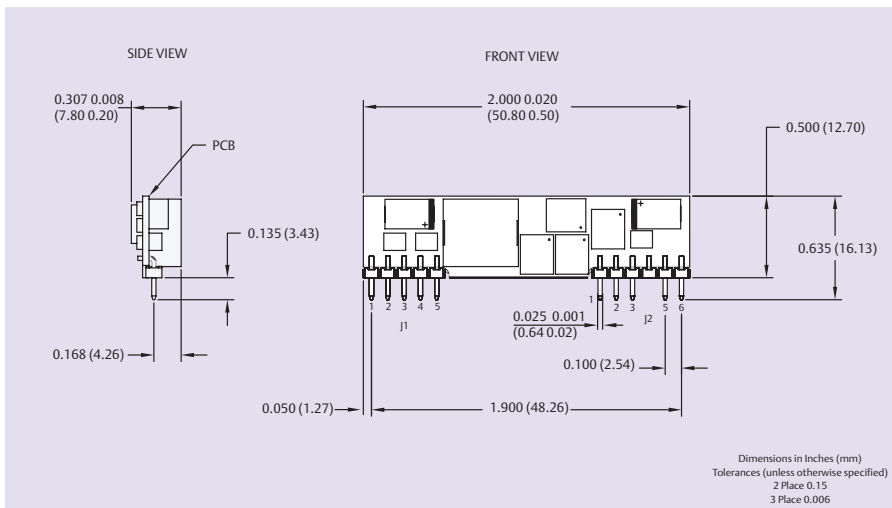


Figure 2: Vertical Mount Version

Input Pin Connections	
J1	
Pin 1	+Vout
Pin 2	+Vout
Pin 3	Remote Sense (+)
Pin 4	+Vout
Pin 5	Ground

Input Pin Connections	
J2	
Pin 1	Ground
Pin 2	+Vin
Pin 3	+Vin
Pin 4	No Pin
Pin 5	Trim
Pin 6	Remote ON/OFF

## Americas

5810 Van Allen Way  
Carlsbad, CA 92008  
USA  
Telephone: +1 760 930 4600  
Facsimile: +1 760 930 0698

## Europe (UK)

Waterfront Business Park  
Merry Hill, Dudley  
West Midlands, DY5 1LX  
United Kingdom  
Telephone: +44 (0) 1384 842 211  
Facsimile: +44 (0) 1384 843 355

## Asia (HK)

14/F, Lu Plaza  
2 Wing Yip Street  
Kwun Tong, Kowloon  
Hong Kong  
Telephone: +852 2176 3333  
Facsimile: +852 2176 3888

For global contact, visit:

[www.PowerConversion.com](http://www.PowerConversion.com)  
[techsupport.embeddedpower@emerson.com](mailto:techsupport.embeddedpower@emerson.com)

While every precaution has been taken to ensure accuracy and completeness in this literature, Emerson Network Power assumes no responsibility, and disclaims all liability for damages resulting from use of this information or for any errors or omissions.

**Emerson Network Power.**  
The global leader in enabling business-critical continuity.

- AC Power
- Connectivity
- DC Power
- Embedded Computing
- Embedded Power
- Monitoring
- Outside Plant
- Power Switching & Controls
- Precision Cooling
- Racks & Integrated Cabinets
- Services
- Surge Protection

**EmersonNetworkPower.com**

Emerson Network Power and the Emerson Network Power logo are trademarks and service marks of Emerson Electric Co.  
©2008 Emerson Electric Co.