



EC1SB SERIES 13.2 TO 15 WATT OPEN FRAME DC-DC CONVERTERS



FEATURES

- * 13.2 – 15W Isolated Output
- * 1.1"×1" Open Frame Design
- * Efficiency to 89%
- * Regulated Outputs
- * Fixed Switching Frequency
- * Input Under Voltage Protection
- * Over Current Protection
- * Remote On/Off
- * Continuous Short Circuit Protection
- * Fully Isolated 2250VDC
- * CE Mark Meets 2004/108/EC
- * UL60950-1 Approval



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	CAPACITOR LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD		
EC1SB -24S33	18-36 VDC	3.3 VDC	0 mA	4000 mA	50 mA	639 mA	86	4000uF
EC1SB -24S05	18-36 VDC	5 VDC	0 mA	3000 mA	50 mA	718 mA	87	3000uF
EC1SB -24S12	18-36 VDC	12 VDC	0 mA	1250 mA	40 mA	718 mA	87	1250uF
EC1SB -24S15	18-36 VDC	15 VDC	0 mA	1000 mA	40 mA	718 mA	87	1000uF
EC1SB -48S33	36-75 VDC	3.3 VDC	0 mA	4000 mA	30 mA	320 mA	86	4000uF
EC1SB -48S05	36-75 VDC	5 VDC	0 mA	3000 mA	30 mA	359 mA	87	3000uF
EC1SB -48S12	36-75 VDC	12 VDC	0 mA	1250 mA	30 mA	351 mA	89	1250uF
EC1SB -48S15	36-75 VDC	15 VDC	0 mA	1000 mA	30 mA	351 mA	89	1000uF

NOTE: 1. Nominal Input Voltage 24 or 48VDC



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SPECIFICATIONS

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

INPUT SPECIFICATIONS:

Input Voltage Range.....	24V	18 - 36V
	48V	36 - 75V
Input Surge Voltage (100ms max.)	24V	50Vdc max.
	48V	100Vdc max.
Under Voltage Lockout	24Vin power up	17V
	24Vin power down	16V
	48Vin power up	34V
	48Vin power down	32.5V
Input Filter	Capacitive Type	
Positive Logic Remote on/off Control:		
Logic Compatibility	CMOS or Open Collector TTL	
Module ON	>+5.5VDC to 75Vdc or Open Circuit	
Module OFF	<1.2VDC	

OUTPUT SPECIFICATIONS:

Voltage Accuracy	±1.5% max.
Transient Response: 25% Step Load Change	<500us
Ripple and Noise 20MHz BW	Vo=3.3 & 5V 75mV pk-pk max.
	Vo=12 & 15V ... 100mV pk-pk max.
Temperature Coefficient	±0.03%/°C max.
Short Circuit Protection	Continuous
Line Regulation (note1)	±0.2% max.
Load Regulation (note2)	±0.2% max.
Over Voltage Protection	Zener or TVS Clamp
External Trim Adj. Range	±10%
Current Limit	110% - 140% Nominal Output
Start up time	8ms typ.

GENERAL SPECIFICATIONS:

Efficiency	See Table
Isolation Voltage	2250 VDC min.
Isolation Resistance	10 ⁷ ohm min.
Isolation Capacitance	560pF typ.
Switching Frequency	400KHz typ.
Operating Ambient Temperature Range	-40°C to +85°C
Derating, Above 71°C	Linearly to Zero Power at +100°C
Cooling	Natural Convection
Storage Temperature Range	-40°C to +125°C
Humidity	95% RH max. Non condensing
MTBF	MIL-STD-217F, GB, 25°C, Full Load 1200Khrs typ.
Dimensions	1.10x0.96x0.36 inches (27.9x24.4x9.1 mm)
Structure	Non-potted With Open Frame Type
Weight	8.8g

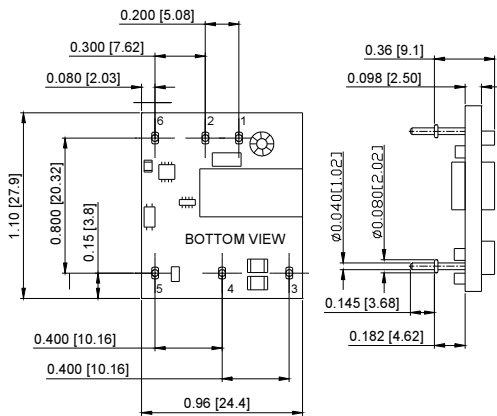
NOTE:

1. Measured from high line to low line.
2. Measured from full load to min. load.
3. Suffix "N" to the model number with negative logic remote on/off
 - Module ON..... <1.2VDC
 - Module OFF >+5.5VDC to 50VDC or Open Circuit
4. Suffix "S" to the model number with SMD package.
5. The output ripple and noise is measured with 10uF tantalum and 1uF ceramic capacitor across output.

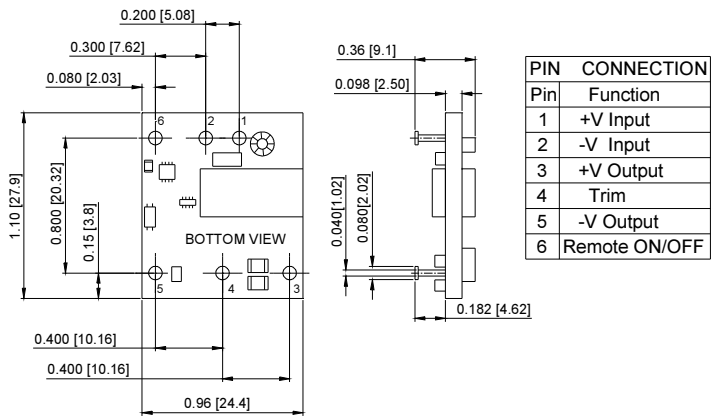
SIZE SB Dimensions :

All Dimmension in inches(mm)
 Tolerances: x.xx in ± 0.02 in (x.x mm ± 0.5 mm)
 x.xxx in ± 0.010 in (x.xx mm ± 0.25 mm)

THROUGH-HOLE PACKAGE

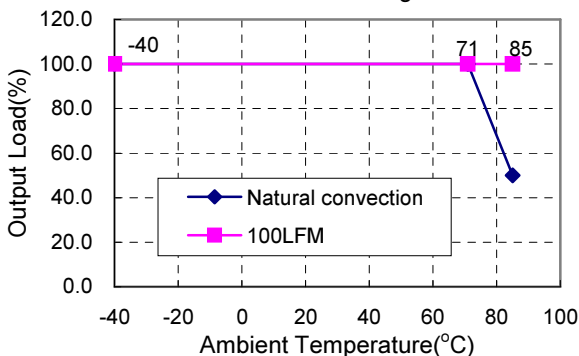


SMD-PACKAGE



PIN	CONNECTION
Pin	Function
1	+V Input
2	-V Input
3	+V Output
4	Trim
5	-V Output
6	Remote ON/OFF

EC1SB Series Derating Curve



EXTERNAL OUTPUT TRIM

