

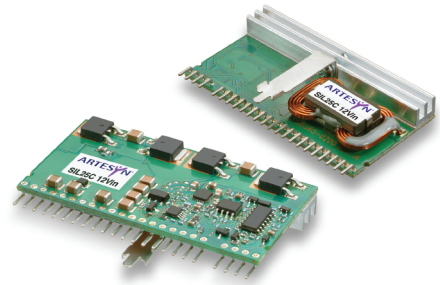
SIL25C Series

12 Vin single negative output

NEW Product



- **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 |

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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DC-DC CONVERTERS

C Class Non-isolated

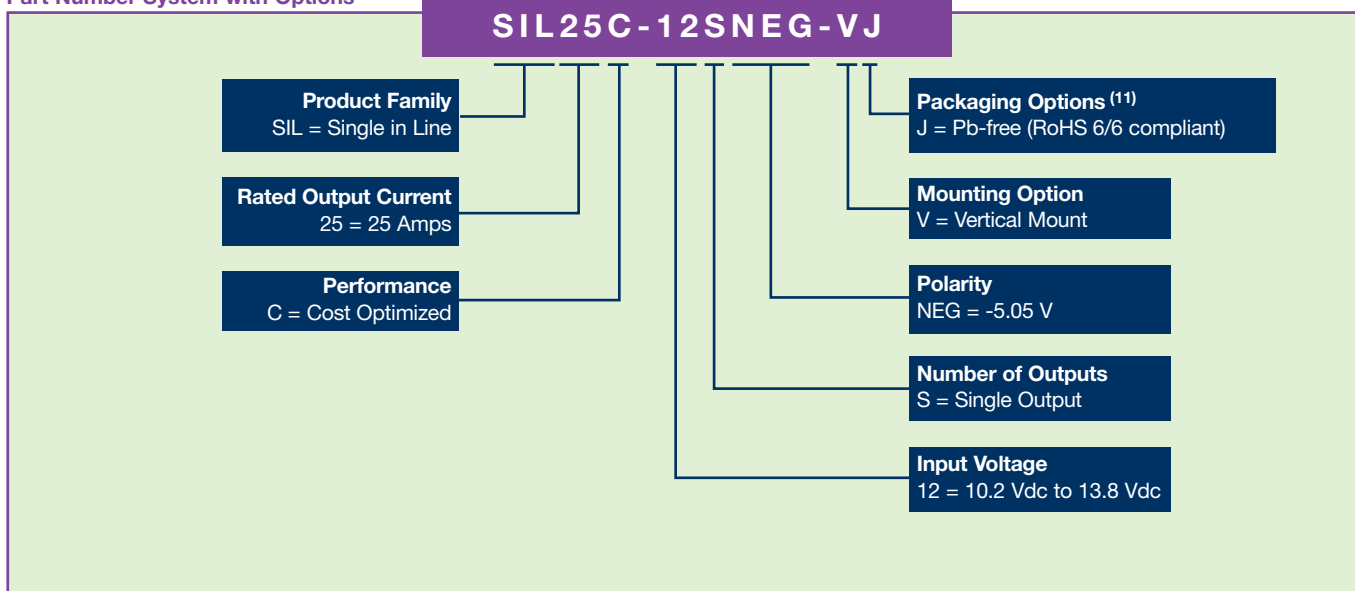
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For the most current data and application support visit www.artesyn.com/powergroup/products.htm

NEW Product

| OUTPUT POWER (MAX.) | INPUT VOLTAGE | OVP | OUTPUT VOLTAGE ⁽¹⁰⁾ | OUTPUT CURRENT (MIN.) | OUTPUT CURRENT (MAX.) | EFFICIENCY (TYP.) | REGULATION | | MODEL NUMBER ^(11,12) |
|---------------------|---------------|-----|--------------------------------|-----------------------|-----------------------|-------------------|------------|-------|---------------------------------|
| | | | | | | | 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

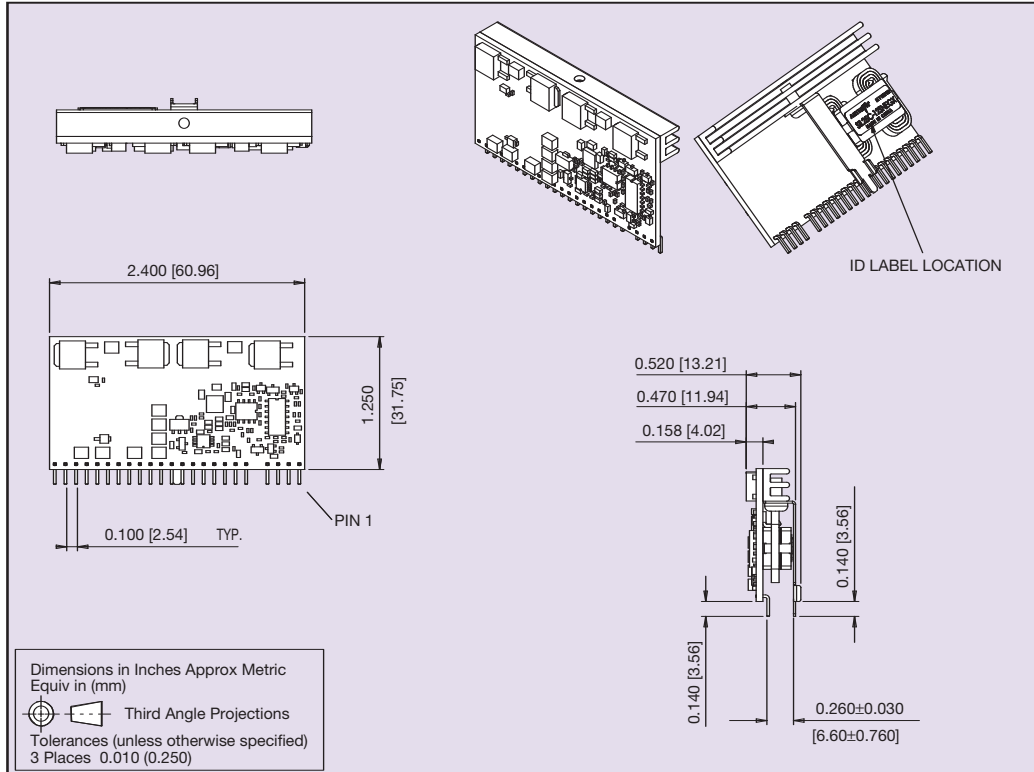


Notes

- 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 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°C.
- 9 See Application Note 148 for ripple current requirements.
- 10 Output can be adjusted from -4.5 Vdc to -5.5 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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| 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 _o) | 23 | Ground |
| 12 | Vin | 24 | Vout |

Mechanical Drawing and Pinout Table

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

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