

SIL/SMT20C2 Series

4.5 Vin to 13.8 V Single Output

NEW Product

- 20 A current rating
- Input voltage range: 4.5-13.8 V
- Output voltage: 0.59-5.1 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
- Current sink capability
- RoHS compliant



The SIL/SMT20C2 series is a new high density, open frame, non-isolated converter for space sensitive applications. This model has a wide input range (4.5-13.8 Vdc) and offers a wide 0.59-5.1 V output voltage range with 20 A load capability. An external resistor adjusts the output voltage from its pre-set value of 0.59 V to any value up to the 5 V maximum. Typical efficiencies for the models are 93% for the 12 V input version. The series offers remote ON/OFF and over-current protection as standard.

All specifications are typical at nominal input, full load at 25 °C, unless otherwise stated

SPECIFICATIONS

OUTPUT SPECIFICATIONS

Output voltage	(See Note 5)	0.59-5.1 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/20 A
Overshoot	At turn-on	0.5% max.
Undershoot	At turn-off	100 mV max.
Ripple and noise	(See Note 1)	30 mV 5 Hz to 20 MHz Vin = 5 V, Vout = 2.5 V
Transient response	(See Notes 1, 2)	130 mV max. deviation 50 µs recovery within regulation band

INPUT SPECIFICATIONS

Input voltage range		4.5-13.8 Vdc
Input current	Minimum load Remote OFF	50 mA 5 mA
Input current (max.)	(See Note 3)	18 A @ Io max.
Start-up time	Remote ON/OFF	3 ms

GENERAL SPECIFICATIONS

Efficiency	Vin=5 V, Vo=2.5 V, Io=20 A	90%
Switching frequency	Fixed	750 kHz
Approvals and standards (pending)		EN60950 UL/cUL6950
Material flammability		UL94V-0
Weight		8.50 g/0.3 oz.
MTBF	12 V @ 40 °C 100% load Bellcore 332	6,721,853 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

International Safety Standard Approvals



UL/cUL CAN/GSA 22.2



TÜV Product Service (EN60950)
CB report and certificate to IEC60950

SIL/SMT20C2 Series

4.5 Vin to 13.8 V Single Output

OUTPUT POWER (MAX.)	INPUT VOLTAGE	MOUNT	OUTPUT VOLTAGE	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX.)	EFFICIENCY (TYP.)	REGULATION		MODEL NUMBER ^(8, 9)
							LINE	LOAD	
100 W	4.5-13.8 Vdc	Horizontal	0.59-5.1 V	0 A	20 A	93%	±0.2%	±0.5%	SIL20C2-00SADJ-HJ
100 W	4.5-13.8 Vdc	Vertical	0.59-5.1 V	0 A	20 A	93%	±0.2%	±0.5%	SIL20C2-00SADJ-VJ
100 W	4.5-13.8 Vdc	Horizontal Surface	0.59-5.1 V	0 A	20 A	93%	±0.2%	±0.5%	SMT20C2-00SADJJ

Part Number System with Options

SXX20C2-00SADJ-VJ

Product Family
SMT = Surface Mount
SIL = Single In Line

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

RoHS Compliance⁽⁶⁾
J = Pb-free (RoHS 6/6 compliant)

Mounting Option
-V = Vertical
-H = Horizontal
Blank = Horizontal Surface

Output Voltage
Single Adjustable Output

Input Voltage
00 = 4.5-13.8 V

Output Voltage Adjustment of the SIL/SMT20C2 Series

The ultra-wide output voltage trim range offers major advantages to users who select the SIL/SMT20C2. 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 0.59-5.1 V. When the SIL/SMT20C2 converter leaves the factory, the output has been adjusted to the default voltage of 0.59 V.

Notes

- 1 Measured as per recommended system capacitance.
- 2 $di/dt = 10 \text{ A}/\mu\text{s}$, $V_{in} = \text{Nom}$, $T_c = 25 \text{ }^\circ\text{C}$, 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 capacitor needed for ripple current capability.
- 7 No capacitor needed for stability.
- 8 TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
- 9 NOTICE: Some models may not support all options. Please contact your local Emerson Network Power representative or use the on-line model number search tool at <http://www.powerconversion.com> to find a suitable alternative.

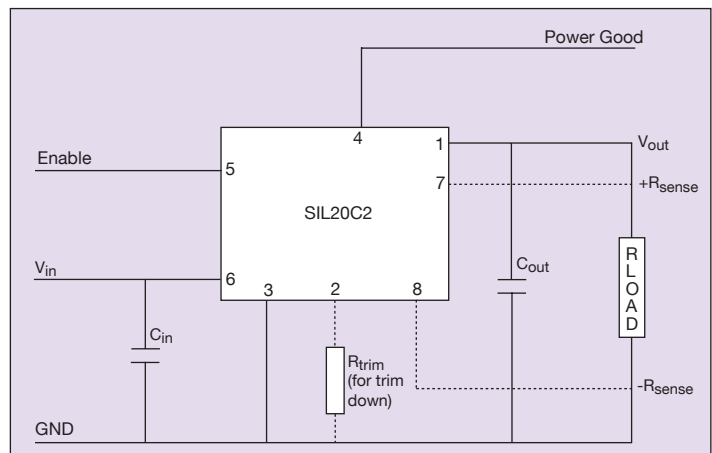


Figure 1: Standard Application Drawing

SIL/SMT20C2 Series

4.5 Vin to 13.8 V Single Output

For the most current data and application support visit www.powerconversion.com/products/

NEW Product

PIN CONNECTIONS	
PIN NO.	FUNCTION
1	Vout
2	Trim
3	Ground
4	Power good
5	Enable
6	Vin
7	Remote Sense (+)
8	Remote Sense (-)

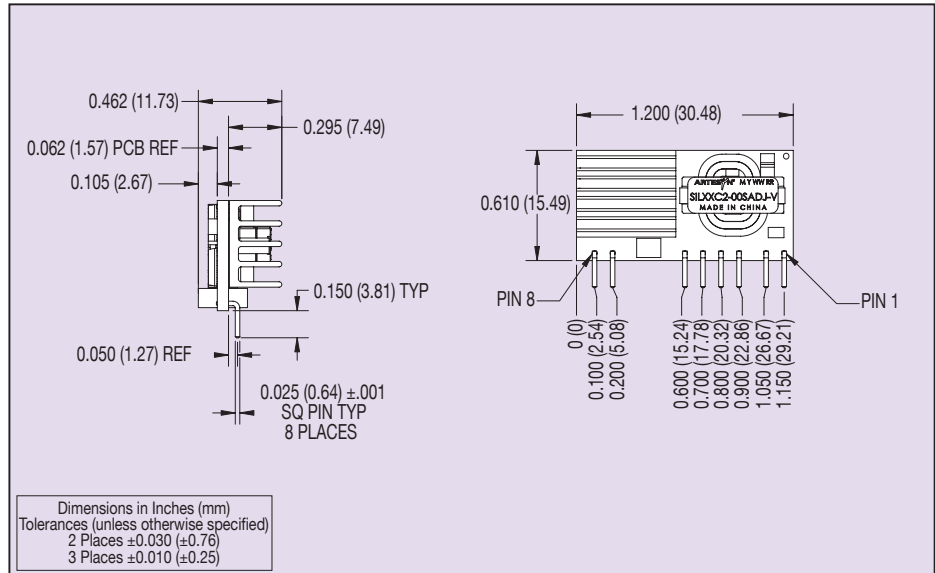


Figure 2: Vertical Mount Mechanical Drawing

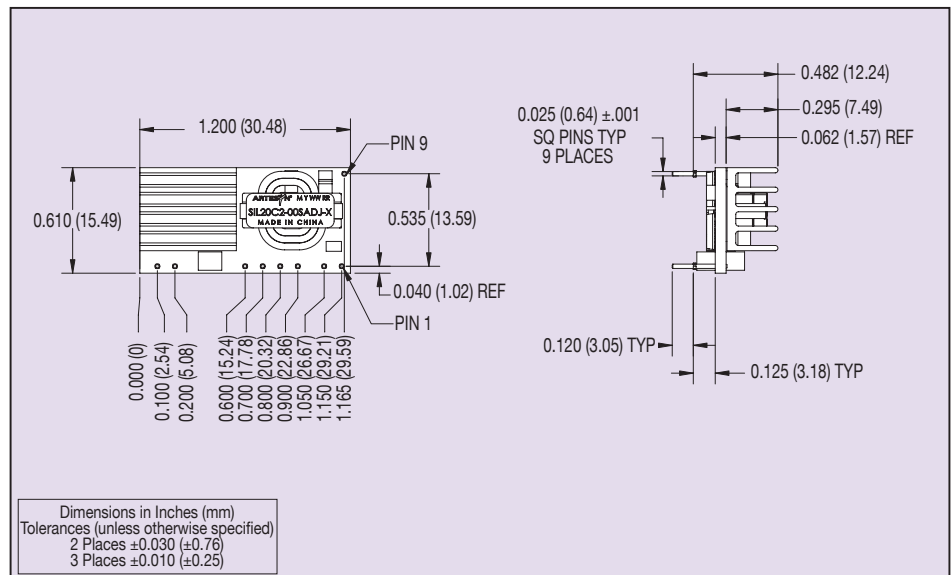


Figure 3: Horizontal Mount Mechanical Drawing

SIL/SMT20C2 Series

4.5 Vin to 13.8 V Single Output

For the most current data and application support visit www.powerconversion.com/products/

NEW Product

PIN CONNECTIONS	
PIN NO.	FUNCTION
1	Vout
2	Trim
3	Ground
4	Power good
5	Enable
6	Vin
7	Remote Sense (+)
8	Remote Sense (-)
9	*Mech Support
10	*Mech Support

* Horizontal version only

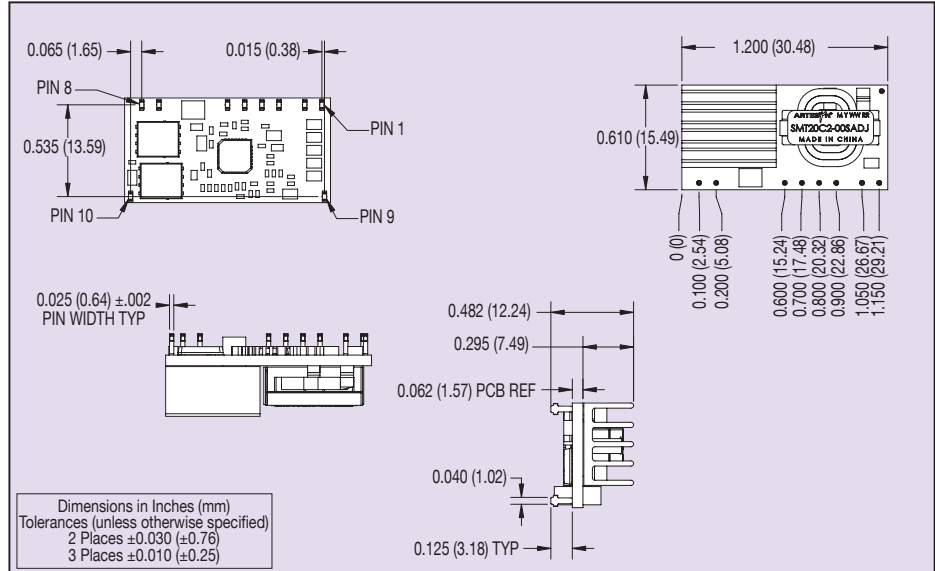


Figure 4: Surface Mount Mechanical Drawing

Datasheet © Emerson™ 2008

The information and specifications contained in this datasheet are believed to be correct at time of publication. However, Emerson Network Power accepts no responsibility for consequences arising from printing errors or inaccuracies. Specifications are subject to change without notice. No rights under any patent accompany the sale of any such product(s) or information contained herein.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.