SIL40C2 Series

4.5-13.8 Vin Single C-Class Non-Isolated

40 A Current Rating
Input Voltage: 4.5-13.8 V
No. of Outputs: Single



RoHS 2002/95/EC

Special Features

- 40 A current rating
- Input voltage range: 4.5-13.8 V
- Output voltage: 0.6-5 V
- Industry leading value
- Cost optimized design
- Excellent transient response
- Output enable
- Output voltage adjustability
- Pathway for future upgrades
- Supports silicon voltage migration
- Resulting in reduced design-in and qual time
- RoHS Compliant

Safety

UL, cUL CAN/CSA 22.2 No. E139421 UL6950 File No. TBD
TÜV Product Service (EN60950) Certificate No. TBD
CB report and certificate to IEC60950

Electrical Specifications

Output		
Output voltage	See Note 5	0.6-5 V
Output setpoint accuracy	0.1% trim resistors	±1.0%
Line regulation	Low line to high line	±0.2%
Load regulation	Full load to min. load	±0.5%
Min./max. load		0 A/40 A
Overshoot	At turn-on	0.5% max.
Undershoot	At turn-off	100 mV max.
Ripple and noise 5 Hz to 20 MHz	See Note 1	25 mV Vin=5 V, Vout=2.5 V
Transient response	See Notes 1, 2	130 mV max. deviation 50 µs recovery to within regulation band
Input		
Input voltage range		4.5-13.8 Vdc
Input current	Minimum load Remote OFF	50 mA 5 mA
Input current (max.)	See Note 3	25 A @ lo max.
Start-up time	Remote ON/OFF	3 ms

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Network Power

General		
Efficiency	Vin=5 V, Vo=2.5 V, Io=20 A	94%
Switching frequency	Fixed	500 kHz
Approvals and standards (pending)		EN60950 UL/cUL6950
Material flammability		UL94V-0
Weight		17 g (0.06 oz.)
MTBF	12 V @ 40 °C, 100% load Bellcore 332	6,749,409 hours
Coplanarity		150 µm

Environmental Specifications

Thermal performance See Note 5	Operating ambient, temperature Non-operating	0 °C to +70 °C -40 °C to +125 °C
Protection		
Short-circuit		Hiccup, non-latching
Overvoltage protection		Hiccup, non-latching
Recommended System Capacitance		
Input capacitance	See Note 6	0 µF
Output capacitance	See Note 7	0 µF

Ordering Information

Output Power (Max.)	Input Voltage	OVP	Output Voltage	Output Current (Min.)	Output Current (Max.)	Efficiency (Typical)	Regulation Line	Regulation Load	Model Number [3,5]
200 W	4.5-13.8 Vdc	N/A	0.6-5 Vdc	0 A	40 A	94%	±0.2%	±0.5%	SIL40C2-00SADJ-VJ
200 W	4.5-13.8 Vdc	N/A	0.6-5 Vdc	0 A	40 A	94%	±0.2%	±0.5%	SIL40C2-00SADJ-HJ
200 W	4.5-13.8 Vdc	N/A	0.6-5 Vdc	0 A	40 A	94%	±0.2%	±0.5%	SMT40C2-00SADJJ

Part Number System with Options

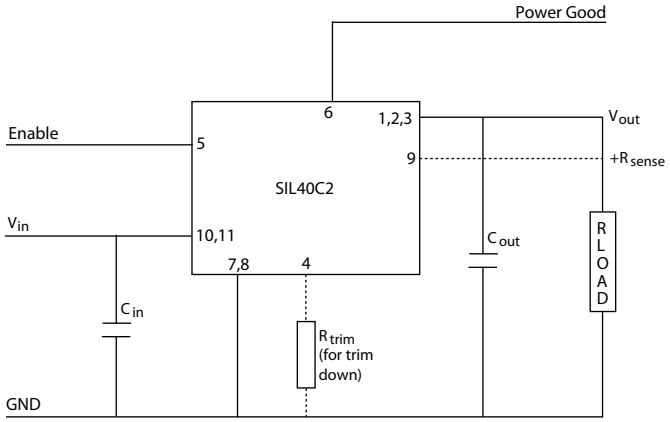
Product Family	Rated Output Current	Performance	Generation		Input Voltage	Output Voltage		Mounting Option	RoHS Compliance[8]
SIL	**40**	**C**	**2**	**-**	**00**	**SADJ**	**-**	**V**	**J**
Product Family SIL = Single In Line SMT = Surface Mount	**Rated Output Current** 06 = 6 A 15 = 15 A 20 = 20 A 30 = 30 A 40 = 40 A	**Performance** C = Cost Optimized	**Generation** Blank = Standard Part 2 = Increased Current Density		**Input Voltage** 00 = 4.5-13.8 V	**Output Voltage** Single Adjustable Output		**Mounting Option** V = Vertical H = Horizontal	**RoHS Compliance** J = Pb-free RoHS 6/6 Compliant

Output Voltage Adjustment of the SIL40C2 Series

The ultra-wide output voltage trim range offers major advantages to users who select the SIL40C2 series. 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 0.6-5 V. When the SIL40C2 converter leaves the factory, the output has been adjusted to the default voltage of 0.6 V.

Notes:
1 Measured as per recommended system capacitance.
2 di/dt = 10 A/µs, Vin = Nom, Tc = 25 °C, load change = 0.75 lo to full lo and full lo to 0.75.
3 External input fusing is recommended.
4 Additional part numbers may be available with different output voltages.
5 Airflow dependent, 100 LFM minimum required.
6 No capacitors needed for ripple current capability.
7 No capacitors needed for stability.
8 TSE RoHS 5/6 (non-Pb-free) compliant versions are also available on special request, please contact our local sales representative for details.
9 NOTICE: Some models may not support all options. Please contact your local representative or use the on-line model number search tool at http://www.powerconversion.com to find a suitable alternative.
10 To order a Horizontal Mounting option with a pin length of 0.165", please use the model # SIL40C2-00SA-HP5J

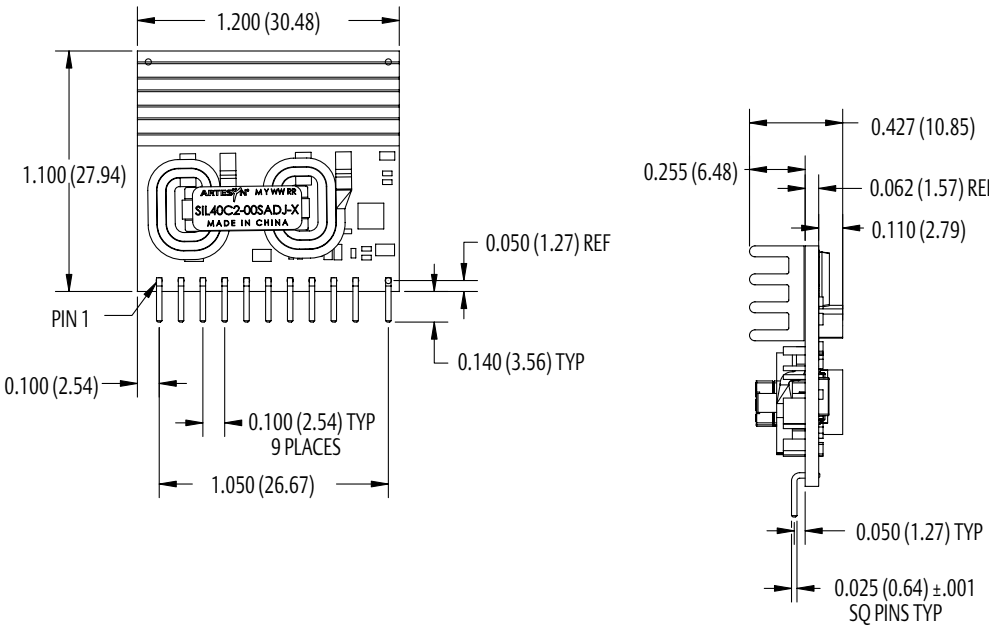
Standard Application Drawing



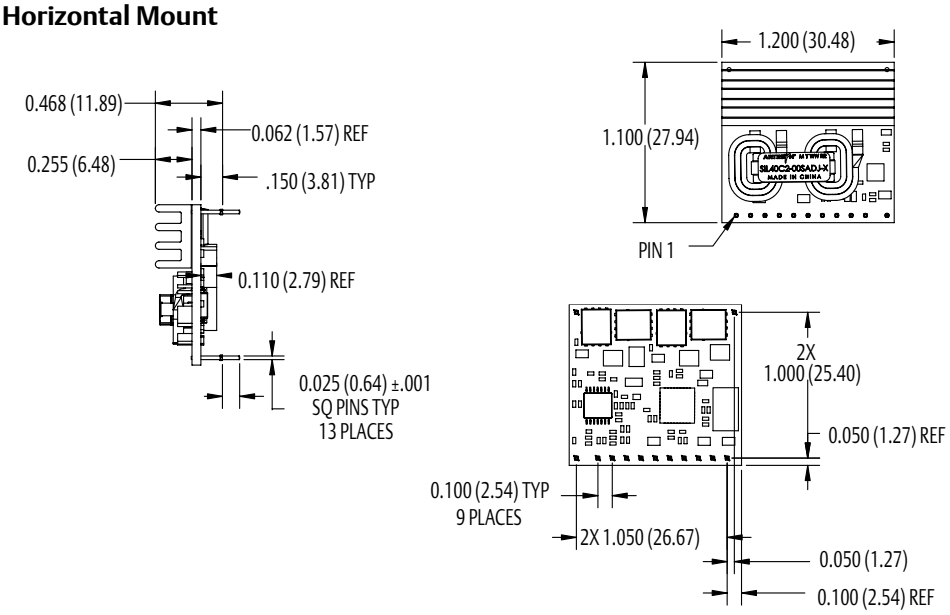
Mechanical Drawings

Dimensions in inches (mm). Tolerances (unless otherwise specified) 2 Places ±0.030 (±0.76) 3 Places ±0.010 (±0.25)

Vertical Mount



Horizontal Mount



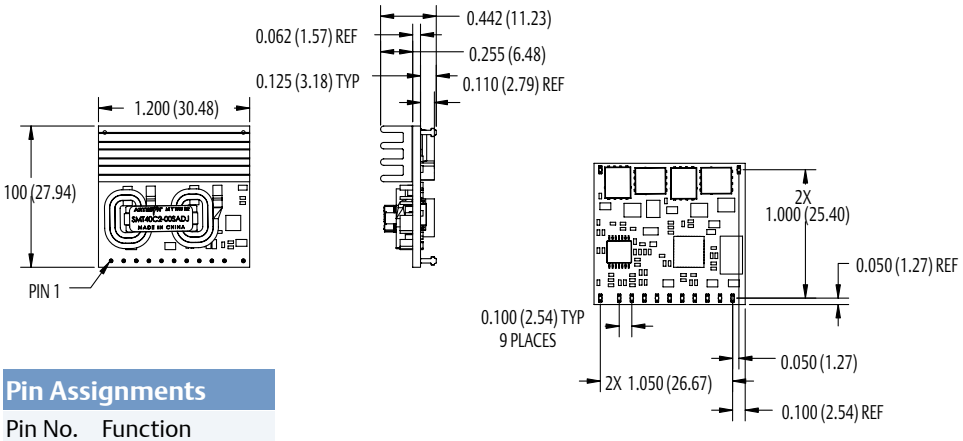
Pin Assignments

Pin No.	Function
1	Vout
2	Vout
3	Vout
4	Trim
5	Enable
6	Power Good
7	Ground
8	Ground
9	(+) Sense
10	Vin
11	Vin
12	*Mech support
13	*Mech support

*Horizontal and SMT version only

Surface Mount

Dimensions in inches (mm). Tolerances (unless otherwise specified) 2 Places ±0.030 (±0.76) 3 Places ±0.010 (±0.25)



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