# SIL25C Series

### 12 Vin single negative output



**NEW Product** 

#### DC-DC CONVERTERS C Class Non-isolated

- 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.



SPECIFICATIONS

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

OUTPUT SPECIFICATIO	NS		
Voltage adjustability	(See Note 1)	-4.5 V	/dc 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 5 Hz to 20 MHz	(See Note 2)		100 mV pk-pk 50 mV rms
Transient response (See Note 3)	Deviation		75 mV typ. μs recovery to egulation 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. @ lo max. and Vin = 10.8 V
Input reflected ripple	(See Note 2)	300 mA (pk-pk)
Remote ON/OFF Logic compatibility ON OFF		Logic high >2.4 Vdc <1.2 Vdc
Start-up time (See Note 5)	Power up Remote ON/OFF	<10 ms <10 ms

INPUT SPECIFICATIONS	(CONTD.)	
Turn ON threshold Turn OFF threshold		10 Vdc 9.5 Vdc
GENERAL SPECIFICATIO	NS	
Efficiency		90%
Switching frequency	Fixed (2 phase)	250 kHz typ. per phase
Approvals and standards (pending)	(See Note 7)	TÜV Product Services EC60950, UL/cUL60950
Material flammability		UL94V-0
Weight		28.3 g (1 oz)
MTBF	Telcordia SR-33	2 3,000,000 hours
ENVIRONMENTAL SPECI	FICATIONS	
Thermal performance (See Note 8)	Operating ambie temperature Non-operating	ent, -40 °C to +80 °C -40 °C to +125 °C
PROTECTION		
Short-circuit Over-temperature		Hiccup, non-latching 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



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POWER		OUTPUT		OUTPUT CURRENT	EFFICIENCY	REGULATION		(11.12)	
(MAX.)	VOLTAGE		VOLTAGE <sup>(10)</sup>	(MIN.)	(MAX.)	(TYP.)	LINE	LOAD	NUMBER <sup>(11,12)</sup>
125 W	10.2-13.8 Vdc	N/A	-5.05 V	0 A	25 A	90%	±1.0%	±1.0%	SIL25C-12SNEG-
	SI		ct Family le in Line				ckaging Op Pb-free (Ro		mpliant)
	Rated	IL = Sing d Output 25 = Perfe				] =   Mc 		oHS 6/6 col ion punt	mpliant)
	Rated	IL = Sing d Output 25 = Perfe	le in Line Current 25 Amps ormance				Pb-free (Ro punting Opt Vertical Mc larity	ion jount	mpliant)

### Notes

- Uses external resistor. See Application Note 148 for details. 1
- 2
- Measured with external filter. See Application Note 148 for details. di/dt = 1 A/µs, Vin = Nom, Tc = 25 °C, load change = 0.5 lo max to 0.75 3
- lo max and 0.75 lo max to 0.5 lo max. 4 External input fusing is recommended.
- Power up is the time from application of dc input to POWER GOOD high. 5 Remote ON/OFF asserted high to POWER GOOD high.
- Signal line assumed <3 m. 6

alternative.

- This product is only for inclusion by professional installers within other 7 equipment and must not be operated as a stand alone product.
- 8 See Application Note 148 for operation above 50°C.
- See Application Note 148 for ripple current requirements. 9
- 10 Output can be adjusted from -4.5 Vdc to -5.5 Vdc.
- Output can be adjusted from -4.5 Vdc to -5.5 Vdc.
   TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
   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

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

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	PIN CONNE	CTIONS	
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

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