SXA10 Series

Single output

ARTESYN TECHNOLOGIES

DC/DC CONVERTERS | 10W Surface Mount DC/DC Converters | 1

- **Surface mount isolated DC/DC converter**
- **High reliability, rugged design**
- **Low weight, open frame package**
- **Wide operating temperature range of -40°C to +85°C with natural convection**
- **Capable of delivering 10% extra power from -10°C to 70°C**
- **Compliant with industry standard reflow profiles**
- **Excellent output voltage accuracy, 0.1% typical regulation**
- **Complies with ETS 300 132-2, ETS 300 386-1**
- **MTBF of 2,000,000 hours demonstrated @ 25°C**



The SXA10 series is targeted specifically at telecommunications, data networking, mobile infrastructure, industrial and computer distributed power applications. An open frame topology combining a custom IC, conservative component deratings and extensive qualification ensures enhanced performance and reliability. All models have remote enable, output voltage trim and adjustable undervoltage lockout setting. The products are manufactured in a fully automated process utilising established and proven mechanical construction technologies. Supplied in JEDEC standard trays, these products are optimized for automated assembly using standard pick and place equipment and using industry standard reflow profiles.

CE (LVD) cULus TÜV

5 YEAR WARRANTY

All specifications are valid over 27-75V input, no load to rated load and -40°C to 110°C hot spot (output diode tab temperature), unless otherwise stated.

SPECIFICATIONS

OUTPUT SPECIFICATIONS

Voltage setpoint accuracy	(See Note 1)	±1.0% max.
Voltage adjustability		±10%
Line regulation	27 to 75V	15mV max.
Load regulation	Full load to no load	See model table
Minimum load		0A
Ripple and noise (max.) 20MHz bandwidth	S2V5 S3V3 S05 S12	4.0% pk-pk, 35mV rms 3.0% pk-pk, 35mV rms 2.0% pk-pk, 30mV rms 1.0% pk-pk, 30mV rms
Temperature coefficient		±0.01%/°C
Short circuit and overload protection		Continuous
Load transient response	Peak deviation for 50% to 100% step load Settling time to within 1.0%	1.4% typ. 200µs typ.

INPUT SPECIFICATIONS

Input voltage range	Default	36 to 75VDC
Adjustable input voltage range		27 to 75VDC
Recommended input fuse		850mA HRC, anti-surge rated for 200VDC
UVLO turn ON voltage UVLO turn OFF voltage		(See Application Note 102) (See Application Note 102)
Remote ON/OFF Logic compatibility ON OFF		Internally pulled high Open Collector Open circuit or >2.25V <1.47V

NOTE: The component top surface contains both input and output voltage potentials. The component may also be at high temperature. Ensure that the unit is accessible only to trained personnel.

TYPICAL EMC CHARACTERISTICS

Conducted emissions	EN55022, FCC P.15	Level A
Radiated emissions	EN55022, FCC P.15,	Level A
Electrostatic discharge	EN61000-4-2 (4kV)	Level 2, criterion 2
Radiated immunity	EN61000-4-3 (10V/m)	Level 3, criterion 1
Input transients bursts	EN61000-4-4 (4kV)	Level 4, criterion 2
Surge (signal only)	EN61000-4-5 (500V)	Level 1, criterion 1
Conducted immunity	EN61000-4-6	Level 3, criterion 1
Input transients	ETS 300 132, ETR283	
Public telecom, network equip. EMC	ETS 300 386-1, April 1997	
Digital cellular telecom EMC	ETS 300 342-2, November 1994	

GENERAL SPECIFICATIONS

Efficiency (For other operating conditions, refer to Application Note 102)		See model table
Isolation voltage	Input/output, 1second test	1500VDC
Insulation class	Operational	IEC60950, UL1950
Switching frequency	Fixed	400kHz, ±10%
Approvals and standards		EN60950, UL1950
Weight		14g (0.5oz) typ.
Material flammability		UL94V-0
Nominal dimensions (See drawings)		2.0 x 1.12 x 0.41 inches 50.8 x 28.5 x 10.4 mm
MTBF (parts count)	MIL-HDBK-217F Ground benign @ 30°C	1,000,000 hours
MTBF (demonstrated)	25°C (See Note 3)	2,900,000 hours
Max. lead coplanarity		±0.002 inches (±50µm)
Leadout		SMT Gullwing
Solder paste height		0.15mm (6 thou) min.

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For the most current data and application support visit www.artesyn.com/powergroup/products.htm

INPUT VOLTAGE	OUTPUT VOLTAGE RANGE	NOMINAL OUTPUT VOLTAGE	NOMINAL OUTPUT CURRENT	MINIMUM EFFICIENCY (1)	MAXIMUM LOAD REG.(1)	MODEL NUMBER (4)
27-75VDC	2.25 to 2.75V	2.5V	2.75A	76%	20mV	SXA10-48S2V5
27-75VDC	2.97 to 3.63V	3.3V	2.75A	79%	20mV	SXA10-48S3V3
27-75VDC	4.5 to 5.5V	5.0V	2.0A	82%	20mV	SXA10-48S05
27-75VDC	10.8 to 13.2V	12V	0.833A	84%	30mV	SXA10-48S12

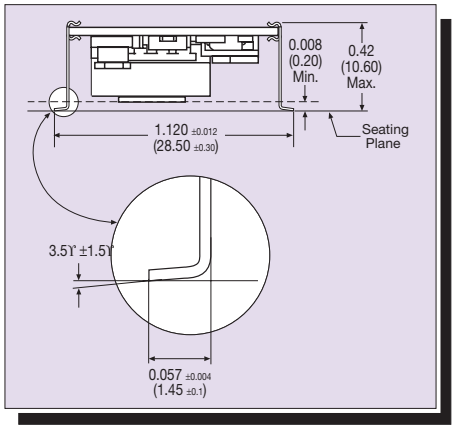
GENERAL SPECIFICATIONS (Cont.)

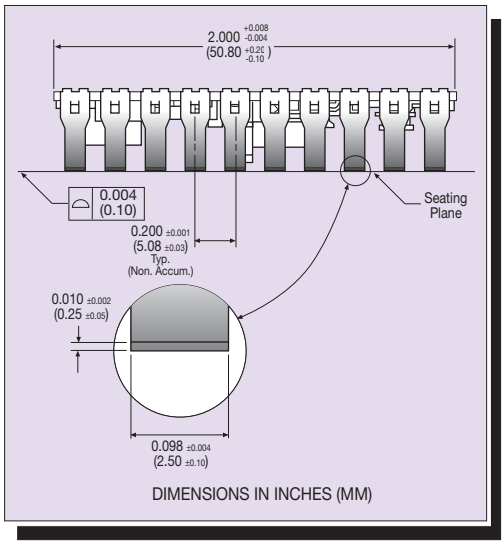
Recommended reflow profile	Convection reflow is recommended CECC 00 802 Issue 2 and peak <245°C See Application Note 102
Clean	Recommended process is no clean. If aqueous, ensure unit is thoroughly dried before applying power

ENVIRONMENTAL SPECIFICATIONS (3)

Ambient (still air)	Unit mounted vertically, with >3cm² copper trace heat-sinking at each output pin on mounting board	-40°C to +85°C
Storage temperature		-40°C to +125°C

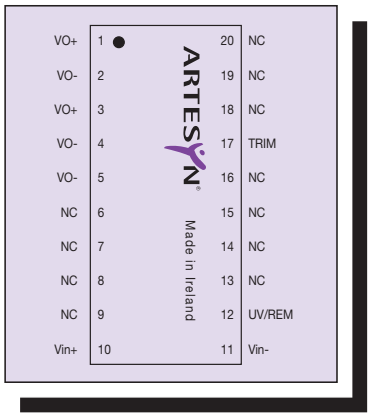
Detailed environmental specifications are given on the long form data sheet available on the website

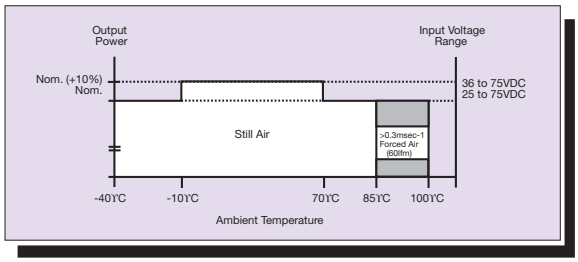




Notes

1. Valid for 48V input, nominal load and 25°C operation.
2. For applications with input voltages between 36 and 75V, and operating ambient temperatures of -10°C to +70°C the device will deliver an extra 10% output power. The device will continue to meet all specifications listed in this data sheet. See output characteristic diagram below.
3. Demonstrated life test to-date is 1,300,000 hours at 36°C. This figure includes a calculated acceleration factor of 2.14, based on an activation energy of 0.55eV.
4. To order an Evaluation Kit which contains a SXA10 model pre-mounted on a circuit card with test points for easy testing in the laboratory, please add the suffix '-EVAL' to the model number, e.g. SXA10-48S05-EVAL. Please see the SXA10 Evaluation Board User Guide for further details.





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