



## EC2SBW SERIES

### 10 WATT 4:1 INPUT

### DC-DC CONVERTERS

#### FEATURE

- \* 10W Isolated Output
- \* Efficiency to 86%
- \* 4:1 INPUT RANGE
- \* Regulated Outputs
- \* Input under-voltage Protection
- \* Remote ON/OFF
- \* Continuous Short Circuit Protection
- \* Without Tantalum Capacitors inside



#### EC2SBW Series

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	SIZE
			MIN.	MAX.	NO LOAD	FULL LOAD		
EC2SBW-24S33	9-36 VDC	3.3 VDC	0 mA	2500 mA	5 mA	425 mA	81	1"x1"
EC2SBW-24S05	9-36 VDC	5 VDC	0 mA	2000 mA	5 mA	496 mA	84	1"x1"
EC2SBW-24S12	9-36 VDC	12 VDC	0 mA	835 mA	10 mA	486 mA	86	1"x1"
EC2SBW-24S15	9-36 VDC	15 VDC	0 mA	666 mA	10 mA	486 mA	86	1"x1"
EC2SBW-24D05	9-36 VDC	± 5 VDC	0 mA	±1000mA	10 mA	496 mA	84	1"x1"
EC2SBW-24D12	9-36 VDC	± 12 VDC	0 mA	±416mA	10 mA	486 mA	86	1"x1"
EC2SBW-24D15	9-36 VDC	± 15 VDC	0 mA	±333mA	10 mA	486 mA	86	1"x1"
EC2SBW-48S33	18-75 VDC	3.3 VDC	0 mA	2500 mA	5 mA	210 mA	82	1"x1"
EC2SBW-48S05	18-75 VDC	5 VDC	0 mA	2000 mA	5 mA	248 mA	84	1"x1"
EC2SBW-48S12	18-75 VDC	12 VDC	0 mA	835 mA	5 mA	243 mA	86	1"x1"
EC2SBW-48S15	18-75 VDC	15 VDC	0 mA	666 mA	5 mA	243 mA	86	1"x1"
EC2SBW-48D05	18-75 VDC	± 5 VDC	0 mA	±1000mA	5 mA	248 mA	84	1"x1"
EC2SBW-48D12	18-75 VDC	± 12 VDC	0 mA	±416mA	8 mA	243 mA	86	1"x1"
EC2SBW-48D15	18-75 VDC	± 15 VDC	0 mA	±333mA	8 mA	243 mA	86	1"x1"

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:

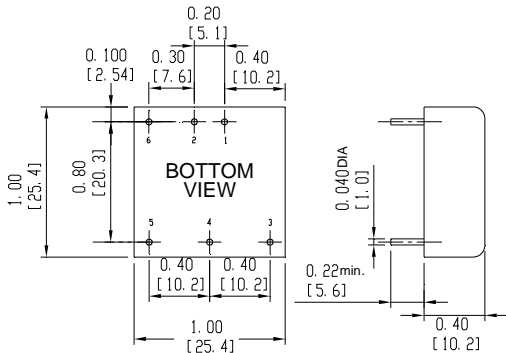
Input Voltage Range	24V	9 – 36V
	48V	18 – 75V
Under voltage lockout	24Vin power up	8.8V typ.
	24Vin power down	8.0V typ.
	48Vin power up	17V typ.
	48Vin power down	16V typ.
Input Filter	LC Type	
Positive Logic Remote on/off Control : (Note3)		
Logic Compatibility	CMOS or Open Collector TTL, ref. to -Vin	
Module ON	>+3.5V to 36VDC or Open Circuit	
Module OFF	<1.2VDC	

## OUTPUT SPECIFICATIONS:

Voltage Accuracy	±1.5% max.
Voltage Balance(Dual)	±1.0% max.
Transient Response: 75% ~ 100% Step Load Change.	
Error Band	±5% Vout nominal, Recovery Time < 500us
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)	±0.5% max.
Load Regulation(Note2)	Single ..... ±0.5% max.
	Dual ..... ±1.0% max
Cross Regulation(Dual output) Load cross variation 25%/100%.....	±5% max
Over Voltage Protection	Zener or TVS Clamp
External Trim Adj. Range ( single output models only )	±10%

## SIZE SB Dimensions:

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



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

## GENERAL SPECIFICATIONS:

Efficiency	See Table
Isolation Voltage	1500 VDC min.
Isolation Resistance	10 <sup>9</sup> Ohms min.
Switching Frequency	100KHz min.
Operating Ambient Temperature Range.....	-40°C to +85°C
Derating, Above 71°C	Linearly to Zero Power at +105°C
Case Temperature (note 6)	105°C max.
Cooling	Natural Convection
Storage Temperature Range	-55°C to +125°C
Dimensions	1.00x1.00x0.4 inches (25.4x25.4x10.2mm)

Case Material ..... Black Coated Copper with Non-Conductive Base  
Weight.....18g

## 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 .....>+3.5V to 75VDC or Open Circuit
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.

## EXTERNAL OUTPUT TRIM

