POWER

SIL/SMT40C2 Series

C-Class Non-Isolated

Data Sheet

Total Power:	40 Amps
Input Voltage:	4.5 - 13.8 Vdc
# of Outputs:	Single



RoHS 6/6 COMPLIANT

SPECIAL FEATURES

- 40 A current rating
- Input voltage range: 4.5 - 13.8 Vdc
- Output voltage: 0.6 - 5 V
- Industry-leading value
- Cost optimized design
- Excellent transient response
- Output enable
- Output voltage adjustability
- Supports silicon voltage migration
- 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

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
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 Note 1, 2	130 mV max. deviation 50 µs recovery to within regulation band
General		
Efficiency (high input)	Vin = 5 V, Vo = 2.5 V, Io = 20 A	94%
Switching frequency	Fixed	500 kHz
Material flammability		UL94V-0
Weight		17 g (0.06 oz.)
MTBF	12 V @ 40 °C, 100% load Bellcore 332	6,749,409 hours
Coplanarity	Surface mount models	150 µm

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Environmental Specifications

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

Ordering Information

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

Part Number System with Options

Product Family	Rated Output Current	Performance	Generation		Input Voltage	Output Voltage		Mounting Option	RoHS Compliance
SIL	**40**	**C**	**2**	-	**00**	**SADJ**	-	**V**	**J**
SIL = Single In Line SMT = Surface Mount	06 = 6 Amp 15 = 15 Amp 20 = 20 Amp 30 = 30 Amp 40 = 40 Amp	C = Cost Optimized	Blank = Standard 2 = Increased current density		00 = 4.5 - 13.8 V	Single Adjustable Output		V = Vertical H = Horizontal (Applicable to SIL version only)	J = Pb free (RoHS 6/6 compliant)

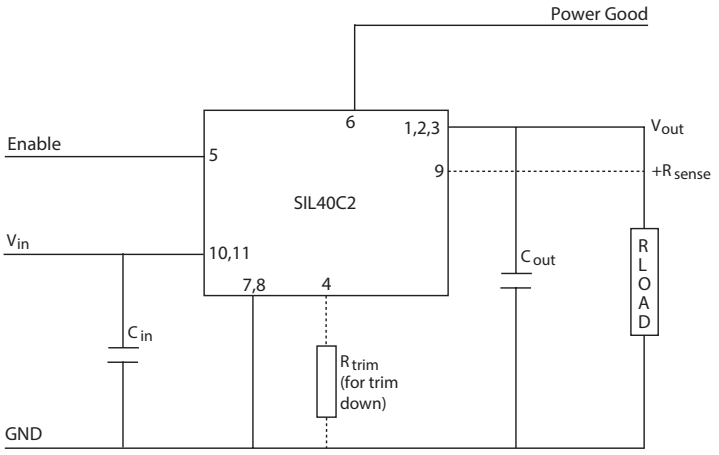
Output Voltage Adjustment

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 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 stability.
7. No capacitors needed for stability.
8. 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.
9. To order a Horizontal Mounting option with a pin length of 0.165", please use model SIL40C2-00S-HP5.

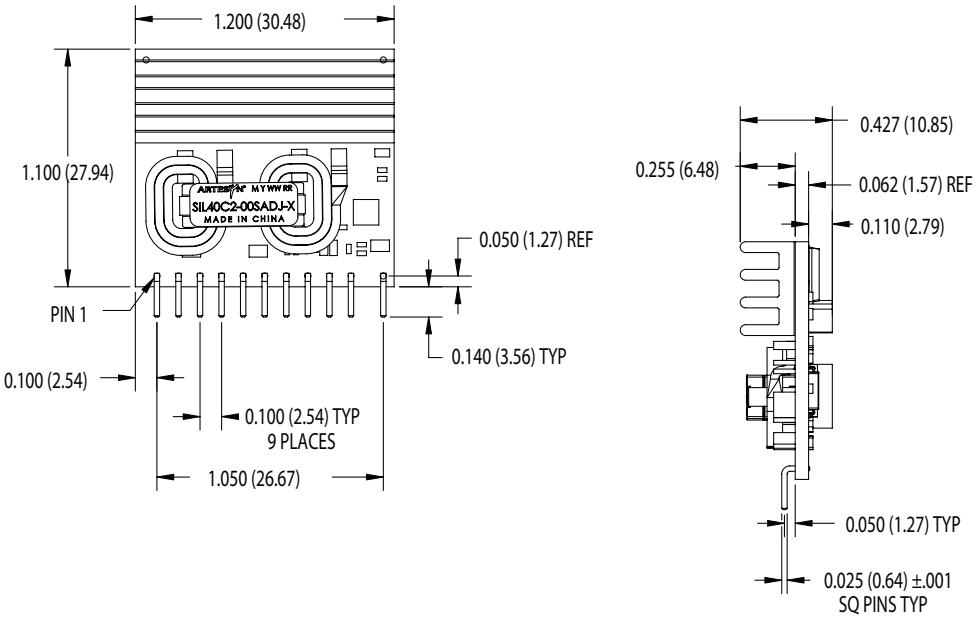
Standard Application Drawing



Mechanical Drawings

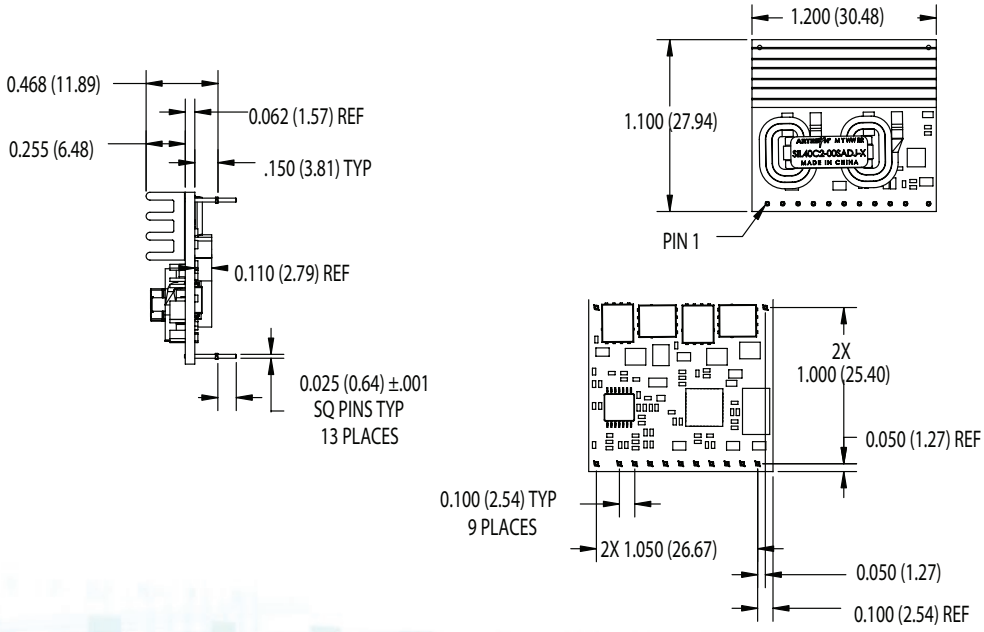
Vertical Mount

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



Horizontal Mount

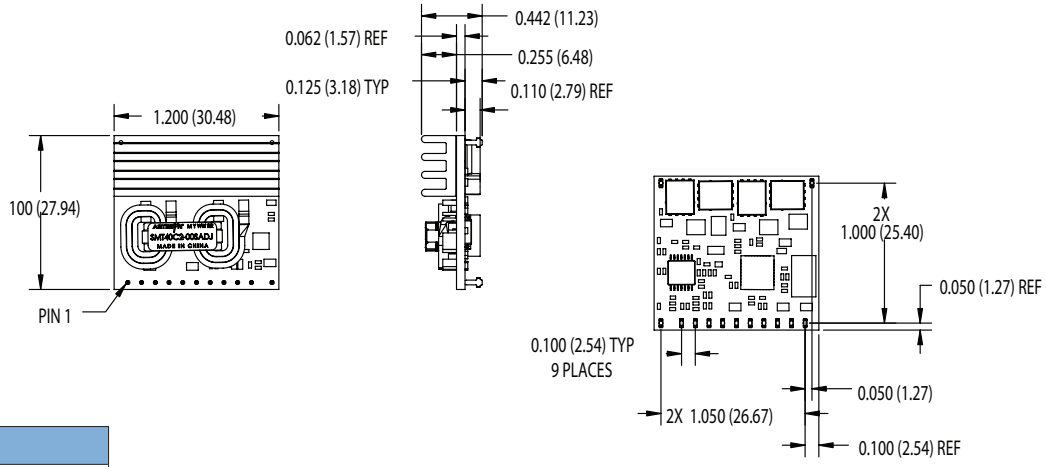
Dimensions in inches (mm). Tolerances (unless otherwise specified) 2 Places ±0.030 (±0.76) 3 Places ±0.010 (±0.25)



Mechanical Drawings

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	*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 Pin (Horz/SMT only)
13	Mech Pin (Horz/SMT only)

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