

SIL60C2 Dual Row Pins

60 Amps

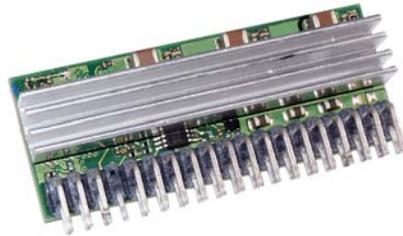
Total Power: 240 W
Input Voltage: 4.5 - 13.8
No. of Outputs: Single

Special Features

- 2 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 temp 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

Output		
Output voltage		0.8 - 4.0 V
Output setpoint accuracy	With VID	1%
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.
Over current protection		>88 A
Ripple and noise		<40 mV
5 Hz to 20 MHz		Vin=12 V, Vout=1.5 V
Transient	Deviation (dependent on output capacitance)	±5% mV 20 us recover to within regulation band
Input		
Input voltage		4.5 -13.8 V
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
General		
Efficiency	Vi = 12 V, Vo = 1.5 V, 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		
Ambient	Operating	0 °C to +70 °C
	Non-operating	-40 °C to +125 °C

Protection	
Short-circuit	Hiccup, Non-latching
Over-voltage	Latching
Over-temperature	Hiccup, Non-latching

Recommended System Capacitance		
Input Capacitance	ceramic	3x22 µF
Output Capacitance		1,500 µF

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 V_{out} setting.

Operating Information

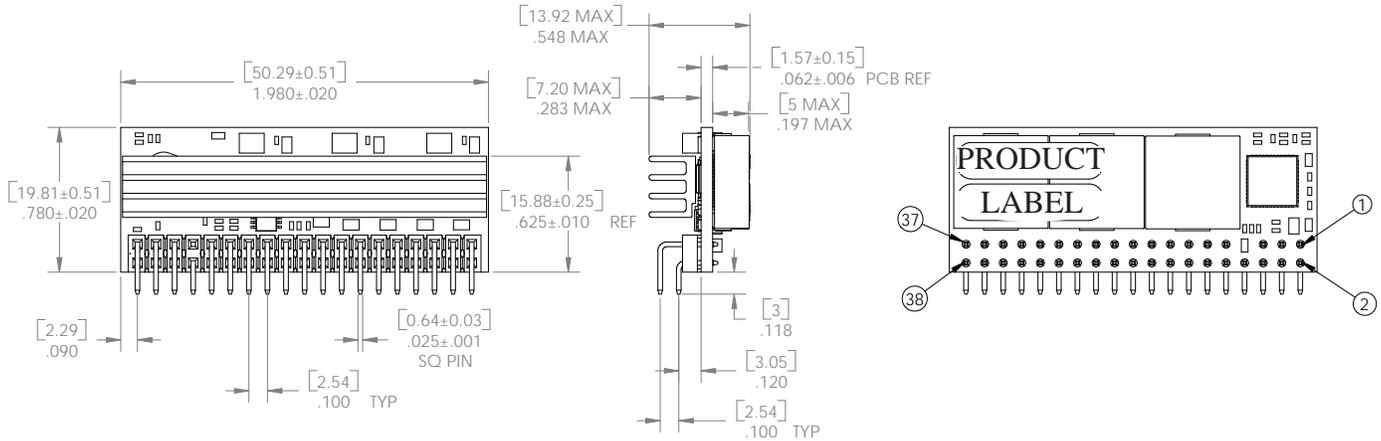
Ordering Information									
Output Power (Max.)	Input	Output	Output Current (Min.)	Output Current (Max.)	Efficiency (Typical)	Regulation Line	Regulation Load	Orientation	Model Number
240 W	4.5 - 13.8 V	0.8 - 4.0 Vdc	0 A	60 A	89%	±0.3%	±0.5%	Vertical	SIL60C2-00SADJ-VDJ

Ordering Information

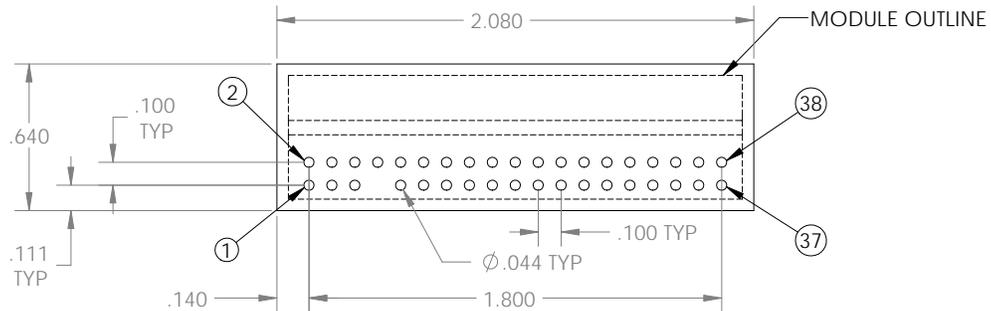
Product Family	Rated Output Current	Performance	Generation	Input Voltage	Output Voltage	Mounting Option	Pins	RoHS Compliance
SIL	60	C	2	- 00	SADJ	- X	D	J
Product Family SIL = Single In Line SMT = Surface Mount	Rated Output Current 60 = 60 A	Performance C = Cost Optimized	Generation 2 = Increased Current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

Mechanical Drawing

Mechanical Drawing



Footprint



Pin Assignments		Pin Assignments	
Single Output			
1. VID0	11. VIN	20. Vout	30. Ground
2. Viout*	12. VIN	21. Ground	31. Ground
3. VID1	13. VIN	22. Ground	32. Ground
4. PGood	14. VIN	23. Ground	33. Vout
5. RS-	15. Ground	24. Ground	34. Vout
6. RS+	16. Ground	25. Vout	35. Vout
7. Open	17. Vout	26. Vout	36. Vout
8. Enable	18. Vout	27. Vout	37. Ground
9. Ground	19. Vout	28. Vout	38. Ground
10. Ground		29. Ground	

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

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