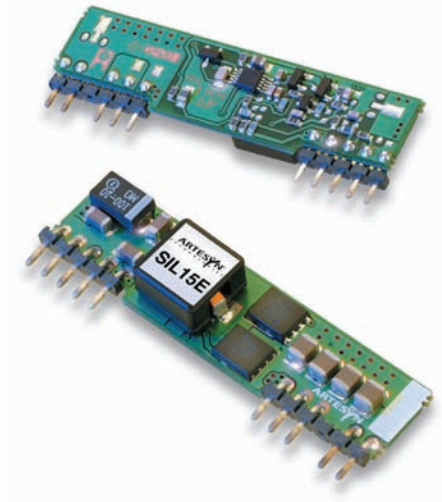


## SIL15E Series

### 3.0 Vin to 5.5 Vin Single Output

**Total Power:** 54.5W  
**Input Voltage:** 5.5VDC  
**# of Outputs:** Single



### Special Features

- 15 A current rating
- Input voltage range: 3.0 Vdc to 5.5 Vdc
- Output voltage range: 0.8 Vdc to 3.63 Vdc
- Ultra high efficiency: 95% @ 5 Vin and 3.3 Vout
- 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
- Available RoHS compliant
- 2 year warranty

### Safety

- UL/cUL : CAN/CSA 22.2 No. E174104
- UL 60950 File No. E174104
- TÜV Product Service (EN60950) Certificate No. B 03 10 38572
- CB report and certificate to DE3-51686M1

## Electrical Specifications

### Output

Voltage adjustability:	± 10.0% 0.8-3.63 Vdc	Fixed output version Wide trim version
Setpoint accuracy	± 0.4%	
Line regulation:	± 0.2%	
Load regulation:	± 1.0%	
Minimum load:	0 A	
Overshoot/undershoot:	None	
Ripple and noise: (0-20 MHz BW)	60 mV pk-pk 25 mV rms max.	
Temperature coefficient:	± 0.01%/ °C	
Transient response:	60 mV max. deviation 50 µs recovery to within ± 1.0%	
Short circuit protection:	Continuous	
Thermal protection:	Automatic recovery	

### Input

Input voltage range:	3.0-5.5 Vdc	
Input current:	70 mA typ.	No load
Input current (max):	11.8 A max. @ Io max. and Vout = 3.63 V	
Input current ripple:	110 mA rms	
Remote ON/OFF:	(See Note 2)	
Start-up time:	20 ms	



## Specifications

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: (see note 13)	EN60950 UL/cUL60950	
Material flammability:	UL94V-0	
Dimensions:	(LxWxH)	50.8 x 7.8 x 12.7mm 2.0 x 0.31 x 0.5 inches
Pin length:	0.135 ± 0.02 in (3.43 ± 0.5 mm)	
Weight:	5 g (0.18 oz)	
MTBF (see note 9):	Telecordia SR-332 MIL-HDBK-217F	7,042,000 hours 680,000 hours

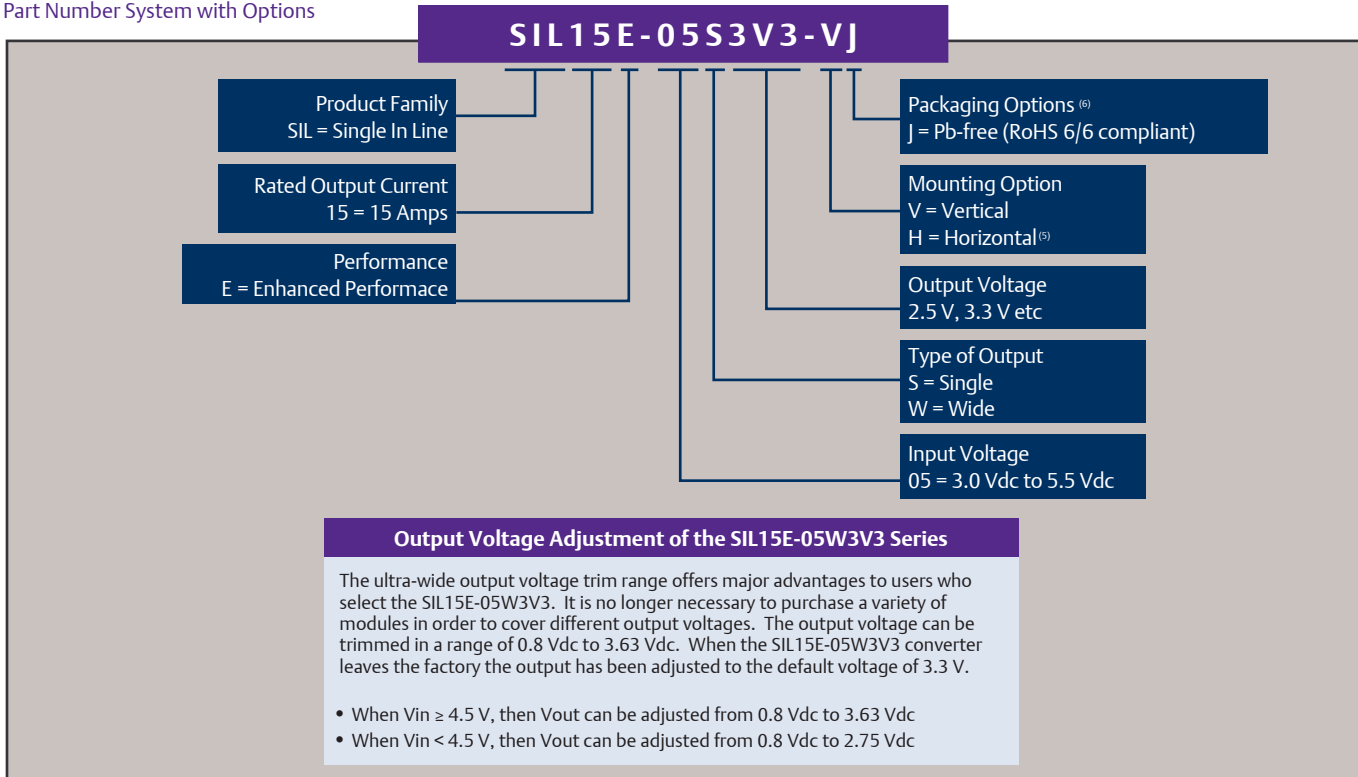
## Environmental Specifications

Thermal performance:	Operating ambient	-40° C to +100 °C
(See Note 3)	Non-operating	-40 °C to +1255 °C

## Ordering Information

Output Power (Max.)	Input Voltage	Output Voltage	Output Currents		Efficiency (Typ.)	Regulation		Model Numbers <sup>(2, 5, 6, 7)</sup>
			Min	Max		Line	Load	
29.7 W	3.0 - 5.5 Vdc	1.8 V	0 A	15 A	89%	±0.2%	±1.0%	SIL15E-05S1V8-VJ (EOL)
41.2 W	3.0 - 5.5 Vdc	2.5 V	0 A	15 A	92%	±0.2%	±1.0%	SIL15E-05S2V5-VJ (EOL)
54.5 W	4.5 - 5.5 Vdc	3.3 V	0 A	15 A	94%	±0.2%	±1.0%	SIL15E-05S3V3-VJ (EOL)
54.5 W	3.0 - 5.5 Vdc	0.8 - 3.63 Vdc	0 A	15 A	94% <sup>(4)</sup>	±0.2%	±1.0%	SIL15E-05W3V3-VJ

## Part Number System with Options



## Notes

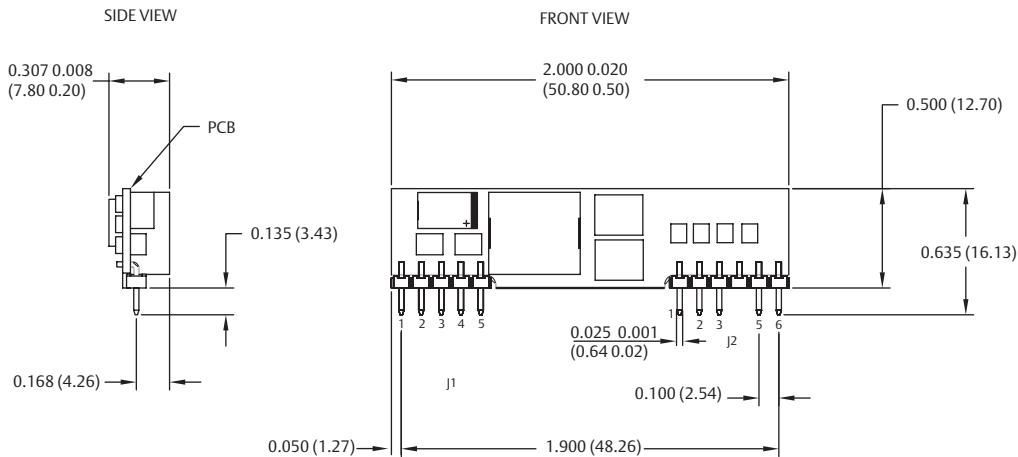
- 1 When  $V_{in} \geq 4.5$  V, then  $V_{out}$  can be adjusted from 0.8 Vdc to 3.63 Vdc. When  $V_{in} < 4.5$  V, then  $V_{out}$  can be adjusted from 0.8 Vdc to 2.75 Vdc.
- 2 The SIL15E 5 V features a 'Negative Logic' Remote ON/OFF operation. If not using the Remote ON/OFF pin, leave the pin open (the converter will be on). The Remote ON/OFF pin is referenced to ground.

The following conditions apply for the SIL15E:

Configuration	Converter Operation
Remote pin open circuit	Unit is ON
Remote pin pulled low	Unit is ON
Remote pin pulled high [ $V_{on/off} > 1.2$ V]	Unit is OFF

A '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. SIL15E-05W3V3-VRJ.

- 3 Full derating curves available in both the Longform Datasheet and Application Note 134.
- 4 When the unit is trimmed down to 0.8 V, the efficiency is 82%.
- 5 For horizontal mounting option please consult factory for details.
- 6 TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
- 7 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.



Dimensions in Inches (mm)  
Tolerances (unless otherwise specified)  
2 Place 0.15  
3 Place 0.006

### Pin Connections

#### J1

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

#### 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.