SXE15 Series

Single output

ARTESYN TECHNOLOGIES

- **High efficiency topology, 87% typical at 5 V**
- **Wide operating temperature, up to and exceeding 70 °C (natural convection)**
- **90% to 110% output trim**
- **No minimum load**
- **Overvoltage protection**
- **Remote ON/OFF control**
- **Available RoHS compliant**

The SXE15 is a new high efficiency open frame isolated 15 Watt converter series in an industry standard footprint. All models in the series feature an input voltage range of 33 Vdc to 75 Vdc and are available in output voltages of 12 V, 5 V, 3.3 V, 2.5 V and 1.8 V. The output voltage on each model is adjustable from 90% to 110% of the nominal value. Typical efficiencies for the models are 87% for the 5 V, 86% for the 3.3 V, 85% for the 2.5 V and 12 V and 83% for the 1.8 V version. The SXE15 series also has a remote ON/OFF capability with active high or active low logic. Overcurrent and overvoltage protection features are included as standard. With full international safety approval including EN60950 and cUL1950, the SXE15 reduces compliance costs and time to market.

CE (LVD / RoHS) cULus TÜV

2 YEAR WARRANTY

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

SPECIFICATIONS

OUTPUT SPECIFICATIONS

Voltage adjustability		90% to 110%
Total error band	(See Note 13)	±4% max.
Line regulation Low line to high line	1.8 V and 2.5 V models 3.3 V and 5 V models	0.5% max. 0.1% max.
Load regulation Full load to min. load	1.8 V model 2.5 V model 3.3 V and 5 V models	2.0% max. 1.5% max. 0.5% max.
Minimum load	(See Note 12)	0%
Overshoot At turn-on and turn-off	1.8 V and 2.5 V models 3.3 V and 5 V models	4% max. None
Undershoot		None
Ripple and noise (See Note 1) 5 Hz to 20 MHz	1.8 V and 2.5 V models 3.3 V and 5 V models	40 mV pk-pk 14 mV rms 70 mV pk-p 20 mV rms
Transient response (See Note 2) Typical deviation	1.8 V and 2.5 V models 3.3 V and 5 V models	150 mV 100 mV 400 µs recovery to within total error band

INPUT SPECIFICATIONS

Input voltage range	48 Vin nominal	33-75 Vdc
Input current	No load Remote OFF	35 mA max. 25 mA max.
Input current (max.)	(See Note 4)	0.55 A max. @ Io max. and Vin = 33-75 Vdc
Input reflected ripple	(See Note 6)	5 mA (pk-pk) typ.
Active high remote ON/OFF Logic compatibility ON OFF		(See Note 8) Open collector ref to -input Open circuit or >2 Vdc <1.2 Vdc
Undervoltage lockout	Power up Power down	33 V (typ.) 30 V (typ.)
Start-up time (See Note 7)	Power up Remote ON/OFF	1.5 ms (typ.) 2.5 ms (typ.)

EMC CHARACTERISTICS

Conducted emissions	EN55022 (See Note 3) EN55022 (See Note 3)		Level A Level B
Radiated emissions	EN55022 (See Longform Datasheet)		Level B
Immunity:			
ESD air	EN61000-4-2	8 kV, 15 kV	
ESD contact	EN61000-4-2	6 kV, 8 kV	
Radiated field enclosure	EN61000-4-3	10 V/m	
Conducted (dc power)	EN61000-4-6	10 V	
Conducted (signal)	EN61000-4-6	10 V	(See Note 11)
Input transients	ETS 300 132-2, ETR 283		

GENERAL SPECIFICATIONS

Efficiency		See table
Operational insulation	Input/output	1500 Vdc
Switching frequency	Fixed	265 kHz typ.
Approvals and standards	(See Notes 5)	UL/cUL1950, EN60950 TÜV Rheinland
Material flammability		UL94V-0
Weight		12 g (0.42 oz)
Coplanarity		150 µm
MTBF Representative model:	MIL-HDBK-217F 48S05J @ 48 Vin, 40 °C, 100% load ground benign BELLCORE 332	1,790,000 hours >1,500,000 hours

ENVIRONMENTAL SPECIFICATIONS

Thermal performance (See Note 9)	Operating ambient temp. (3.3 V and 5 V)	-40 °C to +65 °C
	Operating ambient temp. (1.8 V, 2.5 V and 12 V)	-40 °C to +70 °C
	Non-operating (All models)	-40 °C to +120 °C

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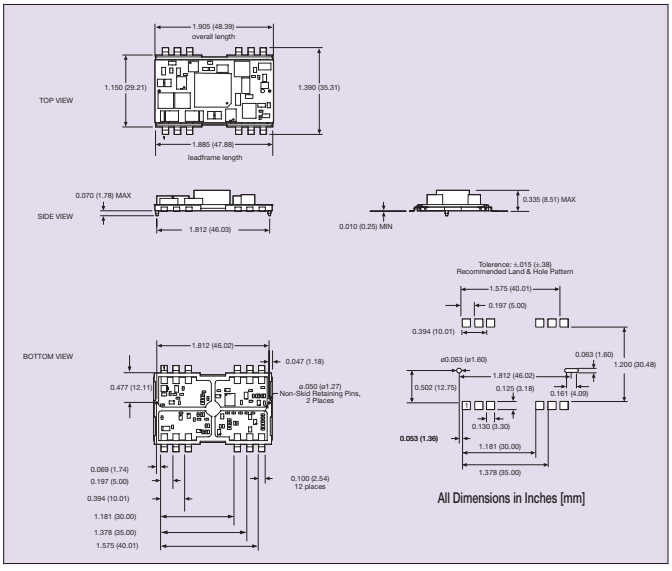
For the most current data and application support visit www.artesyn.com/powergroup/products.htm

OUTPUT POWER (MAX.)	INPUT VOLTAGE	OVP	OUTPUT VOLTAGE	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX.)	EFFICIENCY (TYP.)	REGULATION		MODEL NUMBER (8,14,15)
							LINE	LOAD	
10.8 W	33-75 Vdc	2.3 Vdc	1.8 V	0 A	6 A	83%	0.3%	2.0%	SXE15-48S1V8J
15 W	33-75 Vdc	3.2 Vdc	2.5 V	0 A	6 A	85%	0.3%	1.5%	SXE15-48S2V5J
15 W	33-75 Vdc	4 Vdc	3.3 V	0 A	4.5 A	86%	0.1%	0.5%	SXE15-48S3V3J
15 W	33-75 Vdc	6 Vdc	5 V	0 A	3 A	87%	0.1%	0.5%	SXE15-48S05J
15 W	33-75 Vdc	15 Vdc (10)	12 V	0 A	1.25 A	85%	0.1%	0.5%	SXE15-48S12J

Notes

1 Measured as per recommended set-up. See Application Note 116 for details.
2 di/dt = 0.1 A/µs, Vin = 48 Vdc, Tc = 25 °C, load change = 0.5 Io max. to 0.75 Io max. and 0.75 Io max. to 0.5 Io max.
3 The SXE15 meets level A and level B conducted emissions only with external components connected before the input pins to the converter. See Application Note 116 for details.
4 Recommended input fusing is a 2 A HRC 200 V rated fuse.
5 This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
6 Measured with external Pi filter. See Application Note 116 for further details.
7 Start-up into resistive load.
8 Active low remote on/off is available. Standard product is active high. Designate with the Suffix '-R' e.g. SXE15-48S05-RJ.
9 Operating ambient temperatures are specified at natural convection. Higher operating temperatures are possible with increased airflow. See Application Note 116 for further details.
10 SXE15-48S12J below 0.2 A loading. OVP is TVS and 17 V typical.
11 Signal line assumed < 3 m in length.
12 A 5% minimum load is required to maintain the output voltage regulation over all operating conditions for the SXE15-48S12J.
13 This parameter is calculated at worst case line, load, temperature and initial settings.
14 The 'J' suffix indicates that these parts are Pb-free (RoHS 6/6) compliant. TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
15 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.



PROTECTION	
Short circuit	Continuous
Overvoltage	Latching clamp

TELECOM SPECIFICATION	
Central office interface A	ETS300-132-2, input voltage and current requirements

CAUTION: Hazardous internal voltages and high temperatures. Ensure that unit is not user accessible.

International Safety Standard Approvals

c UL us — UL/cUL 1950 3rd edition. File No. E135734

TÜV — TÜV Rheinland. File No. 10401-3336-35841. Licence No. 40004290

PIN CONNECTIONS	
PIN NUMBER	FEATURE
1	Vout +
2	Vout -
3	N/C
4	Trim
5	N/C
6	N/C
7	N/C
8	On/Off
9	N/C
10	N/C
11	Vin -
12	Vin +

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