

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



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 @ Io max.
Start-up time	Remote ON/OFF	3 ms

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

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	Operating ambient, temperature	0 °C to +70 °C
See Note 5	Non-operating	-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

Rev. 07.02.08
SIL40C2
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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

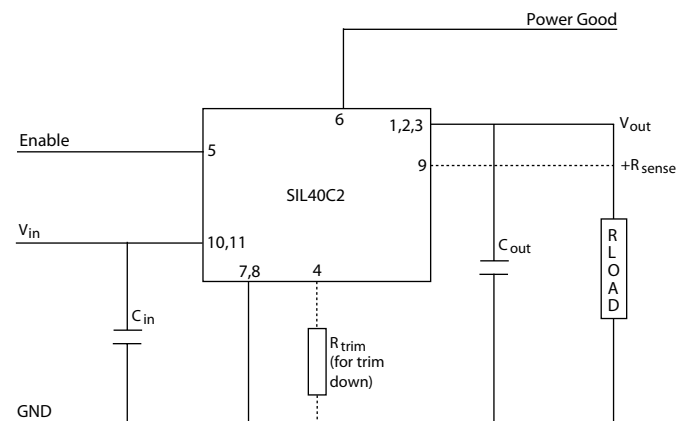
Output Voltage Adjustment of the SIL40C2 Series

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 $di/dt = 10 \text{ A}/\mu\text{s}$, $V_{in} = \text{Nom}$, $T_c = 25^\circ\text{C}$, load change = 0.75 I_o to full I_o and full I_o 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

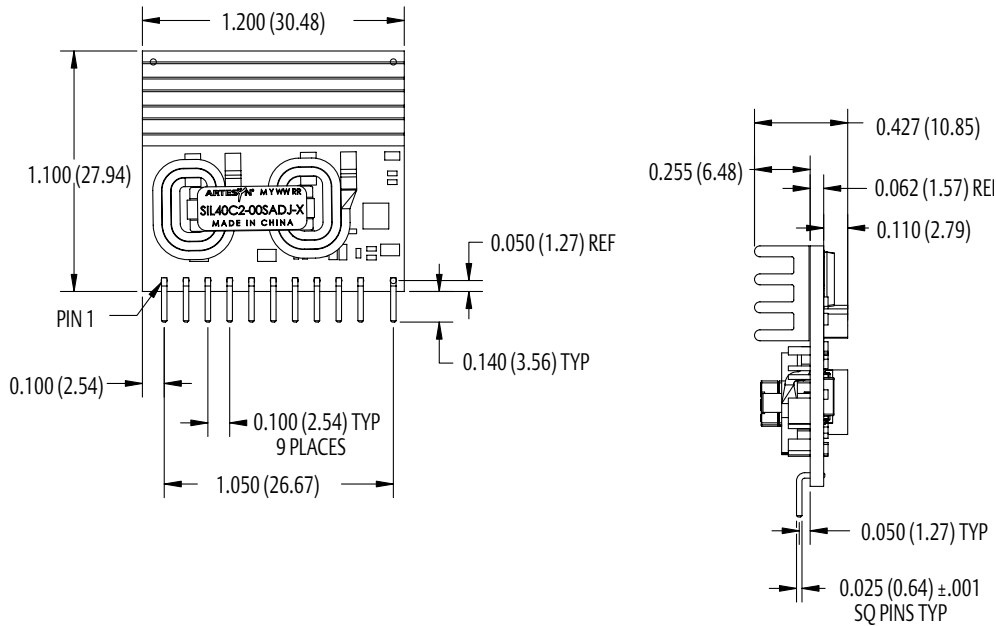
Standard Application Drawing



Mechanical Drawings

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

Vertical Mount

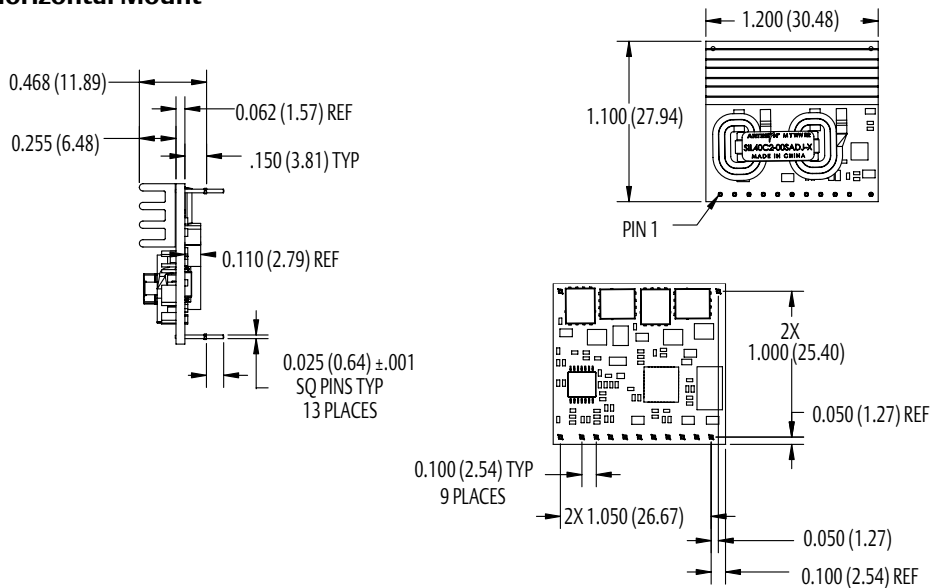


Pin Assignments

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

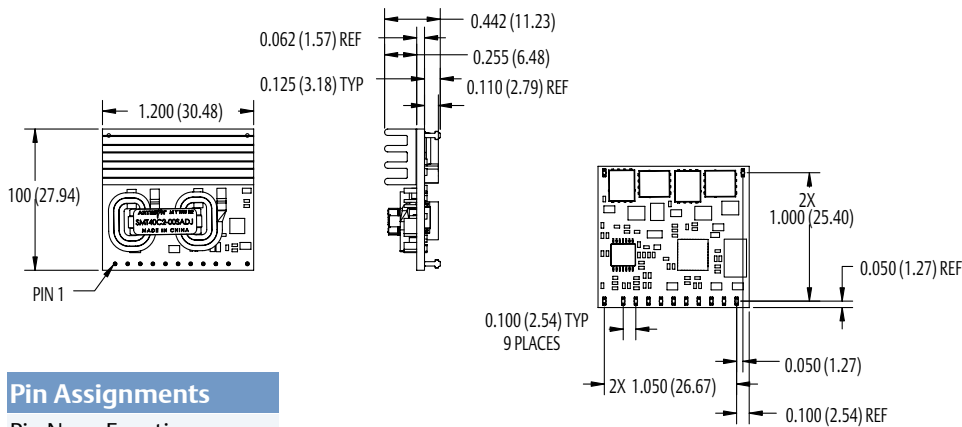
*Horizontal and SMT version only

Horizontal Mount



Surface Mount

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



Pin Assignments

Pin No.	Function
1	Vout
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3	Vout
4	Trim
5	Enable
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7	Ground
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9	(+) Sense
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*Horizontal and SMT version only

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