

## SIL30E Series

### E-Class Non-Isolated

#### Data Sheet

**Total Power:** 99 Watts  
**Input Voltage:** 8 - 14 Vdc  
**# of Outputs:** Single

#### SPECIAL FEATURES

- 30 A current rating
- Input voltage range: 8 - 14Vdc
- Output voltage range: 0.8 - 3.63 V
- Ultra high efficiency: 93% @ 12 Vin and 3.3 Vout
- Extremely low internal power dissipation
- Minimal thermal design concerns
- Designed in reliability: MTBF of >9.2 million hours per Telcordia SR-332
- Ideal solution where board space is at a premium or tighter card pitch is required
- RoHS compliant
- Two year warranty

#### SAFETY

- UL, cUL 60950-1 File No. 186249-A16-UL-1
- TÜV Product Service (EN60950) Certificate No. B07 07 13890 259
- CB report and certificate to IEC60950



#### Electrical Specifications

Input		
Input voltage range		8 - 14 Vdc
Input current	No load (max.)	250 mA
Input current (max.)		9.2 A max. @ Io max. and Vout = 3.3 V
Input reflected ripple		220 mA rms
Remote ON/OFF		See Note 1
Start-up time		20 ms
Output		
Voltage adjustability		0.8 to 3.63 Vdc
Setpoint accuracy		±1.3% typical
Line regulation		±0.2% typical
Load regulation		±1.5% typical
Total error band		±3.0% typical
Minimum load		0 A
Overshoot/undershoot		None
Ripple and noise	5 Hz - 20 MHz	50 mV max.; 25 mV rms
Temperature coefficient		±0.01%/ °C
Transient response	Vout = 1.5 V	50 - 75% load step
Slew rate	= 0.5 A/μs	3% max. deviation; 10 μs recovery to within ±1%
Remote sense		10% Vo compensation

All specifications are typical at 12 Vin and 1.5 Vout, full load at 25 °C, unless otherwise stated.

## General Specifications

Efficiency	@12 Vin, 3.3 Vout	93%
Insulation voltage		Non-isolated
Switching frequency	Fixed	1.3 MHz
Approvals and standards		EN60950, UL/cUL60950
Material flammability		UL94V-0
Dimensions	L x W x H	50.84 x 7.80 x 12.70 mm 2 x 0.307 x 0.5 inches
Pin length		0.140 in (3.56 mm)
Weight		7.0 g (0.25 oz)
MTBF (@40 °C; 50% stress; ground benign)	Telcordia SR-332	9,200,000 hours

## EMC Characteristics

Electrostatic discharge	EN61000-4-2, IEC801-2
Conducted immunity	EN61000-4-6
Radiated immunity	EN61000-4-3

## Environmental Specifications

Thermal performance	Operating ambient temperature	-40 °C to +85 °C
	Non-operating temperature	-40 °C to +125 °C
<b>Protection</b>		
Short-circuit	Continuous	
Thermal	Automatic recovery	

## Ordering Information

Model Number <sup>(2)</sup>	Output Power (Max.)	Input Voltage	Output Voltage	Output Current (Min.)	Output Current (Max.)	Efficiency (Typical)	Regulation	
							Line	Load
SIL30E-12W3V3-VJ	99W	8 - 14 Vdc	0.8 - 3.63 V	0 A	30 A	93%	±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
<b>SIL</b>	<b>30</b>	<b>E</b>	<b>12</b>	<b>W</b>	<b>3V3</b>	<b>V</b>	<b>J</b>
SIL = Single In Line	30 = 30 Amp	E = Enhanced performance	12 = 8 - 14 Vdc	W = Wide	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 SIL30E-12W3V3. 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 0.8 Vdc to 3.63 Vdc. When the SIL30E-12W3V3 converter leaves the factory the output has been adjusted to the default voltage of 0.8 V.

## Notes:

- The SIL30E features a 'Positive Logic' Remote ON/OFF operation. If not using the Remote ON/OFF pin, leave the pin open (the converter will be on). The Remote ON/OFF pin is referenced to ground. The following conditions apply for the SIL30E:

## Configuration

Remote pin open circuit  
 Remote pin pulled low [Von/off < 0.8 V]  
 Remote pin pulled high [Von/off > 2.8 V]

## Converter Operation

Unit is ON  
 Unit is OFF  
 Unit is ON

A 'Negative Logic' Remote ON/OFF version is also possible with this converter. Please consult the factory 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> to find a suitable alternative.

- The derating curve represents the condition at which internal components are within the Artesyn derating guidelines.
- Characteristic data has been developed from actual products tested at 25 °C. This data is considered typical data for the converter.

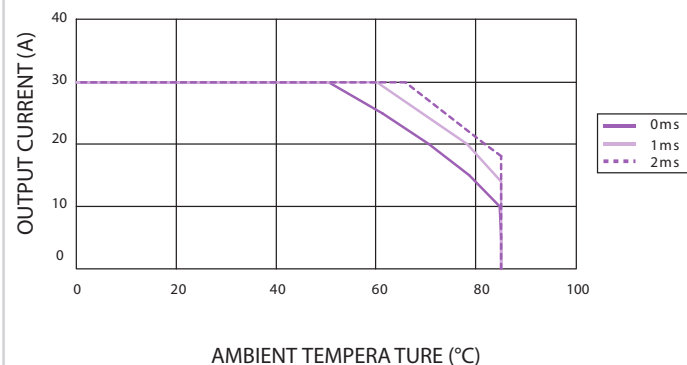


Figure 1 - Derating Curve  
 $V_{in} = 12\text{ V}$ , Output Voltage = 1.5 V (See Note A)

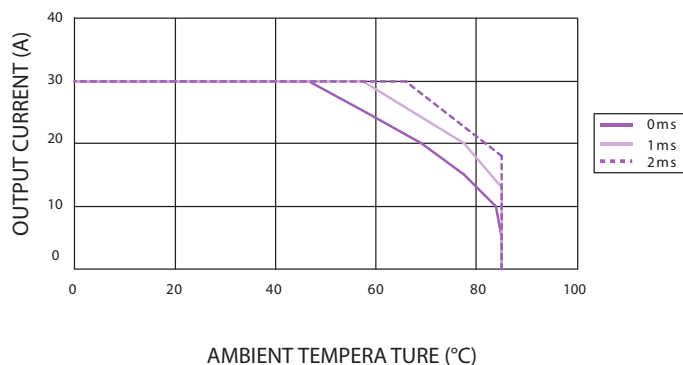


Figure 2 - Derating Curve  
 $V_{in} = 12\text{ V}$ , Output Voltage = 1.8 V (See Note A)

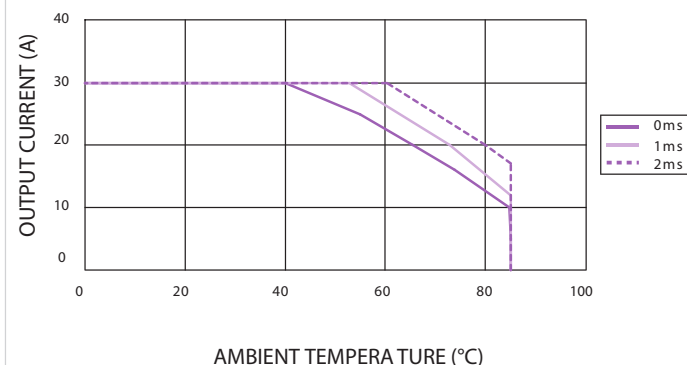


Figure 3 - Derating Curve  
 $V_{in} = 12\text{ V}$ , Output Voltage = 2.5 V (See Note A)

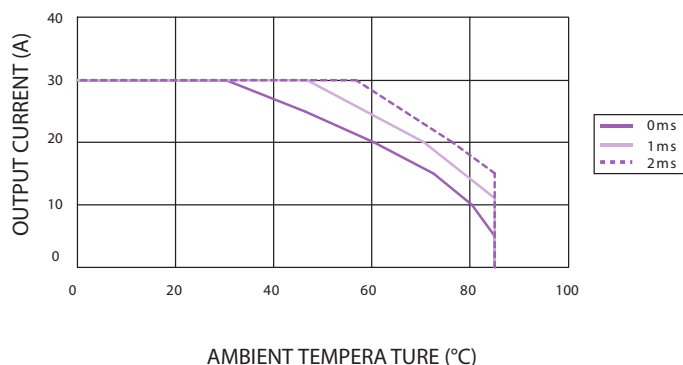


Figure 4 - Derating Curve  
 $V_{in} = 12\text{ V}$ , Output Voltage = 3.3 V (See Note A)

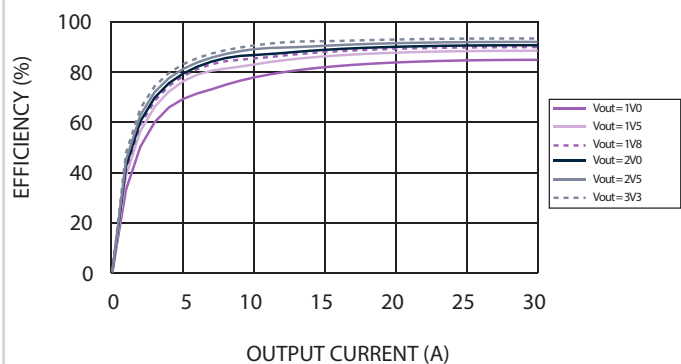


Figure 5 - Efficiency vs Load Current  
 $V_{in} = 12\text{ V}$  (See Note B)

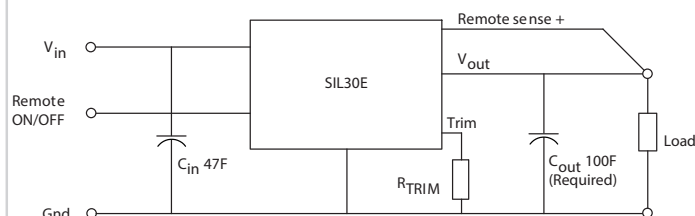
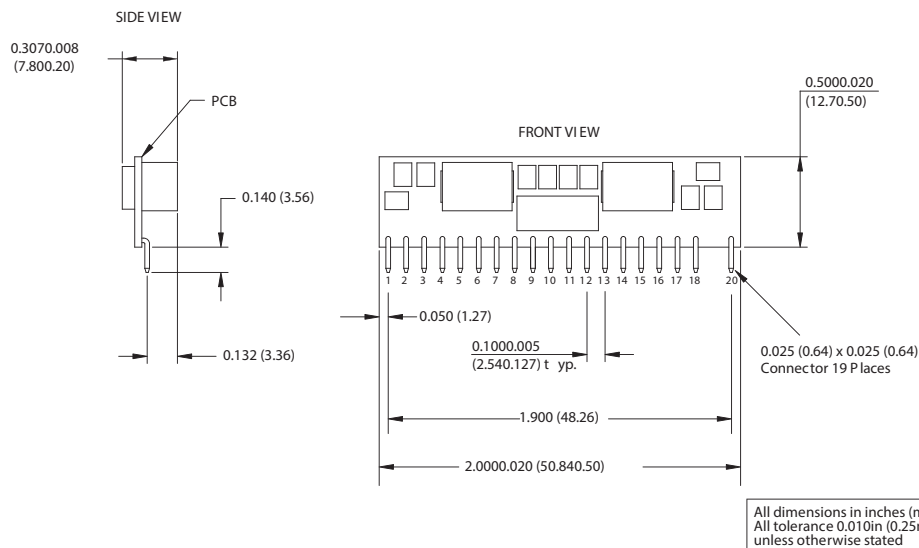


Figure 6 - Standard Application

## Mechanical Drawings

## Pin Assignments

Pin	Function
1	Vin
2	Vin
3	Ground
4	Ground
5	Trim
6	Remote Sense +
7	Ground
8	Ground
9	Vout
10	Vout
11	Vout
12	Vout
13	Remote ON/OFF
14	Ground
15	Ground
16	Ground
17	Ground
18	Vin
19	N/C
20	Vin



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