

SIL15E Series

3.0 Vin to 5.5 Vin Single Output

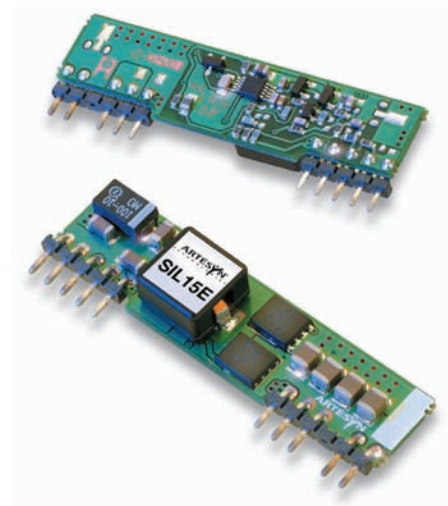
Total Power: 54.5W
Input Voltage: 5.5VDC
of Outputs: Single

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



Rev.12.11.08_97
SIL15E Series
1 of 5



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:	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

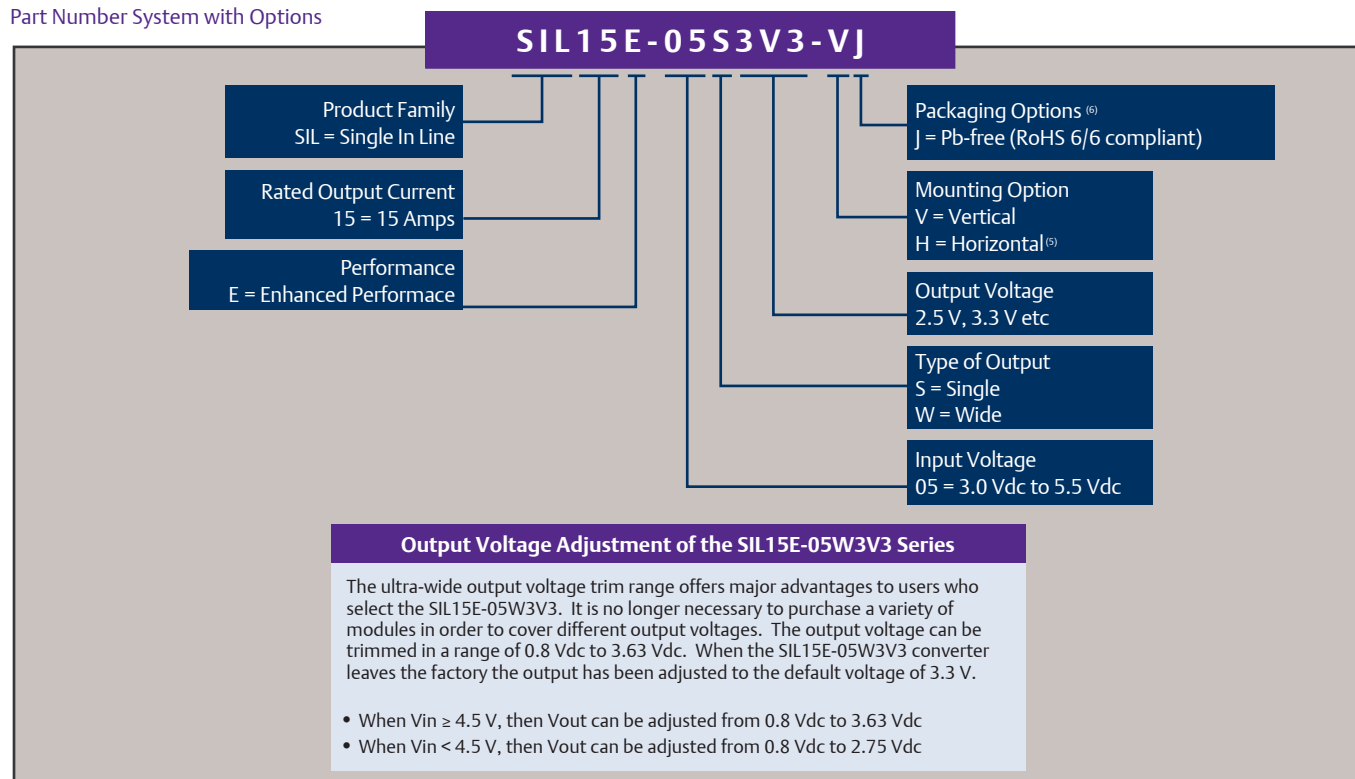
Environmental Specifications

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 ^(2, 5, 6, 7)
			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% ⁽⁴⁾	±0.2%	±1.0%	SIL15E-05W3V3-VJ

Part Number System with Options



Notes

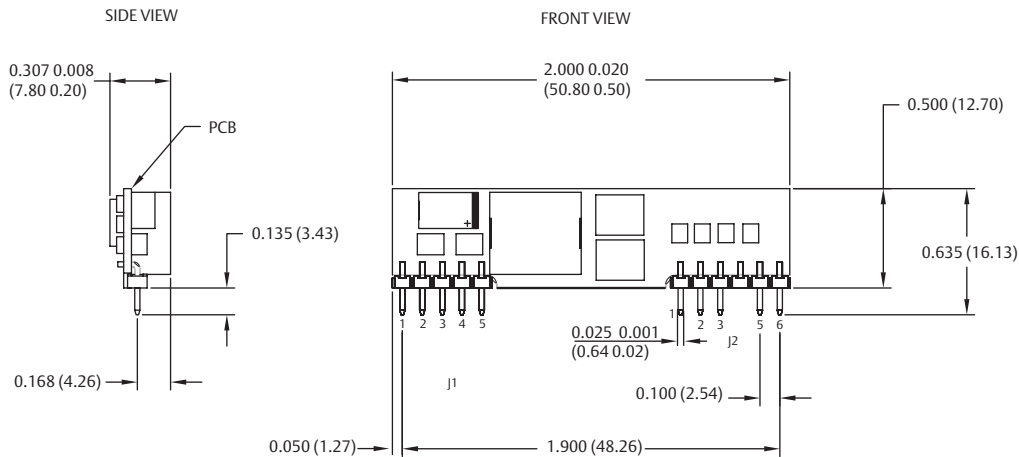
- 1 When $V_{in} \geq 4.5$ V, then V_{out} can be adjusted from 0.8 Vdc to 3.63 Vdc. When $V_{in} < 4.5$ V, then V_{out} can be adjusted from 0.8 Vdc to 2.75 Vdc.
- 2 The SIL15E 5 V features a 'Negative Logic' Remote ON/OFF operation. If not using the Remote ON/OFF pin, leave the pin open (the converter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

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