

## SIL30C Series

### C-Class Non-Isolated

#### Data Sheet

**Total Power:** 30 Amps  
**Input Voltage:** 10.2 - 13.8 Vdc  
**# of Outputs:** Single

#### SPECIAL FEATURES

- 30 A current rating
- Input voltage range: 10.2 - 13.8 Vdc
- Nominal output voltage: 0.9 - 5 V
- Industry-leading value
- Cost optimized design
- Excellent transient response
- Output voltage adjustability
- Pathway for future upgrades
- Supports silicon voltage migration
- Reduced design-in and qual time
- Designed in reliability: MTBF of >3.9 million hours per Telcordia SR-332
- Current share
- RoHS compliant
- Two year warranty

#### SAFETY

- UL, cUL CAN/CSA 22.2 No. E139421
- UL60950 File No. E139421
- TÜV Product Service (EN60950) Certificate No. B04 08 19870 228
- CB report and certificate to US/6415C/UL



#### Electrical Specifications

Input		
Input voltage range	Nominal 12 V	10.2 - 13.8 +Vdc
Input current	No load Remote OFF	230 mA 30 mA
Input current (max.)	See Note 4	13.8 A max. @ Io max. and Vin = 10.8 V
Input reflected ripple	See Note 2	150 mA (pk-pk)
Remote ON/OFF Logic compatibility ON OFF		Logic high >2.4 Vdc <0.8 Vdc
Start-up time	See Note 5	Power up: 30 ms Remote ON/OFF: 30ms
Turn ON threshold		9.0 Vdc
Turn OFF threshold		7.6 Vdc
Output		
Voltage adjustability	See Note 1	0.9 to 5.0 Vdc
Output setpoint accuracy	Using 1.0% trim resistors	±3.0%
Line regulation	Low line to high line	±0.2%
Load regulation	Full load to min. load	±1.5%
Min./max. load		0 A/30 A
Overshoot	At turn-on	1.0% max.
Undershoot	At turn-off	10 mV max.
Ripple and noise 5 Hz to 20 MHz	See Note 2	50 mV pk-pk 15 mV rms
Transient response	See Note 3	75 mV typical deviation 150 µs recovery to within regulation band
Current share	Full load	±10%

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

## General Specifications

Efficiency		91%
Switching frequency	Fixed	300 kHz typ.
Approvals and standards	(See Note 7)	TÜV Product Services EN60950, UL/cUL60950
Material flammability		UL94V-0
Weight		28.3 g (1 oz)
MTBF	Telcordia SR-332	4,456,655 hours

## Environmental Specifications

Thermal performance	Operating ambient temperature	-0 °C to +80 °C
(See Note 8)	Non-operating temperature	-40 °C to +125 °C
<b>Protection</b>		
Short-circuit	Foldback, non-latching	
Over-temperature	Hiccup, non-latching	
<b>Recommended System Capacitance</b>		
Input capacitance	(See Note 9)	270 $\mu$ F / 20 mW ESR max.
Output capacitance	(See Note 9)	680 $\mu$ F / 10 mW ESR max.

## Ordering Information

Model Number <sup>(10, 12)</sup>	Output Power (Max.)	Input Voltage	Output Voltage	Output Current (Min.)	Output Current (Max.)	Efficiency (Typical)	Regulation	
							Line	Load
SIL30C-12SADJ-VJ	150 W	10.2 - 13.8 Vdc	0.9 - 5 V	0 A	30 A	91%	$\pm 0.2\%$	$\pm 1.5\%$

## Part Number System with Options

Product Family	Rated Output Current	Performance	Input Voltage	Number of Outputs	Output Voltage	Mounting Option	Packaging Options
<b>SIL</b>	<b>30</b>	<b>C</b>	<b>12</b>	<b>S</b>	<b>ADJ</b>	<b>V</b>	<b>J</b>
SIL = Single In Line	30 = 30 Amp	C = Cost Optimized	12 = 10.2 - 13.8 Vdc	S = Single Output	ADJ = Adjustable Output	V = Vertical H = Horizontal	J = Pb free (RoHS 6/6 compliant)

## Output Voltage Adjustment

The ultra-wide output voltage trim range offers major advantages to users who select the SIL30C-12SADJ. It is no longer necessary to purchase a variety of modules in order to cover different output voltages. The output voltage can be trimmed in a range of 0.9 Vdc to 5.0 Vdc. When the SIL30C-12SADJ converter leaves the factory the output has been adjusted to the default voltage of 0.9 V.

## Notes:

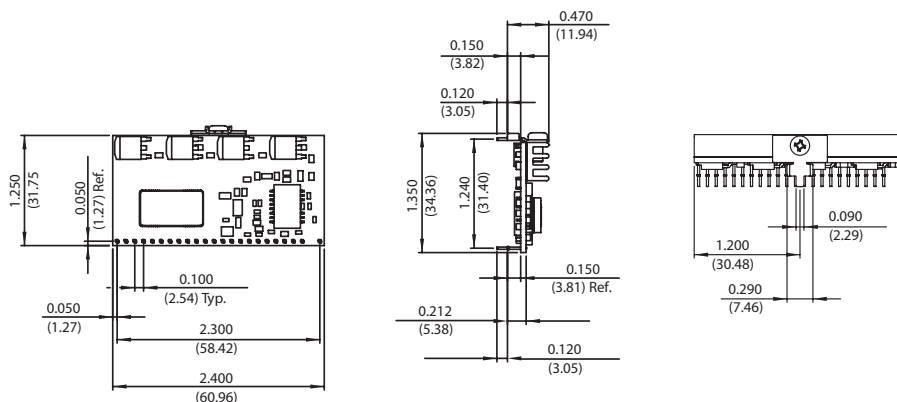
1. Uses external resistor from TRIM to output ground. See Application Note 132 for details.
2. Measured with external filter. See Application Note 132 for details.
3.  $di/dt = 10 \text{ A}/\mu\text{s}$ ,  $V_{in} = \text{Nom}$ ,  $T_c = 25^\circ\text{C}$ , load change = 0.5  $I_o$  max to 0.75  $I_o$  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 132 for operation above  $50^\circ\text{C}$ .
9. See Application Note 132 for ripple current requirements.
10. The standard unit with the suffix '-V' is for vertical mounting. To order a unit with horizontal mounting, please add the suffix '-H' to the model number, e.g. SIL30C-12SADJ-HJ.
11. This model has a wide trim output of between 0.9 Vdc to 5 Vdc. An external resistor adjusts the output voltage.
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/power> to find a suitable alternative.

## Mechanical Drawings

## Pin Assignments

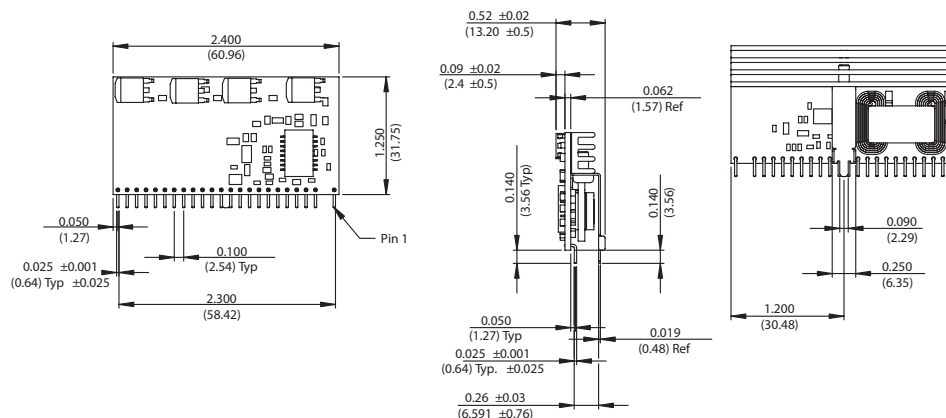
Pin	Function
1	Trim
2	No Pin
3	Ground
4	Power Good
5	Not Connected
6	Current Share
7	Ground
8	Ground
9	Remote ON/OFF
10	Remote Sense (GND)
11	Remote Sense (O/P)
12	Vin
13	Vin
14	Vin
15	Vout
16	Vout
17	Ground
18	Vout
19	Ground
20	Vout
21	Ground
22	Vout
23	Ground
24	Vout

## Horizontal Mount



All dimensions in inches (mm)  
General tolerance  $\pm 0.015$  in ( $\pm 0.30$  mm)  
except where specified otherwise

## Vertical Mount



All dimensions in inches (mm)  
General tolerance  $\pm 0.015$  in ( $\pm 0.30$  mm)  
except where specified otherwise

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