



# EC3SBW SERIES 15 WATT 4:1 INPUT DC-DC CONVERTERS

## FEATURE

- \* 15W Isolated Output
- \* Efficiency to 88%
- \* 4:1 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

## EC3SBW Series

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	SIZE
			MIN.	MAX.	NO LOAD	FULL LOAD		
EC3SBW-24S33	9-36 VDC	3.3 VDC	0 mA	4000 mA	60 mA	632 mA	87	SB
EC3SBW-24S05	9-36 VDC	5 VDC	0 mA	3000 mA	70 mA	718 mA	87	SB
EC3SBW-24S12	9-36 VDC	12 VDC	0 mA	1250 mA	30 mA	718 mA	87	SB
EC3SBW-24S15	9-36 VDC	15 VDC	0 mA	1000 mA	30 mA	710 mA	88	SB
EC3SBW-24D05	9-36 VDC	±5 VDC	0 mA	±1500mA	30 mA	735 mA	85	SB
EC3SBW-24D12	9-36 VDC	±12 VDC	0 mA	±625mA	30 mA	718 mA	87	SB
EC3SBW-24D15	9-36 VDC	±15 VDC	0 mA	±500mA	30 mA	710 mA	88	SB
EC3SBW-48S33	18-75 VDC	3.3 VDC	0 mA	4000 mA	40 mA	313 mA	88	SB
EC3SBW-48S05	18-75 VDC	5 VDC	0 mA	3000 mA	40 mA	355 mA	88	SB
EC3SBW-48S12	18-75 VDC	12 VDC	0 mA	1250 mA	20 mA	359 mA	87	SB
EC3SBW-48S15	18-75 VDC	15 VDC	0 mA	1000 mA	20 mA	359 mA	87	SB
EC3SBW-48D05	18-75 VDC	±5 VDC	0 mA	±1500mA	20 mA	368 mA	85	SB
EC3SBW-48D12	18-75 VDC	±12 VDC	0 mA	±625mA	20 mA	359 mA	87	SB
EC3SBW-48D15	18-75 VDC	±15 VDC	0 mA	±500mA	20 mA	359 mA	87	SB

NOTE: 1. Nominal Input Voltage 24 or 48 VDC

# SPECIFICATIONS

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

## INPUT SPECIFICATIONS:

Input Voltage Range	24V	9 – 36V
	48V	18 – 75V
Under voltage lockout	24Vin power up	8.8V typ.
	24Vin power down	8.0V typ.
	48Vin power up	17V typ.
	48Vin power down	16V typ.
Input Filter	LC Type	
Positive Logic Remote on/off Control:		
Logic Compatibility	CMOS or Open Collector TTL, ref. to -Vin	
Module ON	>+3.5 to 75VDC or Open Circuit	
Module OFF	<1.2VDC	

## OUTPUT SPECIFICATIONS:

Voltage Accuracy	±1.5% max.
Voltage Balance(Dual)	±2.0% max.
Transient Response: 75% ~ 100% Step Load Change.	
Error Band	±5% Vout nominal, Recovery Time < 250us
Ripple & Noise, 20MHz BW (note5)	
	Vo=3.3 & 5V ..... 75mV p-p max.
	Vo=12 & 15V .... 100mV p-p max.
Temperature Coefficient	±0.03%/C max.
Short Circuit Protection	Continuous
Line Regulation(Note1), ... single	±0.2% max.
	Dual..... ±0.5% max
Load Regulation(Note2), ... single	±0.2% max.
	Dual..... ±1.0% max
Cross Regulation(Dual output) Load cross variation 10%/100%.....	±5% max
Over Voltage Protection	Zener or TVS Clamp
External Trim Adj. Range ( single output models only )	±10%
Current Limit	110% - 160% Nominal Output

## GENERAL SPECIFICATIONS:

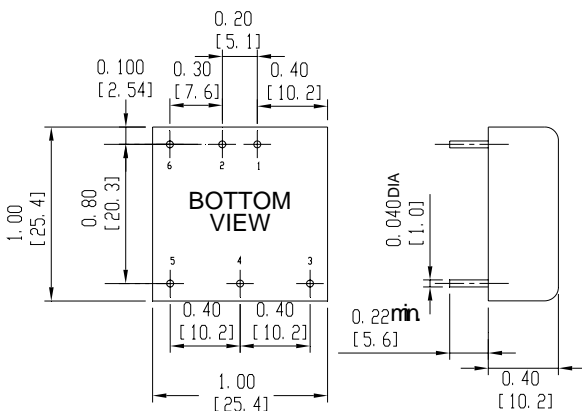
Efficiency	See Table
Isolation Voltage	1500 VDC min.
Isolation Resistance	10 <sup>9</sup> Ohms min.
Switching Frequency	400KHz typ.
Operating Ambient Temperature Range.....	-40°C to +85°C
Derating, Above 68°C	Linearly to Zero Power at +105°C
Case Temperature (note 5)	105°C
Cooling	Natural Convection
Storage Temperature Range	-55°C to +125°C
Dimensions ... DIP	1.00x1.00x0.40 inches (25.4x25.4x10.2mm)
	SMD ..... 1.00x1.00x0.47 inches (25.4 x25.4 x11.94mm)
Case Material	Black Coated Copper with Non-Conductive Base
Weight	8.8g

## NOTE :

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

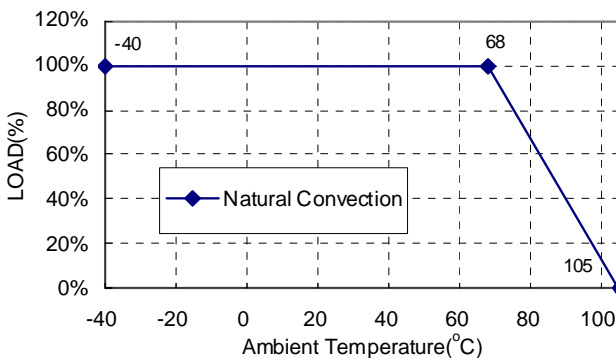
## SIZE SB Dimensions:

Tolerances Inches: X.XX= ±0.04 , X.XXX= ±0.010  
 Millimeters: X.X= ±1.0 , X.XX=±0.25



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

Typical Derating curve for Natural Convection



## EXTERNAL OUTPUT TRIM

