

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

### Features:

- 15W Isolated Output
- Efficiency to 88%
- 4:1 Input Range
- Regulated Outputs
- Remote On/Off
- Fixed Switching Frequency
- Over Current Protection
- Continuous Short Circuit Protection
- Input Under Voltage Protection
- Without Tantalum Capacitors inside

### Electrical Characteristics:

MODEL	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

## Specification

### INPUT SPECIFICATIONS:

Input Voltage Range .....	24V .....	9 – 36V
	48V .....	18 – 75V
Under voltage lockout .....	24V <sub>in</sub> power up .....	8.8V typ
	24V <sub>in</sub> power down .....	8.0V typ
	48V <sub>in</sub> power up .....	17V typ
	48V <sub>in</sub> power down .....	16V typ
Input Filter .....	LC Type	
Positive Logic Remote on/off Control :		
Logic Compatibility .....	CMOS or Open Collector TTL ref. to -V <sub>in</sub>	
Module ON .....	>+3.5V 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% V <sub>out</sub> nominal, Recovery Time .....
Ripple & Noise, 20MHz BW (note5)	< 250us
	V <sub>o</sub> =3.3 & 5V ..... 75mV p-p max
	V <sub>o</sub> =12 & 15V .... 100mV p-p max
Temperature Coefficient.....	±0.03%/°C
Short Circuit Protection .....	
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:

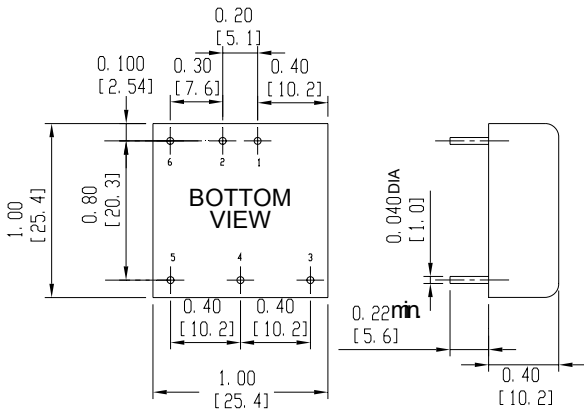
Efficiency.....	See Table
Isolation Voltage .....	1500VDC min
Isolation Resistance.....	10 <sup>9</sup> ohms min
Switching Frequency.....	400KHz, min
Operating Ambient Temperature Range .....	-40°C to +85°C
De-rating, Above 68°C.....	Linearly to Zero power at 105°C
Case Temperature ..(note5).....	105°C
Cooling .....	Natural Convection
Storage Temperature Range.....	-55°C to + 125°C
Dimensions .....	1.00x1.00x0.4 inches (25.4x25.4x10.2mm)
	SMD Type ... 1.00x1.00x0.47 inches (25.4 x 25.4 x 11.94mm)
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 10% 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.
5. Suffix "S" to the Model Number with SMD Package

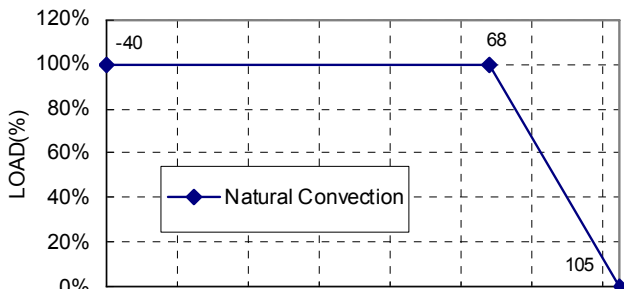
## SIZE SB Dimensions

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

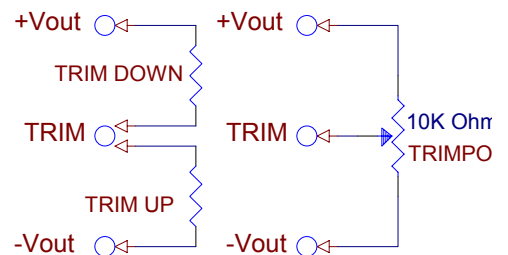


PIN CONNECTION	
Pin	DIP Function
1	+Input
2	-Input
3	+V Output
4	Trim
5	-V Output
6	Remote

Typical Derating curve for Natural Convection



## EXTERNAL OUTPUT TRIM



Data sheets are subject to change without notice