POWER

SIL30C Series

C-Class Non-Isolated

Data Sheet

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



RoHS 6/6 COMPLIANT

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 reflexted 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.

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EMBEDDED TECHNOLOGIES

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
Protection		
Short-circuit	Foldback, non-latching	
Over-temperature	Hiccup, non-latching	
Recommended System Capacitance		
Input capacitance	(See Note 9)	270 µF / 20 mW ESR max.
Output capacitance	(See Note 9)	680 µF / 10 mW ESR max.

Ordering Information

Model Number [10, 12]	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%	±0.2%	±1.5%

Part Number System with Options

Product Family	Rated Output Current	Performance		Input Voltage	Number of Outputs	Output Voltage		Mounting Option	Packaging Options
SIL	**30**	**C**	**-**	**12**	**S**	**ADJ**	**-**	**V**	**J**
SIL = Single In Line	30 = 30 Amp	C = Cost Optimized		12 = 10.2 - 13.8 Vdc	S = Single Output	ADJ = Adjustable Ouput		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.

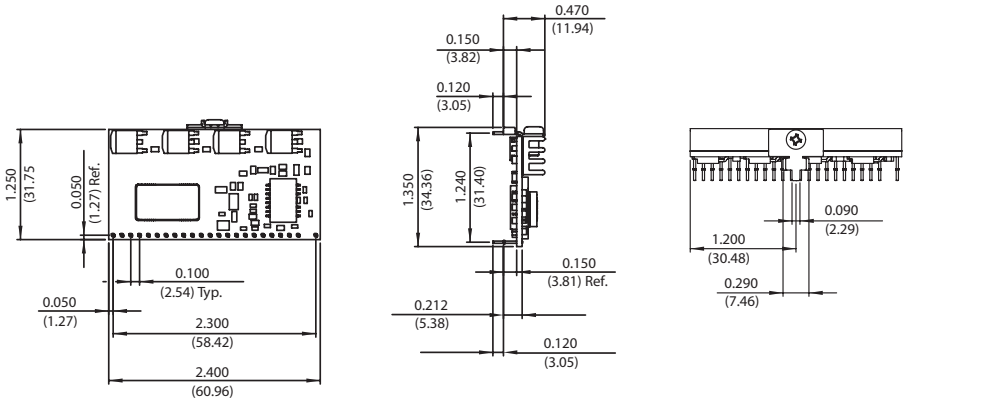
Notes:

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 A/µs, Vin = Nom, Tc = 25 °C, load change = 0.5 Io max to 0.75 Io max and 0.75 Io max to 0.5 Io 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 132 for operation above 50 ºC.
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

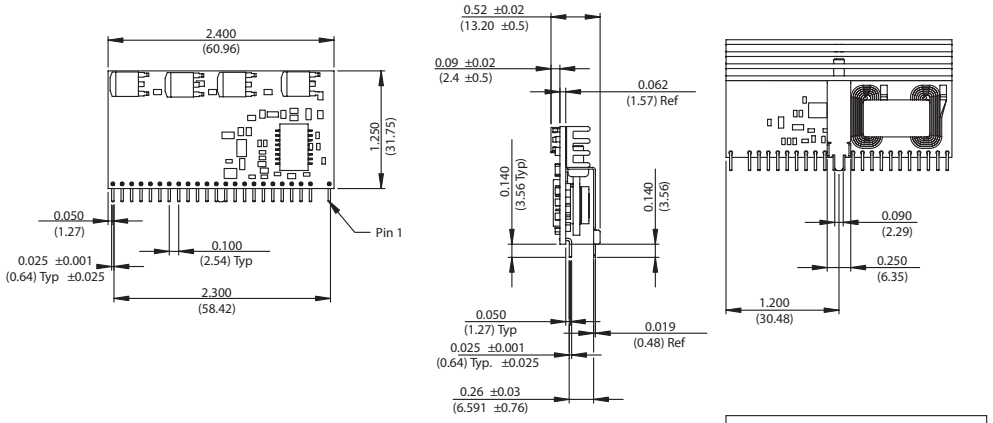
Pin Assignments	
Pin	*Function*
1	Trim
2	No Pin
3	Ground
4	Power Good
5	Not Connected
6	Current Share
7	Ground
8	Ground
9	Remote ON/OFF
10	Remote Sense (GND)
11	Remote Sense (O/P)
12	Vin
13	Vin
14	Vin
15	Vout
16	Vout
17	Ground
18	Vout
19	Ground
20	Vout
21	Ground
22	Vout
23	Ground
24	Vout

Horizontal Mount



All dimensions in inches (mm)
General tolerance ±0.015in (±0.30mm)
except where specified otherwise

Vertical Mount



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