

SXE15 Series

Single output

- 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.



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

INPUT SPECIFICATIONS

Input voltage range	48 Vin nominal	33-75 Vdc
Input current	No load	35 mA max.
	Remote OFF	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	(See Note 8)	
Logic compatibility	Open collector ref to -input	
ON	Open circuit or >2 Vdc	
OFF	<1.2 Vdc	
Undervoltage lockout	Power up	33 V (typ.)
	Power down	30 V (typ.)
Start-up time	Power up	1.5 ms (typ.)
(See Note 7)	Remote ON/OFF	2.5 ms (typ.)

EMC CHARACTERISTICS

Conducted emissions	EN55022 (See Note 3)	Level A
	EN55022 (See Note 3)	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	MIL-HDBK-217F	1,790,000 hours
Representative model:	48S05J @ 48 Vin, 40 °C, 100% load ground benign	
	BELLCORE 332	>1,500,000 hours

ENVIRONMENTAL SPECIFICATIONS

Thermal performance	Operating ambient temp. (3.3 V and 5 V)	-40 °C to +65 °C
(See Note 9)	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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T E C H N O L O G I E S

Notes

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- TOP VIEW**
- Overall length: 1.935 (49.30)
 Overall width: 1.390 (35.31)
 Pin pitch (leadframe length): 1.885 (47.88)
 Pin pitch (leadframe length): 1.150 (29.21)
- SIDE VIEW**
- Maximum height: 0.070 (1.78) MAX
 Standoff height: 0.010 (0.25) MIN
 Pin length: 1.812 (46.03)
- BOTTOM VIEW**
- Pin pitch (leadframe length): 1.812 (46.02)
 Pin pitch (leadframe length): 0.477 (12.11)
 Pin pitch (leadframe length): 0.047 (1.18)
 Pin pitch (leadframe length): 0.055 (1.27)
 Non-Skid Retaining Pins, 2 Places
 Pin pitch (leadframe length): 0.069 (1.74)
 Pin pitch (leadframe length): 0.197 (5.00)
 Pin pitch (leadframe length): 0.394 (10.01)
 Pin pitch (leadframe length): 1.181 (30.00)
 Pin pitch (leadframe length): 1.378 (35.00)
 Pin pitch (leadframe length): 1.579 (40.01)
 Pin pitch (leadframe length): 1.000 (25.4) 12 places
- Bottom View Details:**
- Pin pitch (leadframe length): 1.575 (40.01)
 - Pin pitch (leadframe length): 0.157 (5.00)
 - Pin pitch (leadframe length): 0.394 (10.01)
 - Pin pitch (leadframe length): 0.063 (1.60)
 - Pin pitch (leadframe length): 1.812 (46.02)
 - Pin pitch (leadframe length): 0.125 (3.18)
 - Pin pitch (leadframe length): 0.161 (4.09)
 - Pin pitch (leadframe length): 1.200 (30.48)
 - Pin pitch (leadframe length): 0.502 (12.75)
 - Pin pitch (leadframe length): 0.130 (3.30)
 - Pin pitch (leadframe length): 1.181 (30.00)
 - Pin pitch (leadframe length): 1.378 (35.00)
 - Pin pitch (leadframe length): 0.063 (1.60)
- All Dimensions in Inches [mm]**

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