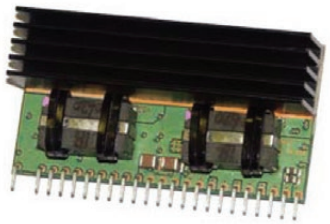
POWER

SIL/SMT80C2 Series

C-Class Non-Isolated; 80 Amps

Data Sheet

Total Power:	400 Watts
Input Voltage:	4.7 - 13.8 Vdc
# of Outputs:	Single



RoHS 6/6 COMPLIANT

SPECIAL FEATURES

- 80 A current rating
- Input voltage range: 4.7 - 13.8 Vdc
- Output voltage range: 0.8375 - 5.1 V
- Current sharing
- Industry-leading value
- Cost optimized design
- Excellent transient response
- Output voltage adjustability
- Path for future upgrades
- Supports silicon voltage migration
- Reduced design-in and qual time
- RoHS compliant

SAFETY

- Designed to meet UL, cUL 60960-1 (EN60950)

Electrical Specifications

Input		
Input voltage range		4.7 - 13.8 Vdc
Input current	Minimum load Remote OFF	290 mA 30 mA
Input current (max.)	See Note 3	60 A @ Io max.
Start-up time	Power up Remote ON/OFF	<12 ms <12 ms
Output		
Output voltage	See Note 5	0.8375 - 5.1 V
Output setpoint accuracy	1.0% trim resistors	±1.0%
Line regulation	Low line to high line	±0.2% max.
Load regulation	Full load to min. load	±0.5% max.
Min./max. load		0 A/80 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	35 mV Vin = 12 V, Vout = 2.5 V
Transient response (See Note 1, 2)	Deviation: Vin - 12 V Vout = 2.5 V	20 µs recovery to within regulation band
General		
Efficiency	Vo = 2,5 V, Vin = 12 V, Iout = 80 A	93% typical
Switching frequency	Fixed	500 kHz
Material flammability		UL94V-0
Weight		1.6 oz.
MTBF	12 V @ 40 °C, 100% load Bellcore 332	3.7 MHrs
Coplanarity		TBD

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EMBEDDED TECHNOLOGIES

Environmental Specifications

Thermal performance	Operating ambient temperature	-0 °C to +70 °C
See Note 6	Non-operating ambient temperature	-40 °C to +125 °C
Protection		
Overtemperature protection	Hiccup, non-latching	
Short-circuit	Hiccup, non-latching	
Recommended System Capacitance		
Input	See Note 7	0 µF
Output	See Note 8	0 µF

Ordering Information

Model Number [3,5]	Input Voltage	Output Voltage	Output Current (Min.)	Output Current (Max.)	Efficiency (Typical)	Regulation	
						Line	Load
SIL80C2-00SADJ-HJ	4.7 - 13.8 Vdc	0.84 - 5 V	0 A	80 A	93%	±0.2%	±0.5%
SIL80C2-00SADJ-VJ	4.7 - 13.8 Vdc	0.84 - 5 V	0 A	80 A	93%	±0.2%	±0.5%
SMT80C2-00SADJJ	4.7 - 13.8 Vdc	0.84 - 5 V	0 A	80 A	93%	±0.2%	±0.5%

Part Number System with Options

Product Family	Rated Output Current	Performance	Generation		Input Voltage	Output Voltage		Mounting Option	Custom Options	RoHS Compliance[9]
SIL	**80**	**C**	**2**	-	**0**	**SADJ**	-	**X**	**X**	**J**
SIL = Single In Line	80 = 80 Amp	C = Cost Optimized	2 = Increased current density		00 = 4.7-13.8 V	Single Adjustable Output		V = Vertical H = Horizontal	Blank = 3.05 mm pin 3 = 3.50 mm pin (horizontal mount only)	J = Pb free (RoHS 6/6 compliant)

Product Family	Rated Output Current	Performance	Generation		Input Voltage	Output Voltage		Mounting Option	Custom Options	RoHS Compliance[9]
SMT	**80**	**C**	**2**	-	**0**	**SADJ**	-	**X**	**X**	**J**
SMT = Surface Mount	80 = 80 Amp	C = Cost Optimized	2 = Increased current density		00 = 4.7-13.8 V	Single Adjustable Output		V = Vertical Blank = Horizontal	Blank = Standard	J = Pb free (RoHS 6/6 compliant)

Setting Output Voltage

Default output voltate: 0.8375V

The output voltage may be adjusted with a resistor placed between Trim (Pin 1) and (-)Trim (Pin 5).

The formula for calculating the value of this resistor is:

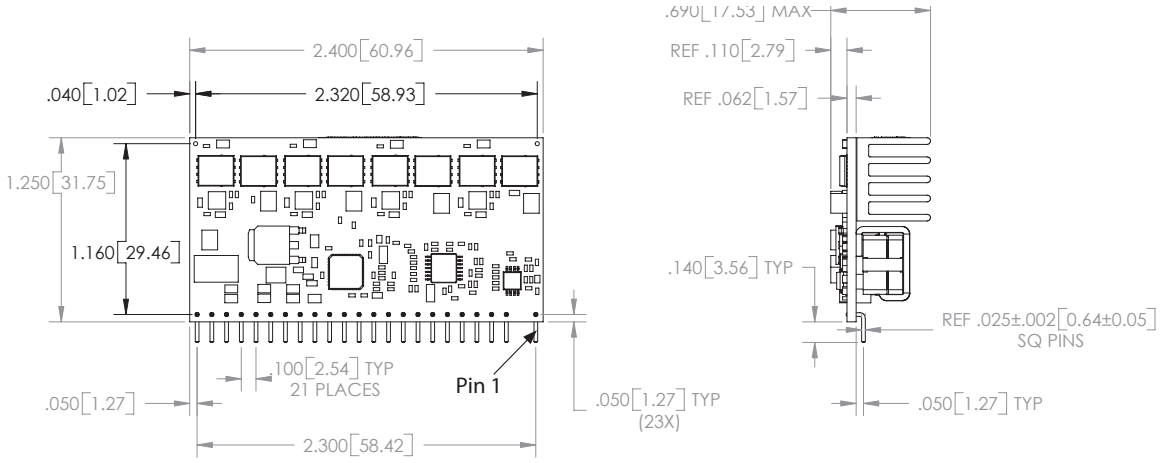
RTrim (k) = 1.675 / (Vout - 0.8375)

Notes:

1. Measured as per recommended system capacitance.
2. di/dt = 10 A/ µs, Vin = Nom, Tc = 25 ˚C, load change = 0.50 Io max. and vice versa.
3. External fusing is recommended.
4. Measured with external filter.
5. Uses external resistor from trim pin to (-) trim pin.
6. Airflow dependent, 300 LFM minimum required.
7. No capacitor needed for ripple current capability.
8. No capacitor needed for stability.
9. 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.

Mechanical Drawings

SIL80C2-00SADJ-VJ



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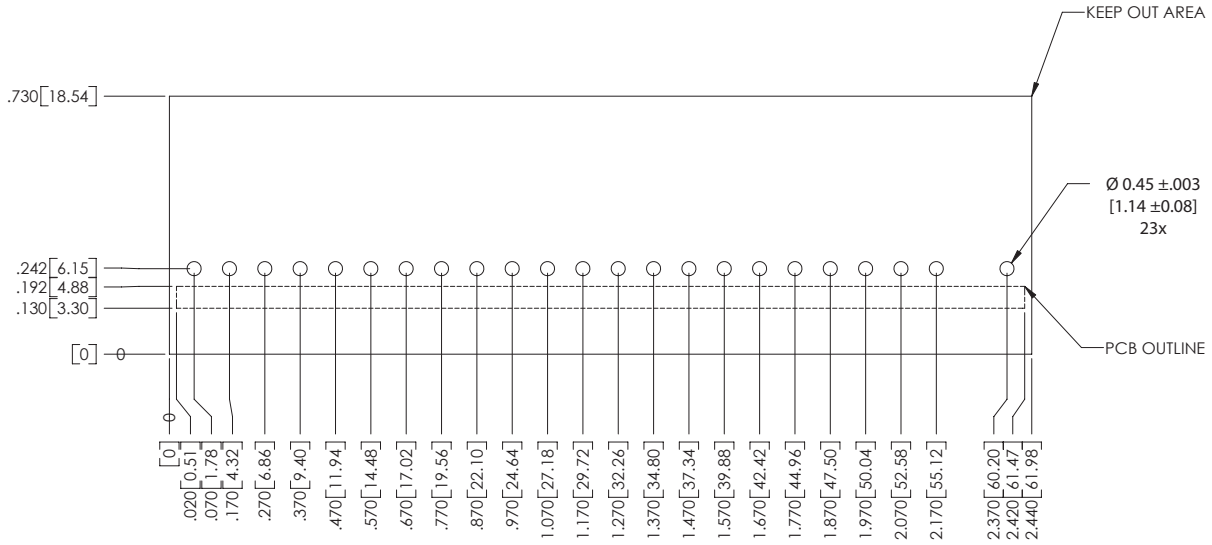
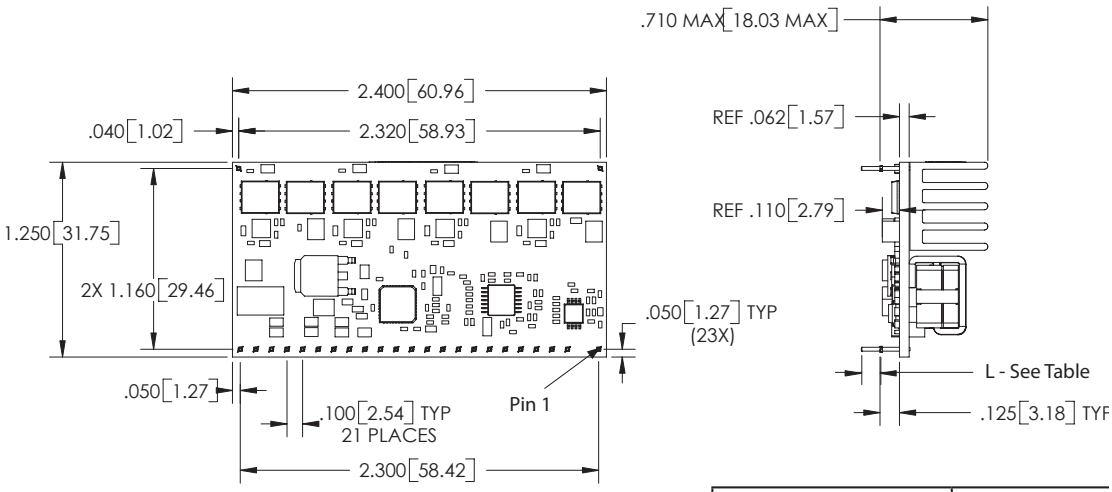


Pin Assignments			
Pin	*Function*	*Pin*	*Function*
1	Trim	14	Vin
2	No Pin	15	Vout
3	Ground	16	Vout
4	Power Good	17	Ground
5	(-) Trim	18	Vout
6	Ishare	19	Ground
7	Ground	20	Vout
8	Ground	21	Ground
9	Enable	22	Vout
10	Rem Sense (-)	23	Ground
11	Rem Sense (+)	24	Vout
12	Vin	25	Mech Pin (Horz mount only)
13	Vin	26	Mech Pin (Horz mount only)

Mechanical Drawings

SIL80C2-00SADJ-HJ/H3J



Model	L Dimension
SIL80C2-00SADJ-HJ	REF .120 [3.05]
SIL80C2-00SADJ-H3J	REF .138 [3.50]

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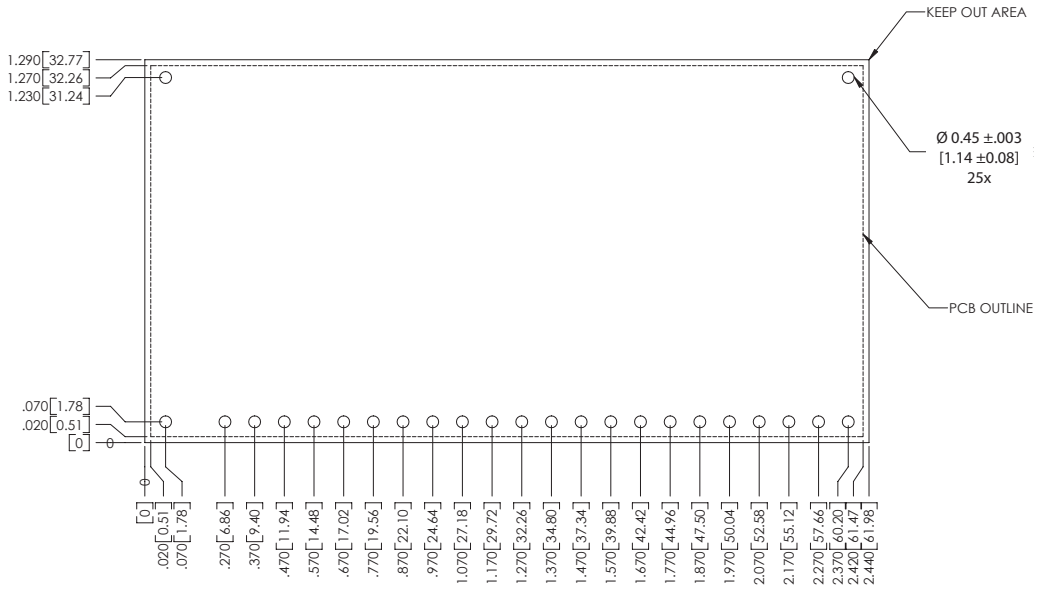
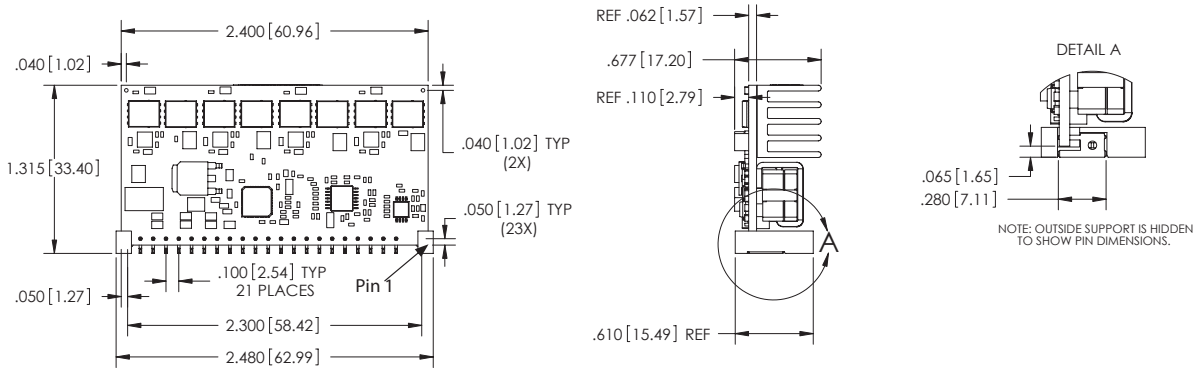


Mechanical Drawings

SMT80C2-00SADJ-VJ



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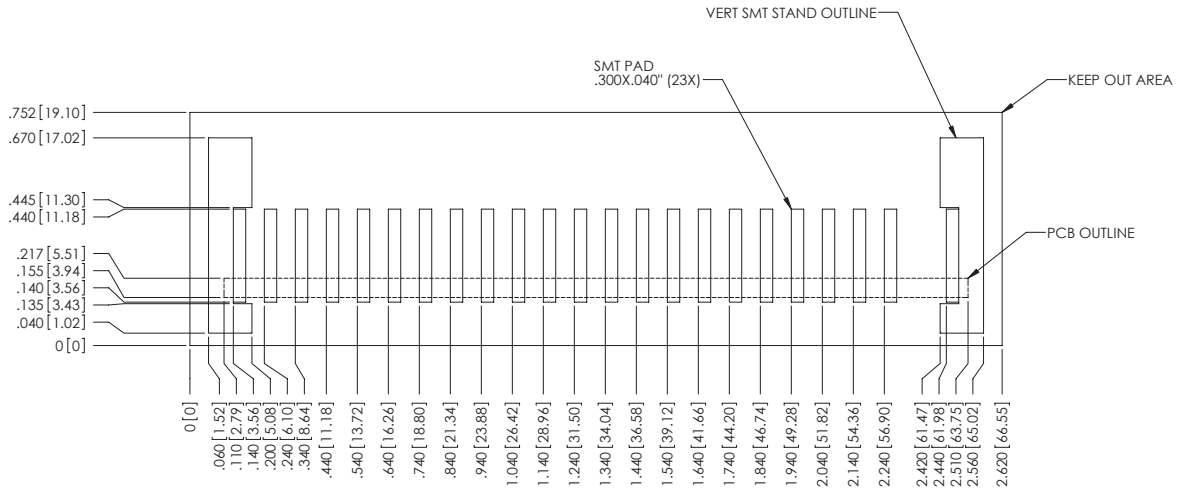
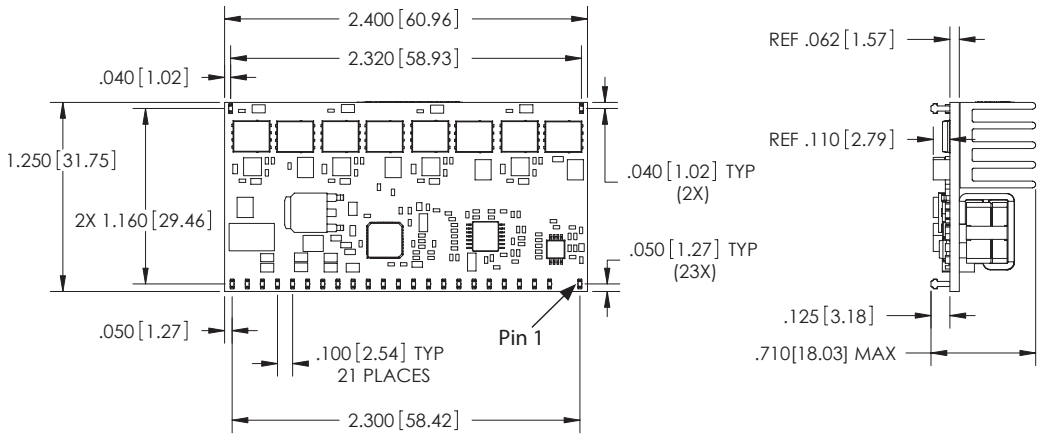
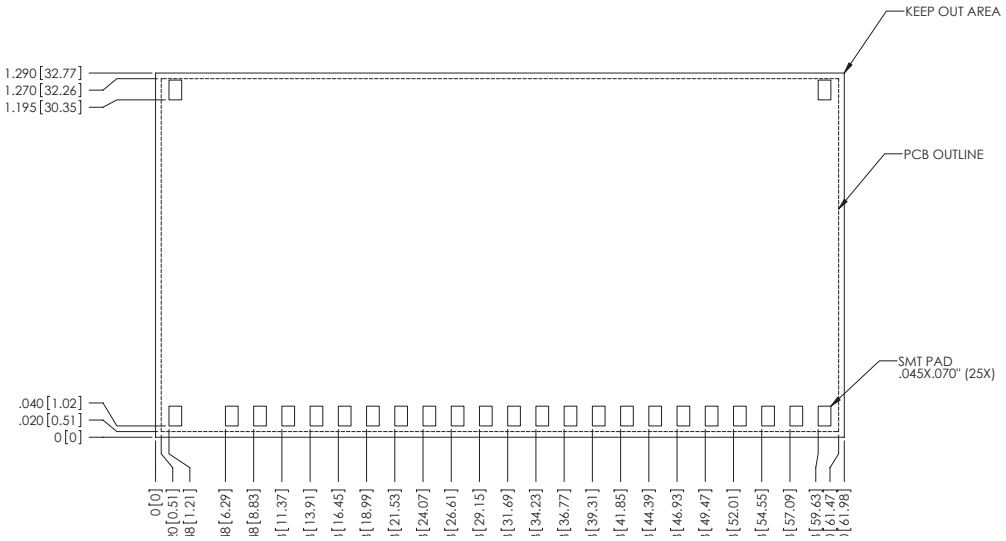


Mechanical Drawings

SMT80C2-00SADJ-VJ





WORLDWIDE OFFICES

Americas
2900 S.Diablo Way
Tempe, AZ 85282
USA
+1 888 412 7832

Europe (UK)
Waterfront Business Park
Merry Hill, Dudley
West Midlands, DY5 1LX
United Kingdom
+44 (0) 1384 842 211

Asia (HK)
14/F, Lu Plaza
2 Wing Yip Street
Kwun Tong, Kowloon
Hong Kong
+852 2176 3333

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www.artesyn.com

For more information: **www.artesyn.com/power**
For support: **productsupport.ep@artesyn.com**