

SMT40C Series 12 Vin single output

Total Power: 200W
Input Voltage: 10.2-13.8 Vdc
of Outputs: Single



Rev.06.25.07
smt40c
1 of 4

Special Features

- 40 A current rating
- Input voltage range: 10.2 Vdc - 13.8 Vdc
- Output voltage range: 0.9 Vdc - 5.0 Vdc
- Industry leading value
 - Cost optimized design
- Excellent transient response
- Output voltage adjustability
 - Pathway for future upgrades
 - Supports silicon voltage migration
 - Resulting in reduced design-in and qualification time
- Designed in reliability: MTBF of >4 million hours per Telcordia SR-332
- Current share
- Available RoHS compliant
- 2 year warranty

Safety

UL/cUL : UL/cUL CAN/CSA 22.2
No. 60950
UL 60950 File No. E139421

TÜV Product Service
(EN60950:2000)
Certificate No. B 04 08 19870 228

CB report and certificate to
IEC60950-US/6415C/UL

The SMT40C Series is a new high density open frame non-isolated converter for space-sensitive applications. Each model has a wide input range of 10.2 Vdc to 13.8 Vdc and offers a wide 0.9 Vdc to 5.0 Vdc output voltage range with a 40 A load. An external resistor adjusts the output voltage from its pre-set value of 0.9 V to any value up to 5 V. Typical efficiencies are 92% at full load conditions. The SMT40C series offers remote ON/OFF and overcurrent protection as standard. With full international safety approval including EN60950 and UL/cUL60950, the SMT40C reduces compliance costs and time to market.



Specifications

All specifications are typical at nominal input $V_{in} = 12V$, full load at 25°C unless otherwise stated.

OUTPUT SPECIFICATIONS

Voltage adjustability	(See Note 5)	0.9-5.0 Vdc
Output setpoint accuracy	1.0% trim resistors	±3.0%
Line regulation	Low line to high line	±0.2% max.
Load regulation	Full load to min. load	±1.5% max.
Min/max load		0 A/40 A
Overshoot	At turn-on	1.0% max.
Undershoot	At turn-off	100 mV max.
Ripple and noise 5 Hz to 20 MHz	(See Note 1)	50 mV pk-pk 15 mV rms
Transient response (See Note 2)		75 mV max. deviation 50 μ s recovery to within regulation band
Current share	Full load	±10%

INPUT SPECIFICATIONS

Input voltage range		10.2-13.8 Vdc
Input current	Minimum load Remote OFF	290 mA 30 mA
Input current (max.)		22 A max @ I_o max and $V_{in} = 10.2 V$
Input reflected ripple	(See Note 4)	150 mA pk-pk
Remote ON/OFF Logic compatibility		Positive logic ON >2.4 Vdc OFF <0.8 Vdc
Start-up time (See Note 8)	Power up Remote ON/OFF	<30 ms <30 ms
Turn ON threshold		9.0 Vdc typ.
Turn OFF threshold		7.6 Vdc typ.

GENERAL SPECIFICATIONS

Efficiency		92% typ.
Switching frequency	Fixed	300 kHz typ.
Approvals and standards	(See Note 7)	TÜV Product Services IEC60950, UL/cUL60950
Material flammability		UL94V-0
Weight		28.3 g (1.0 oz)
Coplanarity		150 μ m
MTBF	Telcordia SR-332, method II @ 40 °C	4,585,991 hours

ENVIRONMENTAL SPECIFICATIONS

Thermal performance (See Note 9)	Operating ambient, temperature Non-operating	0 °C to +80 °C -40 °C to +125 °C
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PROTECTION

Short-circuit	Foldback, non-latching
Over-temperature	Hiccup, non-latching

RECOMMENDED SYSTEM CAPACITANCE

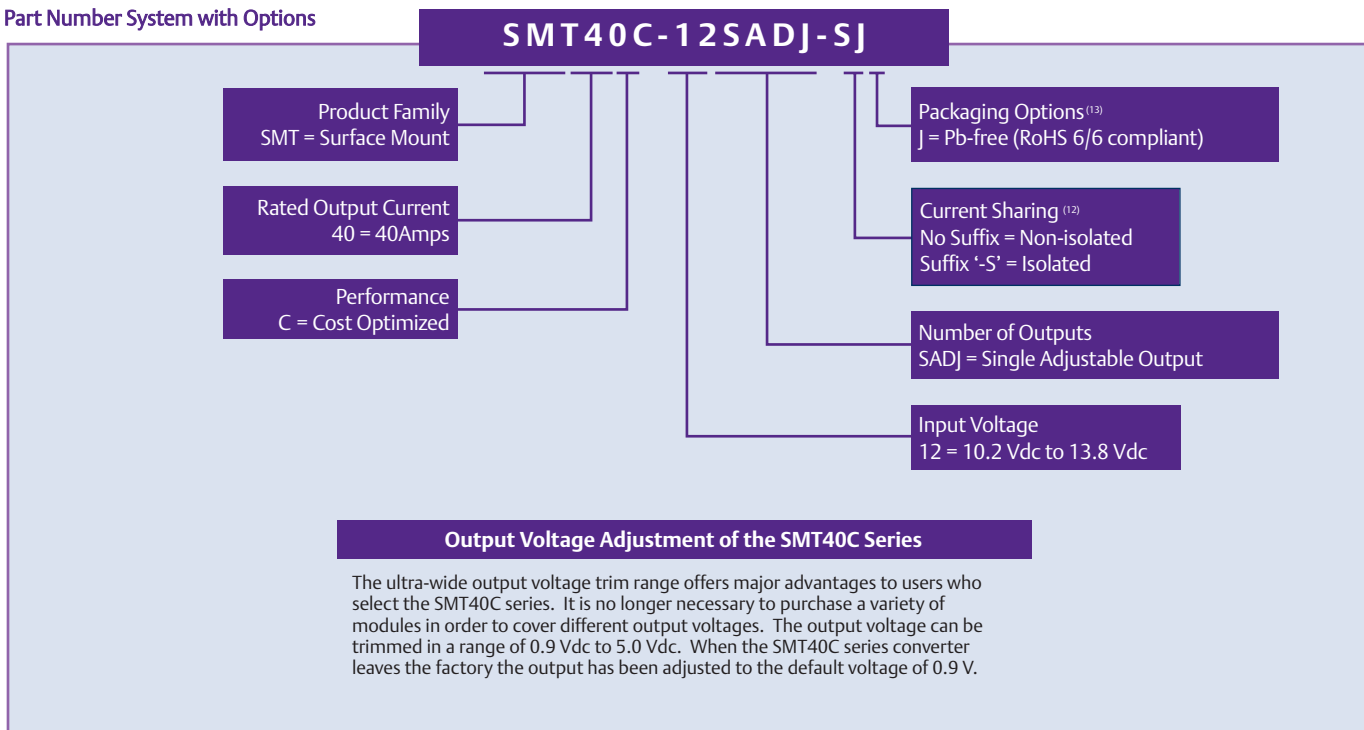
Input capacitance	(See Note 10)	2 x 270 μ F/20 mW ESR max.
Output capacitance	(See Note 10)	3 x 680 μ F/10 mW ESR max.

Specifications

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

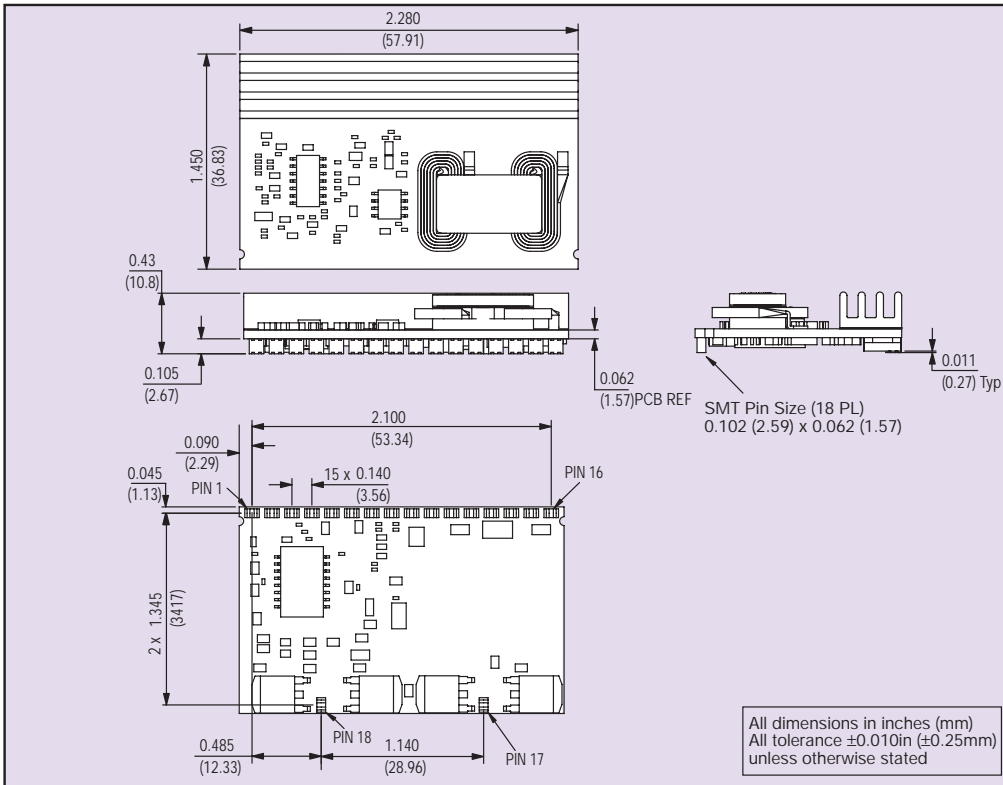
OUTPUT POWER (MAX.)	INPUT VOLTAGE	OVP	OUTPUT VOLTAGE ⁽¹¹⁾	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX.)	EFFICIENCY	REGULATION		MODEL NUMBER ^(13,14)
							LINE	LOAD	
200 W	10.2-13.8 Vdc	N/A	0.9-5.0 Vdc	0 A	40 A	92%	±0.2%	±1.5%	SMT40C-12SADJJ

Part Number System with Options



Notes

- 1 Measured as per recommended set-up. 2 x Cin = 270 µF (20 mW ESR max, 3 x Cout = 680 µF (10 mW ESR max).
- 2 di/dt = 10 A/µs, Vin = Nom, Tc = 25 °C, load change = 0.50 Io max. to 0.75 Io max. and 0.75 Io max. to 0.50 Io max.
- 3 External input fusing is recommended.
- 4 Measured with external filter. See Application Note 170 for details.
- 5 Uses external resistor from trim pin to output ground. See Application Note 170 for details.
- 6 Signal line assumed <3 m in length.
- 7 This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
- 8 Power-up is the time from application of dc input to Power Good enabled. Remote ON/OFF is from ON/OFF asserted high to power good enabled.
- 9 See Application Note 170 for operation above 50 °C.
- 10 See Application Note 170 for ripple current requirements.
- 11 These models have a wide trim output. The unit has an output of 0.9Vdc to 5 Vdc. An external resistor adjusts the output voltage.
- 12 For redundant current sharing applications that use ORing diodes to separate the outputs, please add the suffix '-S' to the part number, e.g. SMT40C-12SADJ-SJ. Please refer to Application Note 170 for further details.
- 13 TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
- 14 NOTICE: Some models do not support all options. Please contact your local Artesyn representative or use the on-line model number search tool at <http://www.artesyn.com/powergroup/products.htm> to find a suitable alternative.



PIN CONNECTIONS			
PIN NO.	FUNCTION	PIN NO.	FUNCTION
1	Current Sense	10	Vin
2	Trim	11	Vin
3	GND	12	Vout
4	GND	13	Vout
5	GND	14	GND
6	Sense-	15	Vout
7	Sense+	16	GND
8	Remote ON/OFF	17	Mechanical Support
9	Power Good	18	Mechanical Support

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