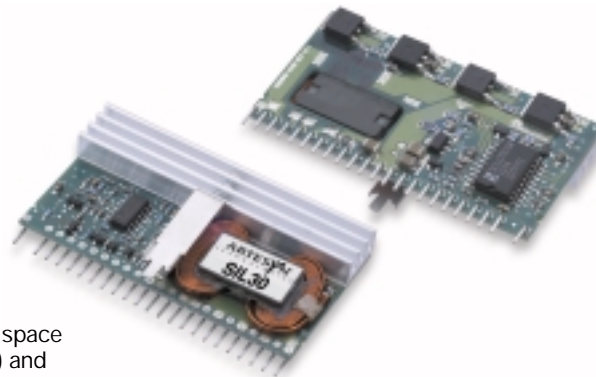


SIL30 Series

Single output

NEW Product

- Wide trim range (2.5V to 5.0V)
- Horizontal and vertical models available
- High power density design means reduced board space requirement
- Remote sense
- Power good output signal (open collector)
- Operating ambient temperature up to +80°C with suitable derating and forced air cooling
- Remote ON/OFF (active high)
- Over-temperature protection
- Over-current and short-circuit protection
- Optional current share



The SIL30 Series is a new high density open-frame non-isolated converter for space sensitive applications. The converter has a wide input range (10.2 to 13.8Vdc) and offers a wide 2.5 to 5V output voltage range with a 30A load. The series offers remote ON/OFF, over-temperature protection and over-current protection as standard. Its current share facility supports parallel operation of multiple SIL30 units and the remote sense feature enables the SIL30 compensate for voltage drops between the converters output and the load. With full international safety approvals including EN60950 and UL/cUL60950 the SIL30 reduces compliance costs and time to market.

2 YEAR WARRANTY

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

SPECIFICATIONS

OUTPUT SPECIFICATIONS

Voltage adjustability	(See Note 1)	2.5V to 5.0V
Output setpoint accuracy	Using 1.0% trim resistors	±2.5%
Line regulation	Low line to high line	±0.2% max.
Load regulation	Full load to min. load	±1.0% max.
Min/max load		0A/30A
Overshoot	At turn-on	4.0% max.
Undershoot	At turn-off	100mV max.
Ripple and noise	(See Note 2)	50mV pk-pk 15mV rms
Transient response	Deviation	75mV
(See Note 3)		150µs recovery to within regulation band
Current share	Full load	±10%

INPUT SPECIFICATIONS

Input voltage range	Nominal 12V	10.2 to 13.8VDC
Input current	No load	230mA
	Remote OFF	30mA
Input current (max.)	(See Note 4)	13.8A max. @ I _o max. and V _{in} = 10.8V
Input reflected ripple	(See Note 2)	150mA (pk-pk)
Remote ON/OFF		
Logic compatibility		Logic high
ON		>2.4VDC
OFF		<0.8VDC
Start-up time	Power up	<6ms
(See Note 5)	Remote ON/OFF	<6ms

INPUT SPECIFICATIONS Contd.

Turn ON threshold	9.0V
Turn OFF threshold	8.3V

GENERAL SPECIFICATIONS

Efficiency	91%
Switching frequency	Fixed 300kHz
Approvals and standards (See Note 7)	TÜV Product Service IEC60950, UL/cUL60950
Material flammability	UL94V-0
Weight	28.3g (1oz)
MTBF	MIL-HDBK-217F 129,390 hours
Representative model:	12V model @ 40°C 100% load, ground benign Bellcore 332 3,994,753 hours

ENVIRONMENTAL SPECIFICATIONS

Thermal performance (See Note 8)	Operating ambient, temperature	0°C to +80°C
	Non-operating	-40°C to +125°C
Altitude derating (above sea level)	3,000m (9,843 ft)	20%
	10,000m (32,808 ft)	50%

SIL30 Series

Single output

DC/DC CONVERTERS | 30A Non-Isolated DC/DC Converters

2

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	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX.)	EFFICIENCY (TYP.)	REGULATION		MODEL NUMBER ⁽¹⁰⁾
							LINE	LOAD	
150W	10.2-13.8VDC	N/A	2.5V	0A	30A	91%	±0.2%	±1.0%	SIL30-12SADJ-V

Notes

- Uses external resistor from TRIM to output ground. Minimum value 1.9kΩ. See Application Note 132 for details.
- Measured with external filter. See Application Note 132 for details.
- di/dt = 10A/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.
- External input fusing is recommended.
- Power up is the time from application of DC input to POWER GOOD high. Remote ON/OFF asserted high to POWER GOOD high.
- Signal line assumed <3m.
- This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
- See Application Note 132 for operation above 50°C.
- See Application Note 132 for ripple current requirements.
- 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. SIL30-12SADJ-H.

PROTECTION

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

RECOMMENDED SYSTEM CAPACITANCE

Input capacitance (See Note 9)	270μF/20mΩ esr max.
Output capacitance (See Note 9)	2 x 680μF/10mΩ esr max.

CAUTION: High internal temperatures. Ensure that unit is not user accessible.

PIN CONNECTIONS

PIN NO.	FUNCTION	PIN NO.	FUNCTION
1	TRIM	13	Vin
2	No Pin	14	Vin
3	Ground	15	Vout
4	Power Good	16	Vout
5	Not Connected	17	Ground
6	Current Share	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 (O/P)	23	Ground
12	Vin	24	Vout

International Safety Standard Approvals (pending)



TÜV

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

www.artesyn.com
www.DataSheet4U.com

SIL30 Series

Single output

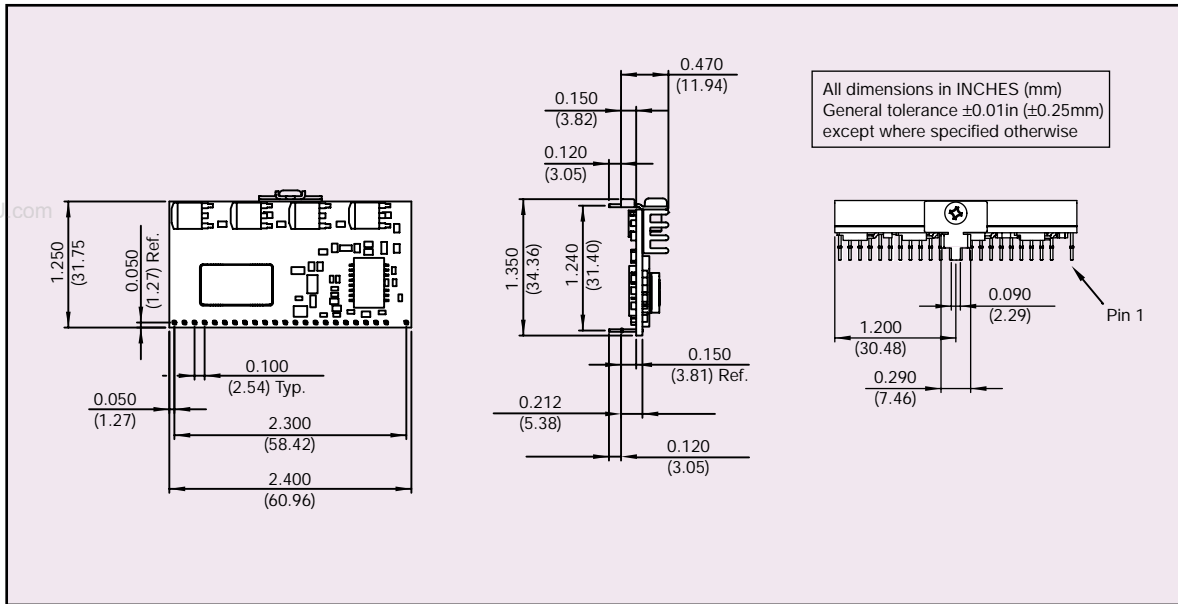


Figure 1: Mechanical Drawing - Horizontal Mount Version

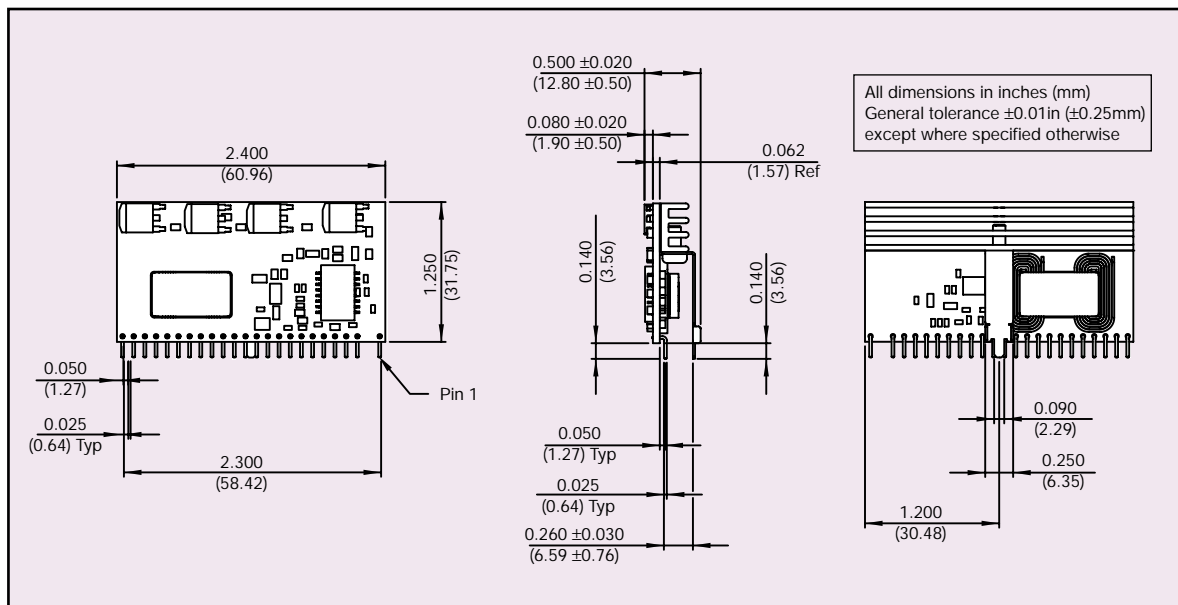


Figure 2: Mechanical Drawing - Vertical Mount Version

Data Sheet © Artesyn Technologies® 2002

The information and specifications contained in this data sheet are believed to be correct at time of publication. However, Artesyn Technologies accepts no responsibility for consequences arising from printing errors or inaccuracies. Specifications are subject to change without notice. No rights under any patent accompany the sale of any such product(s) or information contained herein.

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

www.artesyn.com
www.DataSheet4U.com