

# SIL25C Series

12 Vin single negative output



NEW Product



DC-DC CONVERTERS | C Class Non-isolated

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- **25 A current rating**
- **Input voltage range: 10.2 Vdc to 13.8 Vdc**
- **nominal output voltage: -5.05 Vdc**
- **Industry leading value**
  - Cost optimized design
- **Excellent transient response**
- **Output Voltage adjustability**
  - Supports silicon voltage migration
  - Resulting in reduced design-in and qualification time
- **Designed in reliability: MTBF of 3 million hours per Telcordia SR-332**
- **Available RoHS compliant**



The SIL25C Series is a new high density non-isolated dc-dc converter. The converter has a wide input range (10.2 Vdc to 13.8 Vdc) and offers a -4.5 Vdc to -5.5 Vdc output voltage range with a 25 A load. The series offers remote ON/OFF, overtemperature protection and overcurrent protection as standard. The remote sense feature enables the SIL25C compensate for voltage drops between the converters output and the load. With full international safety approvals including EN60950 and UL/cUL60950 the SIL25C reduces compliance costs and time to market.



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

## SPECIFICATIONS

### OUTPUT SPECIFICATIONS

Voltage adjustability	(See Note 1)	-4.5 Vdc to -5.5 Vdc
Output setpoint accuracy	Using 1.0% trim resistors	±3.0%
Line regulation	Low line to high line	±1.0% max.
Load regulation	Full load to min. load	±1.0% max.
Min./max. load		0 A/25 A
Ripple and noise	(See Note 2)	100 mV pk-pk 5 Hz to 20 MHz 50 mV rms
Transient response	Deviation	75 mV typ. (See Note 3) 150 μs recovery to within regulation band

### INPUT SPECIFICATIONS

Input voltage range	Nominal 12 V	10.2-13.8 +Vdc
Input current	No load Remote OFF	400 mA 30 mA
Input current (max.)	(See Note 4)	14.2 A max. @ Io max. and Vin = 10.8 V
Input reflected ripple	(See Note 2)	300 mA (pk-pk)
Remote ON/OFF Logic compatibility		Logic high ON >2.4 Vdc OFF <1.2 Vdc
Start-up time	Power up Remote ON/OFF	<10 ms <10 ms (See Note 5)

### INPUT SPECIFICATIONS (CONTD.)

Turn ON threshold	10 Vdc
Turn OFF threshold	9.5 Vdc

### GENERAL SPECIFICATIONS

Efficiency	90%
Switching frequency	Fixed (2 phase) 250 kHz typ. per phase
Approvals and standards (pending)	(See Note 7) TÜV Product Services IEC60950, UL/cUL60950
Material flammability	UL94V-0
Weight	28.3 g (1 oz)
MTBF	Telcordia SR-332 3,000,000 hours

### ENVIRONMENTAL SPECIFICATIONS

Thermal performance	Operating ambient, temperature	-40 °C to +80 °C
(See Note 8)	Non-operating	-40 °C to +125 °C

### PROTECTION

Short-circuit	Hiccup, non-latching
Over-temperature	Hiccup, non-latching

### RECOMMENDED SYSTEM CAPACITANCE

Input capacitance	(See Note 9)	3 x 270 μF
Output capacitance	(See Note 9)	3 x 680 μF

### International Safety Standard Approvals (pending)



UL/cUL CAN/CSA 22.2 No. TBD  
UL60950 File No. TBD



TÜV Product Service (EN60950) Certificate No. TBD  
CB report and certificate to TBD



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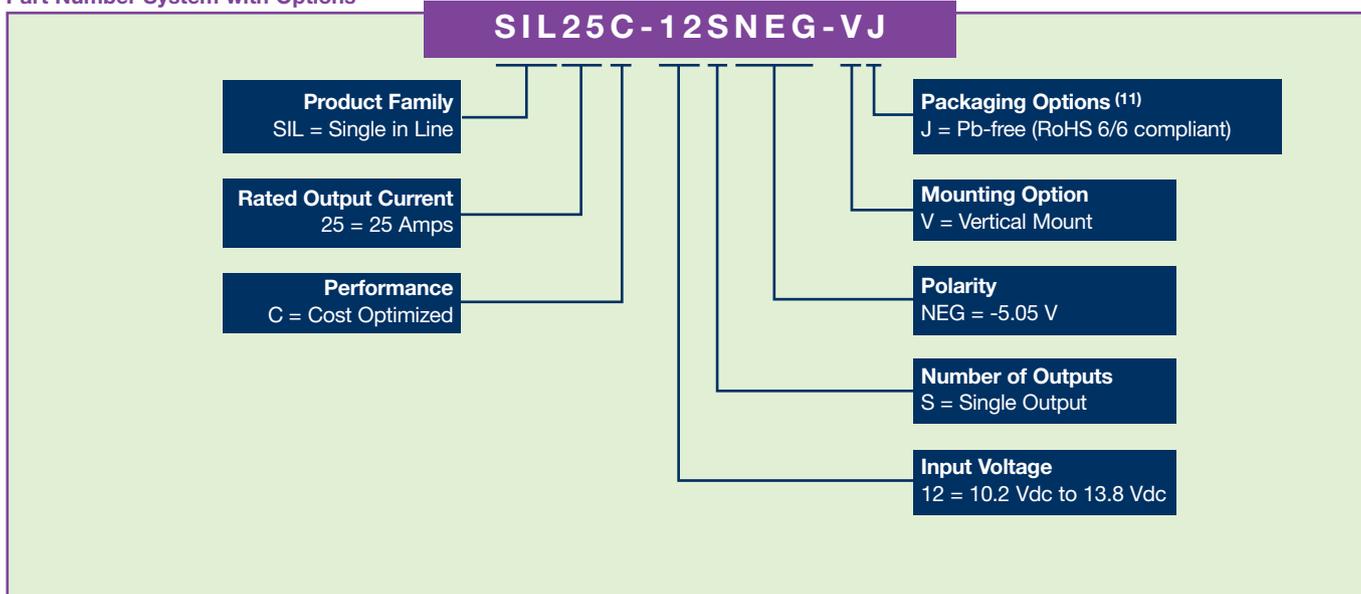
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For the most current data and application support visit [www.artesyn.com/powergroup/products.htm](http://www.artesyn.com/powergroup/products.htm)

**NEW Product**

OUTPUT POWER (MAX.)	INPUT VOLTAGE	OVP	OUTPUT VOLTAGE <sup>(10)</sup>	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX.)	EFFICIENCY (TYP.)	REGULATION		MODEL NUMBER <sup>(11,12)</sup>
							LINE	LOAD	
125 W	10.2-13.8 Vdc	N/A	-5.05 V	0 A	25 A	90%	±1.0%	±1.0%	SIL25C-12SNEG-VJ

## Part Number System with Options



## Notes

- 1 Uses external resistor. See Application Note 148 for details.
- 2 Measured with external filter. See Application Note 148 for details.
- 3  $di/dt = 1 \text{ A}/\mu\text{s}$ ,  $V_{in} = \text{Nom}$ ,  $T_c = 25 \text{ }^\circ\text{C}$ , load change =  $0.5 I_o$  max to  $0.75 I_o$  max and  $0.75 I_o$  max to  $0.5 I_o$  max.
- 4 External input fusing is recommended.
- 5 Power up is the time from application of dc input to POWER GOOD high. Remote ON/OFF asserted high to POWER GOOD high.
- 6 Signal line assumed  $<3 \text{ m}$ .
- 7 This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
- 8 See Application Note 148 for operation above  $50^\circ\text{C}$ .
- 9 See Application Note 148 for ripple current requirements.
- 10 Output can be adjusted from  $-4.5 \text{ Vdc}$  to  $-5.5 \text{ Vdc}$ .
- 11 TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
- 12 NOTICE: Some models do not support all options. Please contact your local Artesyn representative or use the on-line model number search tool at <http://www.artesyn.com/powergroup/products.htm> to find a suitable alternative.

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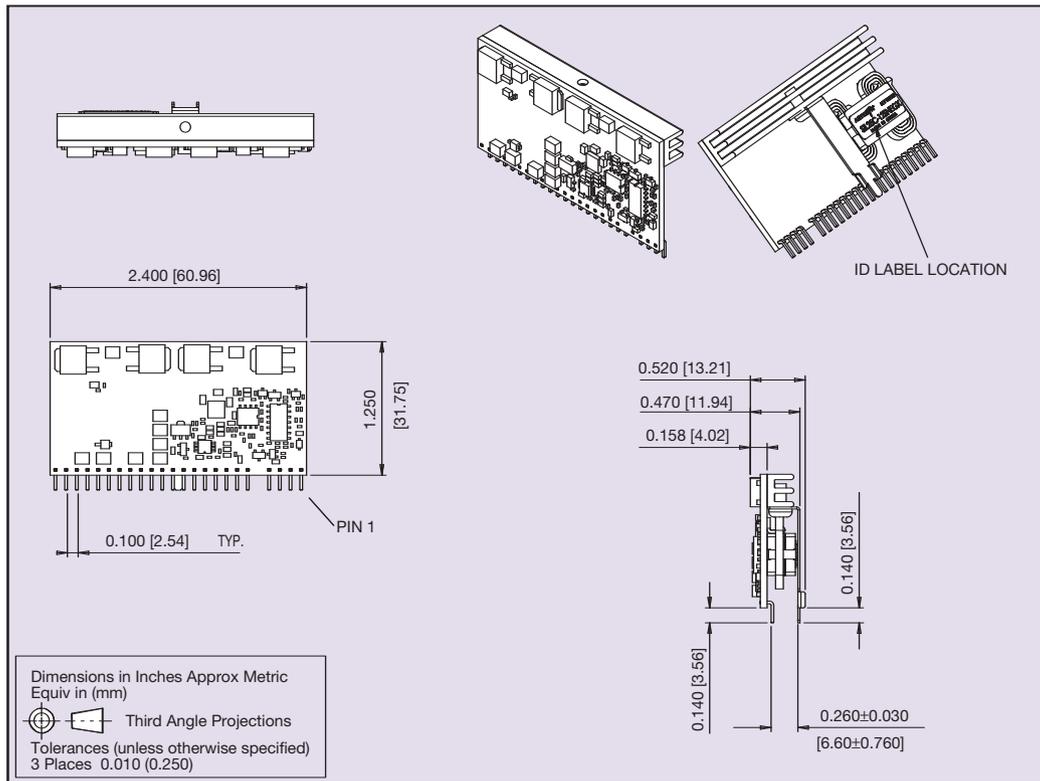
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PIN CONNECTIONS			
PIN NO.	FUNCTION	PIN NO.	FUNCTION
1	TRIM	13	Vin
2	Not Connected	14	Vin
3	Ground	15	Vout
4	Power Good	16	Vout
5	No Pin	17	Ground
6	Not Connected	18	Vout
7	Ground	19	Ground
8	Ground	20	Vout
9	Remote ON/OFF	21	Ground
10	Remote Sense (GND)	22	Vout
11	Remote Sense (V <sub>o</sub> )	23	Ground
12	Vin	24	Vout

**Mechanical Drawing and Pinout Table**