

SIL60C2

Dual Row Pins; 60 Amps

Data Sheet

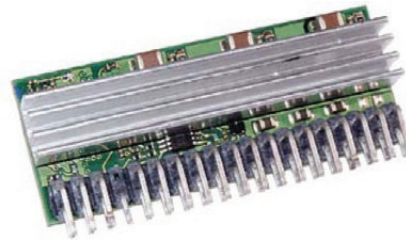
Total Power: 240 Watts
Input Voltage: 4.5 - 13.8 Vdc
of Outputs: Single

SPECIAL FEATURES

- Two bit VID adjustable output voltage
- Phase shedding for power saving during light loads
- High power density design means reduced board space requirement
- Power good output signal
- Operating ambient temperature up to +70 °C with suitable derating and forced air cooling
- Remote ON/OFF (active high)
- 0 A minimum load
- Input under-voltage lockout
- EU directive 2002/95/EC compliant for RoHS

SAFETY

- Designed to meet EN60950 when used in end use equipment



Electrical Specifications

Input		
Input voltage range		4.5 - 13.8 Vdc
Input current (max.)	Minimum load Remote ON/OFF	65 mA 20 mA
Input current (max.)		20.0 A @ Io max.
Start-up time	Power up Remote ON/OFF	<20 ms <20 ms
Output		
Output voltage	See Note 5	0.8 - 4.0 V
Output setpoint accuracy	with VID	1.0%
Line regulation	Low line to high line	±0.3%
Load regulation	Full load to min. load	±0.2%
Load line		0.225 μΩ
Min/Max load		0 A/60 A
Overshoot	At turn-on	2% max.
Ripple and noise 5 Hz to 20 MHz		<40 mV Vin = 12 V, Vout = 1.5 V
Transient	Deviation (dependent on output capacitance)	20 μs recovery to within regulation band
General		
Efficiency	Vi = 12 V, Vo = 1.5V, Iout = 60 A	89%
Switching frequency	Fixed/ph	300 kHz
Material flammability		UL94V-0
Weight		TBD
MTBF	12 V @ 40 °C, 100% load Bellcore 332	>5,000,000 hours

Environmental Specifications

Thermal performance	Operating ambient temperature Non-operating ambient temperature	-0 °C to +70 °C -40 °C to +125 °C
Protection		
Over temperature protection	Hiccup, non-latching	
Short-circuit	Hiccup, non-latching	
Overvoltage protection	Latching	
Recommended System Capacitance		
Input	Ceramic	3x22 µF
Output		1,500 µF

Ordering Information

Model Number ^(3,5)	Output Power (Max.)	Input Voltage	Output Voltage	Output Current (Min.)	Output Current (Max.)	Efficiency (Typical)	Regulation		Orientation
							Line	Load	
SIL60C2-00SADJ-VDJ	240 W	4.5 - 13.8 Vdc	0.8 - 4.0 V	0 A	60 A	89%	±0.3%	±0.5%	Vertical

Part Number System with Options

Product Family	Rated Output Current	Performance	Generation	Input Voltage	Output Voltage	Mounting Option	Pins	RoHS Compliance
SIL	60	C	2	00	SADJ	X	D	J
SIL = Single In Line	60 = 60 Amp	C = Cost Optimized	2 = Increased current density	00 = 4.5-13.8 V	Single Adjustable Output	V = Vertical H = Horizontal	D = Dual row	J = Pb free (RoHS 6/6 compliant)

Setting Output Voltage

Default output voltage is set with the 2 bit VID as follows:

Vid1	Vid0	Vout
1	1	0.8 V
1	0	1.0 V
0	1	1.2 V
0	0	1.4 V

The output voltage may be optionally adjusted with a resistor placed in the series with the sense line, from 0.8 V to 4.0 V.

To trim the output voltage, place a resistor in series with pin 6 (RS+). The formula for calculating the value of this resistor is:

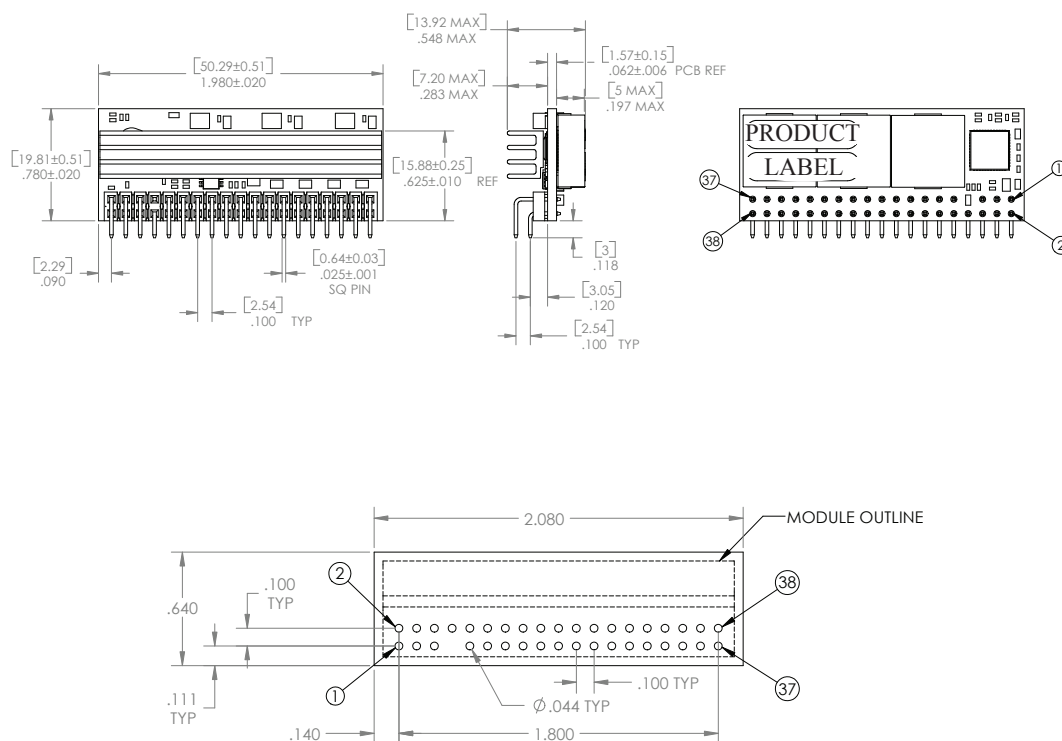
$$R_{trim} = 2000 \times \left(\frac{V_{out} - VID_SET}{VID_SET} \right)$$

When trimming output voltage, always choose the nearest VID Vout setting.

Notes:

1. Measured as per recommended system capacitance.
2. di/dt = 10 A/µs, Vin = Nom, Tc = 25 °C, load change = 0.50 Io max. and vice versa.
3. External fusing is recommended.
4. Measured with external filter.
5. Uses external resistor from trim pin to (-) trim pin.
6. Airflow dependent, 300 LFM minimum required.
7. No capacitor needed for ripple current capability.
8. No capacitor needed for stability.
9. NOTICE: Some models do not support all options. Please contact your local Artesyn Embedded Technologies 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	Pin	Function	Pin	Function
1	VID0	14	Vin	27	Vout
2	Viout*	15	Ground	28	Vout
3	VID1	16	Ground	29	Ground
4	Power Good	17	Vout	30	Ground
5	RS-	18	Vout	31	Ground
6	RS+	19	Vout	32	Ground
7	Open	20	Vout	33	Vout
8	Enable	21	Ground	34	Vout
9	Ground	22	Ground	35	Vout
10	Ground	23	Ground	36	Vout
11	Vin	24	Ground	37	Ground
12	Vin	25	Vout	38	Ground
13	Vin	26	Vout		

*Viout is a current monitoring pin. 31 mV / A, ±15% tolerance.

WORLDWIDE OFFICES

Americas

2900 S.Diablo Way
Tempe, AZ 85282
USA
+1 888 412 7832

Europe (UK)

Waterfront Business Park
Merry Hill, Dudley
West Midlands, DY5 1LX
United Kingdom
+44 (0) 1384 842 211

Asia (HK)

14/F, Lu Plaza
2 Wing Yip Street
Kwun Tong, Kowloon
Hong Kong
+852 2176 3333

ARTESYN
EMBEDDED TECHNOLOGIES

www.artesyn.com

While every precaution has been taken to ensure accuracy and completeness in this literature, Artesyn Embedded Technologies assumes no responsibility, and disclaims all liability for damages resulting from use of this information or for any errors or omissions. Artesyn Embedded Technologies, Artesyn and the Artesyn Embedded Technologies logo are trademarks and service marks of Artesyn Embedded Technologies, Inc. All other names and logos referred to are trade names, trademarks, or registered trademarks of their respective owners. © 2015 Artesyn Embedded Technologies, Inc.

For more information: www.artesyn.com/power
For support: productsupport.ep@artesyn.com