



# EC2SB SERIES 10 WATT 2:1 INPUT DC-DC CONVERTERS

## FEATURES

- \* 10W Isolated Output
- \* Efficiency to 87%
- \* 2:1 INPUT RANGE
- \* Regulated Outputs
- \* Fixed Switching Frequency
- \* Input under-voltage Protection
- \* Over Current Protection
- \* Remote ON/OFF
- \* Continuous Short Circuit Protection
- \* Without Tantalum Capacitors inside



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	Cap. Load max.
			MIN.	MAX.	NO LOAD	FULL LOAD		
EC2SB -12S33	9-18 VDC	3.3 VDC	0 mA	2500 mA	25 mA	838 mA	82	2470uF
EC2SB -12S05	9-18 VDC	5 VDC	0 mA	2000 mA	25 mA	980 mA	85	2000uF
EC2SB -12S12	9-18 VDC	12 VDC	0 mA	833 mA	25 mA	957 mA	87	940uF
EC2SB -12S15	9-18 VDC	15 VDC	0 mA	666 mA	25 mA	956 mA	87	690uF
EC2SB -24S33	18-36 VDC	3.3 VDC	0 mA	2500 mA	20 mA	419 mA	82	2470uF
EC2SB -24S05	18-36 VDC	5 VDC	0 mA	2000 mA	20 mA	490 mA	85	2000uF
EC2SB -24S12	18-36 VDC	12 VDC	0 mA	833 mA	20 mA	478 mA	87	940uF
EC2SB -24S15	18-36 VDC	15 VDC	0 mA	666 mA	20 mA	478 mA	87	690uF
EC2SB -48S33	36-75 VDC	3.3 VDC	0 mA	2500 mA	20 mA	212 mA	81	2470uF
EC2SB -48S05	36-75 VDC	5 VDC	0 mA	2000 mA	20 mA	245 mA	85	2000uF
EC2SB -48S12	36-75 VDC	12 VDC	0 mA	833 mA	20 mA	239 mA	87	940uF
EC2SB -48S15	36-75 VDC	15 VDC	0 mA	666 mA	20 mA	239 mA	87	690uF

NOTE: 1. Nominal Input Voltage 12, 24 or 48 VDC

# SPECIFICATIONS

All Specifications Typical At Nominal Line, Full Load, and 25°C Unless Otherwise Noted

## INPUT SPECIFICATIONS:

Input Voltage Range	12V	9 - 18V
	24V	18 - 36V
	48V	36 - 75V
Under voltage lockout	12Vin power up: 9V, power down: 8V	
	24Vin power up: 17V, power down: 16V	
	48Vin power up: 34V, power down: 32V	
Input Surge Voltage (100mS max.)	EC2SB-12Sxx	...25Vdc max.
	EC2SB-24Sxx	...50Vdc max.
	EC2SB-48Sxx	...100Vdc max.
Input Filter	PI Type	
Positive Logic Remote on/off Control :		
Logic Compatibility	CMOS or Open Collector TTL	
Module ON	>+5.5V to 75VDC or Open Circuit	
Module OFF	<1.2VDC	

## OUTPUT SPECIFICATIONS:

Voltage Accuracy	±1.5% max.
Transient Response: 25% Step Load Change	<500u sec.
Ripple and Noise, 20MHz BW(Note 3)	50mV p-p max.
	SMD Type 100mV p-p max.
Temperature Coefficient	±0.03%/C max.
Short Circuit Protection	Continuous
Line Regulation, Note1	±0.2% max.
	SMD Type ±0.3% max.
Load Regulation, Note2	±0.2% max.
	SMD Type ±0.5% max.
Over Voltage Protection	Zener or TVS Clamp
External Trim Adj. Range	±10%
Current Limit	110% - 140% Nominal Output
Start up time	T.B.D.

## GENERAL SPECIFICATIONS:

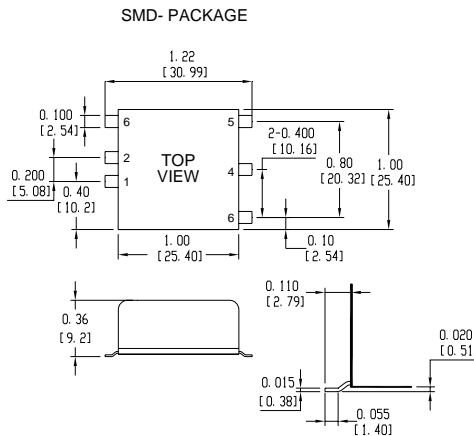
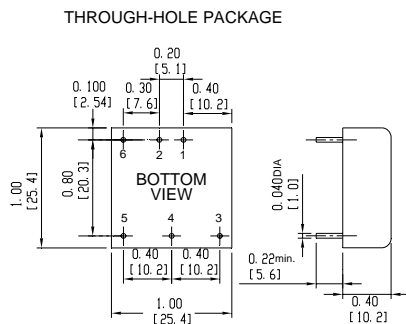
Efficiency	See Table
Isolation Voltage	1500 VDC min.
Isolation Resistance	10 <sup>9</sup> Ohms min.
Switching Frequency	350KHz typ.
Operating Ambient Temperature Range	-40°C to +85°C
Derating, Above 71°C	Linearly to Zero Power at +105°C
Case Temperature (Note 4)	105°C
Cooling	Natural Convection
Storage Temperature Range	-55°C to +125°C
Humidity	95% RH max. Non condensing
MTBF	MIL-STD-217-F T.B.D.hrs
Dimensions	1.00x1.00x0.4 inches (25.4x25.4x10.2mm)
	SMD Type 1.00x1.00x0.36 inches (25.4 x 25.4 x 9.2mm)
Case Material	Black Coated Copper with Non-Conductive Base
Weight	18.4g

## NOTE :

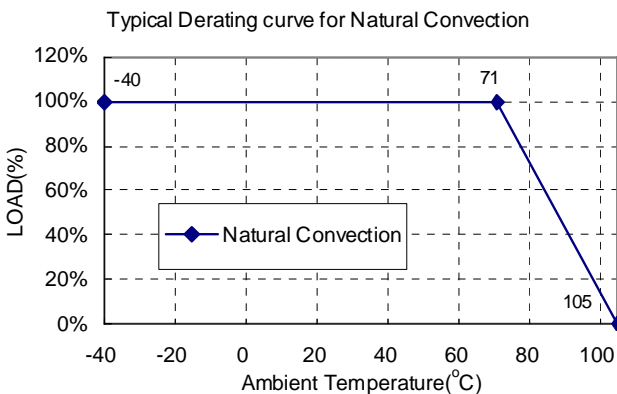
1. Measured From High Line to Low Line
2. Measured From Full Load to min. Load
3. The output ripple and noise is measured with 10uF tantalum and 1uF Ceramic capacitor across output.
4. Maximum case temperature under any operating condition should Not be exceeded 105°C.

## SIZE SB Dimensions:

All Dimensions In Inches (mm)  
 Tolerances Inches: X.XX=±0.04 , X.XXX=±0.010  
 Millimeters: X.X=±1.0 , X.XX=±0.25



Pin	PIN CONNECTION	
	Single	Dual
1	+Input	+Input
2	-Input	-Input
3	+V Output	+V Output
4	Trim	Common
5	-V Output	-V Output
6	Remote	Remote



## EXTERNAL OUTPUT TRIM

