

## 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 <sup>(3,5)</sup>
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  
3 of 5

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

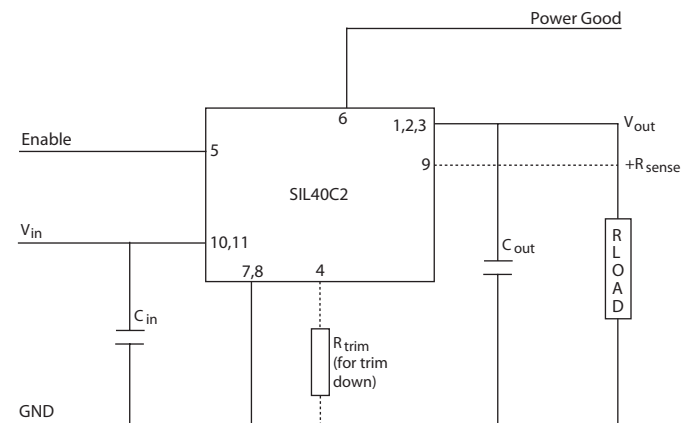
### Output Voltage Adjustment of the SIL40C2 Series

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 Io to full Io and full Io 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

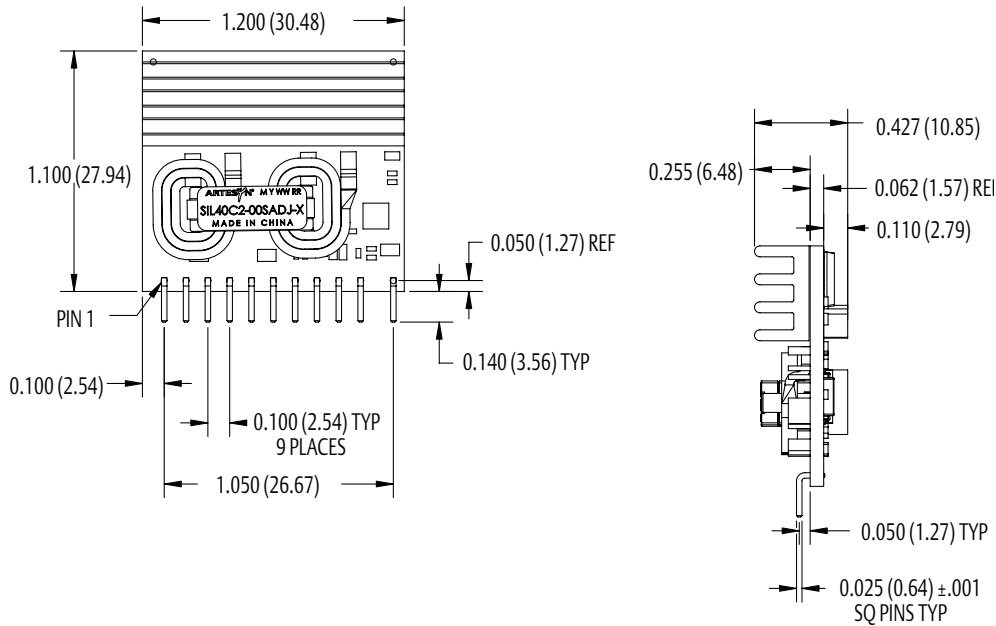
### Standard Application Drawing



## Mechanical Drawings

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

### Vertical Mount

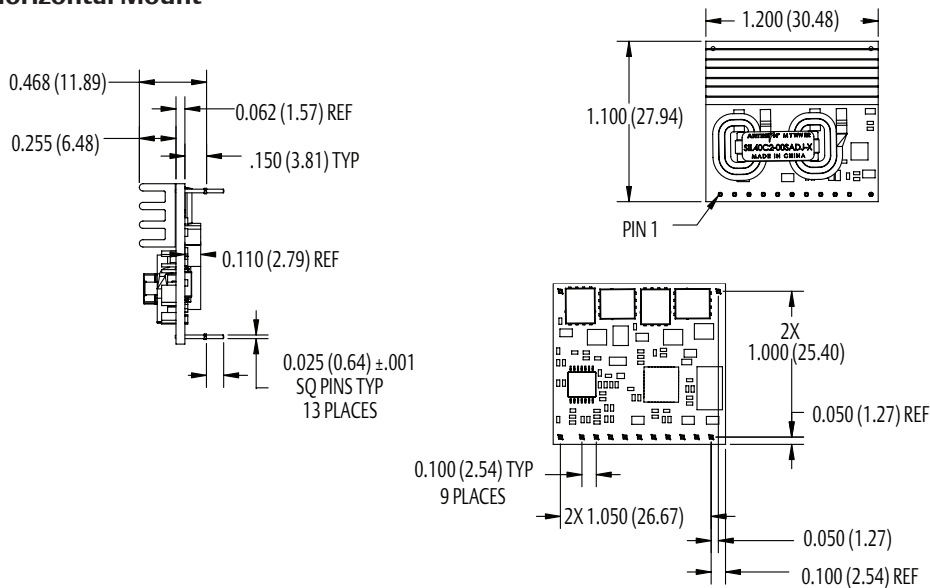


### Pin Assignments

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

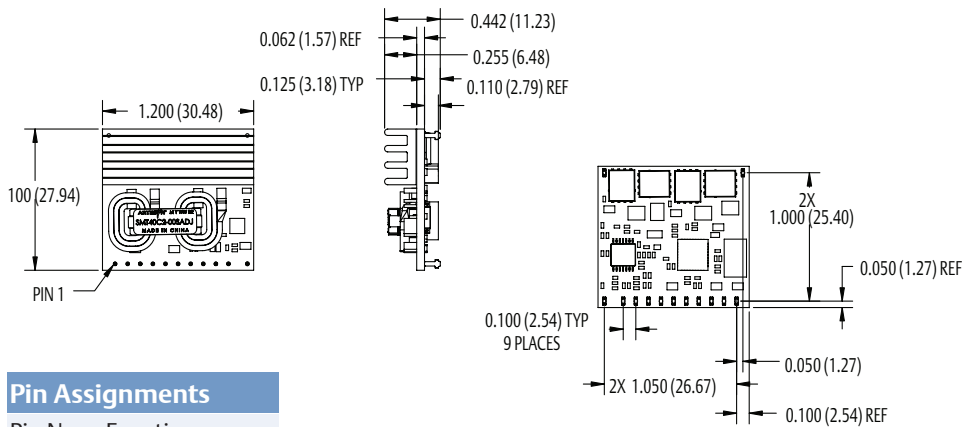
\*Horizontal and SMT version only

### Horizontal Mount



## Surface Mount

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



### 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

## Americas

5810 Van Allen Way  
Carlsbad, CA 92008  
USA  
Telephone: +1 (760) 930 4600  
Facsimile: +1 (760) 930 0698

## Europe (UK)

Waterfront Business Park  
Merry Hill, Dudley  
West Midlands, DY5 1LX  
United Kingdom  
Telephone: +44 (0) 1384 842 211  
Facsimile: +44 (0) 1384 843 355

## Asia (HK)

14/F, Lu Plaza  
2 Wing Yip Street  
Kwun Tong, Kowloon  
Hong Kong  
Telephone: +852 2176 3333  
Facsimile: +852 2176 3888

For global contact, visit:

**www.powerconversion.com**

**techsupport.embeddedpower  
@emerson.com**

While every precaution has been taken to ensure accuracy and completeness in this literature, Emerson Network Power assumes no responsibility, and disclaims all liability for damages resulting from use of this information or for any errors or omissions.

## Emerson Network Power.

The global leader in enabling  
business-critical continuity.

- AC Power
- Connectivity
- DC Power
- Embedded Computing
- **Embedded Power**
- Monitoring
- Outside Plant
- Power Switching & Controls
- Precision Cooling
- Racks & Integrated Cabinets
- Services
- Surge Protection

**EmersonNetworkPower.com**

Emerson Network Power and the Emerson Network Power logo are trademarks and service marks of Emerson Electric Co.  
©2008 Emerson Electric Co.