

# SMT30C Series

12 Vin single output

**NEW Product**



- **30 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**
- **Available RoHS compliant**



The SMT30C series is a new high density open-frame, non-isolated converter for space sensitive applications. SMT30C 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 30 A load. An external resistor adjusts the output voltage from its pre-set value of 0.9 V to any value up to the 5 V maximum. Typical efficiency is 91%. The series offers remote ON/OFF and over-current protection as standard. With full international safety approvals including EN60950 and UL/cUL60950, the SMT30C reduces compliance costs and time to market.



**2 YEAR WARRANTY**

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

## SPECIFICATIONS

### OUTPUT SPECIFICATIONS

Voltage adjustability	(See Note 1)	0.9-5.0 Vdc
Output setpoint accuracy	1.0% trim resistors	±3%
Line regulation	Low line to high line	±0.2% max.
Load regulation	Full load to min. load	±1.0% max.
Min/max load		0 A/30 A
Overshoot	At turn-on	1.0% max.
Undershoot	At turn-off	100 mV max.
Ripple and noise	(See Note 2)	50 mV pk-pk 15 mV rms
Transient response	(See Note 3)	75 mV max. deviation 150 µs recovery to within regulation band
Current share	Full load	±10%

### INPUT SPECIFICATIONS

Input voltage range	Nominal 12 V	10.2-13.8 Vdc
Input current	Minimum load Remote OFF	230 mA 30 mA
Input current (max.)	(See Note 4)	13.8 A max. @ $I_o$ max. and $V_{in} = 10.8 V$
Input reflected ripple	(See Note 2)	150 mA (pk-pk)
Remote ON/OFF Logic compatibility		Positive logic >2.4 Vdc <0.8 Vdc
Start-up time	Power-up Remote ON/OFF	<30 ms <30 ms

### INPUT SPECIFICATIONS (CONTD.)

Turn ON threshold	9.0 Vdc typ.
Turn OFF threshold	7.6 Vdc typ.

### GENERAL SPECIFICATIONS

Efficiency		91% 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 oz)
Coplanarity		150 µm
MTBF	Telcordia SR-332	4,456,655 hours

### ENVIRONMENTAL SPECIFICATIONS

Thermal performance (See Note 8)	Operating ambient, temperature	0 °C to +80 °C
	Non-operating	-40 °C to +125 °C

### PROTECTION

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

### RECOMMENDED SYSTEM CAPACITANCE

Input capacitance	(See Note 9)	270 µF/20 mΩ ESR max.
Output capacitance	(See Note 9)	2 x 680 µF/10 mΩ ESR max.

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DC-DC CONVERTERS | C Class Non-isolated

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For the most current data and application support visit [www.artesyn.com/powergroup/products.htm](http://www.artesyn.com/powergroup/products.htm)

**NEW Product**

OUTPUT POWER (MAX.)	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX.)	EFFICIENCY (TYP.)	REGULATION		MODEL NUMBER <sup>(11,12)</sup>
						LINE	LOAD	
150 W	10.2-13.8 Vdc	0.9-5.0 Vdc	0 A	30 A	91%	±0.2%	±1.0%	SMT30C-12SADJJ

## Part Number System with Options

### SMT30C-12SADJJ

**Product Family**  
SMT = Surface Mount

**Rated Output Current**  
30 = 30 A

**Performance**  
C = Cost Optimized

**Packaging Options <sup>(11)</sup>**  
J = Pb-free (RoHS 6/6 compliant)

**Number of Outputs**  
SADJ = Single Adjustable Output

**Input Voltage**  
12 = 10.2 Vdc to 13.8 Vdc

### Output Voltage Adjustment of the SMT30C Series

The ultra-wide output voltage trim range offers major advantages to users who select the SMT30C. 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 0.9 Vdc to 5.0 Vdc. When the SMT30C converter leaves the factory the output has been adjusted to the default voltage of 0.9 V.

## Notes

- 1 Uses external resistor from TRIM to ground. See Application Note 170 for details.
- 2 Measured with external filter. See Application Note 170 for details.
- 3  $di/dt = 10 \text{ A}/\mu\text{s}$ ,  $V_{in} = \text{Nom}$ ,  $T_c = 25 \text{ }^\circ\text{C}$ , load change = 0.50 I<sub>o</sub> max. to 0.75 I<sub>o</sub> max, and vice versa.
- 4 External input fusing recommended.
- 5 Power up is the time from application of dc input to POWER GOOD high. Remote ON/OFF asserted high to POWER GOOD high.
- 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 See Application Note 170 for operation above 50 °C.
- 9 See Application Note 170 for more details.
- 10 For redundant current sharing applications that use ORing diodes to separate the outputs, please add the suffix '-S' to the part number, e.g. SMT30C-12SADJ-SJ. Please refer to Application Note 170 for further details.
- 11 TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
- 12 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.

## International Safety Standard Approvals



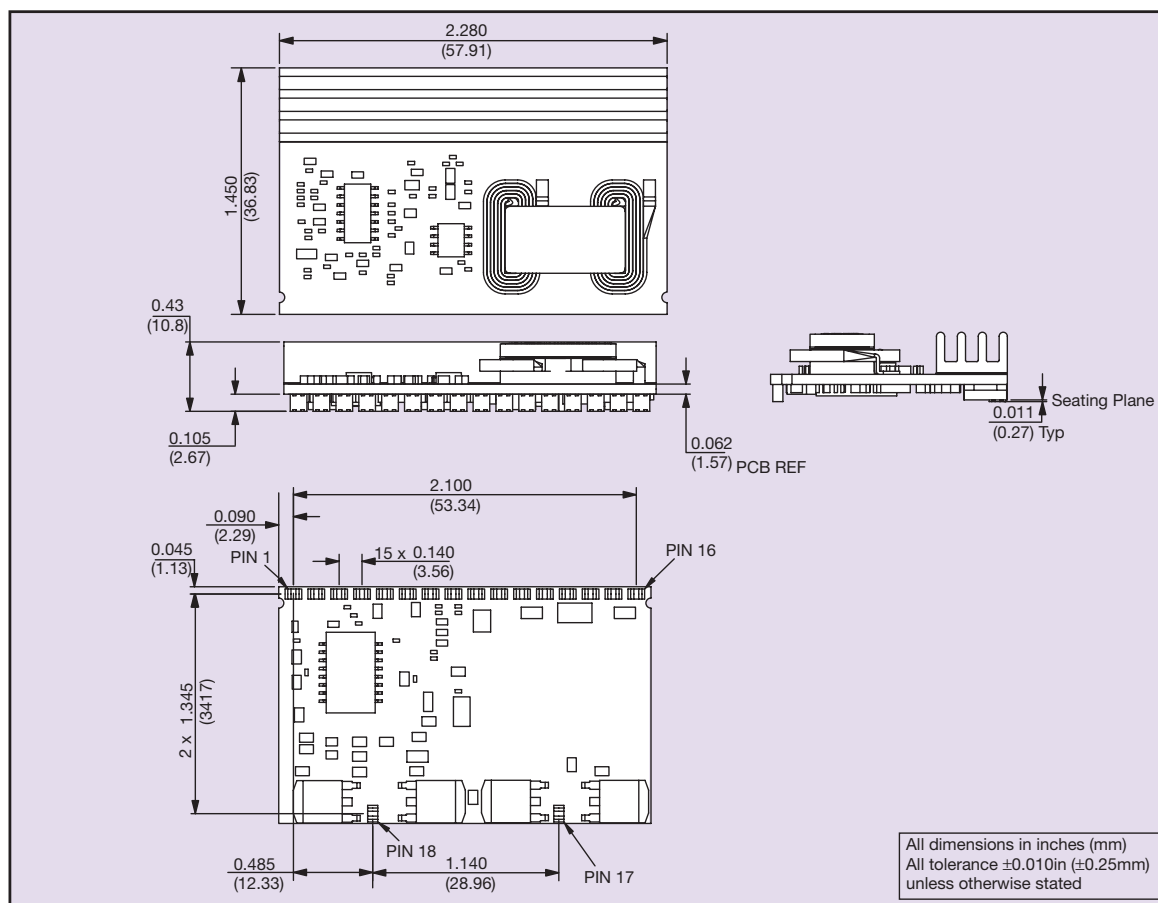
UL/cUL CAN/CSA 22.2 No. 60950  
UL 60950 File No. E139421



TÜV Product Service (EN60950:2000)  
Certificate No. B 04 08 19870 228  
CB report and certificate to IEC60950-US/6415C/UL

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12 Vin single output



PIN CONNECTIONS			
PIN NO.	FUNCTION	PIN NO.	FUNCTION
1	Current Share	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