

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 Vin = 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 5 Hz to 20 MHz	(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. @ Io max. and Vin = 10.8 V
Input reflected ripple	(See Note 2)	150 mA (pk-pk)
Remote ON/OFF Logic compatibility		Positive logic >2.4 Vdc ON OFF <0.8 Vdc
Start-up time (See Note 5)	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 Non-operating	0 °C to +80 °C -40 °C to +125 °C
-------------------------------------	--	-------------------------------------

PROTECTION

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

SMT30C Series

12 Vin single output

DC-DC CONVERTERS | C Class Non-isolated

2

For the most current data and application support visit 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 ^(11,12)
						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 ⁽¹¹⁾
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 $di/dt = 10 \text{ A}/\mu\text{s}$, $V_{in} = \text{Nom}$, $T_c = 25^\circ\text{C}$, load change = 0.50 I_o max. to 0.75 I_o 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



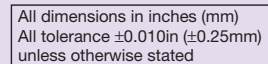
UL/cUL CAN/CSA 22.2 No. 60950
UL 60950 File No. E139421



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

ARTESYN[®]
T E C H N O L O G I E S

3

NEW Product

Datasheet © Artesyn Technologies® 2005

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

www.artesyn.com