



EC9BW SERIES 30 WATT 4:1 INPUT DC-DC CONVERTERS

FEATURE

- * 30W Isolated Output
- * Efficiency to 91%
- * 1" X 2" Six-Sided Shield Metal Case
- * 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**

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	CAPACITIVE LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD		
EC9BW-24S33	9-36 VDC	3.3 VDC	0 mA	7500 mA	100 mA	1200 mA	88.5	7500 μ F
EC9BW-24S05	9-36 VDC	5 VDC	0 mA	6000 mA	110 mA	1421 mA	89.5	6000 μ F
EC9BW-24S12	9-36 VDC	12 VDC	0 mA	2500 mA	35 mA	1405 mA	90.5	2500 μ F
EC9BW-24S15	9-36 VDC	15 VDC	0 mA	2000 mA	35 mA	1405 mA	91	2000 μ F
EC9BW-24D12	9-36 VDC	\pm 12 VDC	0 mA	\pm 1250mA	35 mA	1437 mA	90	1250 μ F
EC9BW-24D15	9-36 VDC	\pm 15 VDC	0 mA	\pm 1000mA	35 mA	1437 mA	90	1000 μ F
EC9BW-48S33	18-75 VDC	3.3 VDC	0 mA	7500 mA	55 mA	600 mA	88	7500 μ F
EC9BW-48S05	18-75 VDC	5 VDC	0 mA	6000 mA	55 mA	711 mA	90	6000 μ F
EC9BW-48S12	18-75 VDC	12 VDC	0 mA	2500 mA	25 mA	695 mA	90	2500 μ F
EC9BW-48S15	18-75 VDC	15 VDC	0 mA	2000 mA	20 mA	688 mA	90.5	2000 μ F
EC9BW-48D12	18-75 VDC	\pm 12 VDC	0 mA	\pm 1250mA	25 mA	711 mA	90.5	1250 μ F
EC9BW-48D15	18-75 VDC	\pm 15 VDC	0 mA	\pm 1000mA	20 mA	711 mA	90	1000 μ F

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
Input Surge Voltage (100ms max.)	24V	50Vdc max
	48V	100Vdc max
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 PI Type

Positive Logic Remote on/off Control: (see note 3 & 4)

OUTPUT SPECIFICATIONS:

Voltage Accuracy	±1% max.
Voltage Balance(Dual)	±1% max.
Transient Response: 75% ~ 100% Step Load Change.	
Error Band	±5% Vout nominal, Recovery Time < 250us
Ripple & Noise, 20MHz BW (Measured with 0.1uF MLCC)	
Vo=3.3 & 5V75mV p-p max.
Vo=12V & 15V & ±12V & ±15V 100mV p-p max
Temperature Coefficient	±0.02%/C max.
Line Regulation(Note1), ... single	±0.2% max.
Dual	±0.2% max
Load Regulation(Note2), ... single	±0.2% max.
Dual	±0.5% max
Cross Regulation(Dual output) Load cross variation 10%/100%	±5%
Over Voltage Protection	Zener or TVS Clamp
Current Limit	110% - 160% Nominal Output
Output Short Circuit Protection	Continuous (Hiccup Mode)
External Trim Adj. Range (single output models only)	±10%
Start up time	10ms typ

GENERAL SPECIFICATIONS:

Efficiency	See Table
Isolation Voltage	1500 VDC min.
Isolation Resistance	10 ⁹ Ohms min.
Isolation Capacitance	1000pF Typ
Switching Frequency	430KHz typ.
EMI/RFI	Conductive EMI Mee EN55022 Class A (Note6)
Operating Ambient Temperature Range	-40°C to +75°C
Derating, Above 65°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
Thermal Shutdown, Case Temp.	110°C Typ.
Humidity	95% RH max. Non condensing
MTBF	MIL-STD-217F
Dimensions	2 x 1 x 0.4 inches (50.8 x 25.4 x 10.2 mm)
Case Material	Black Coated Copper with Non-Conductive Base
Weight	35g

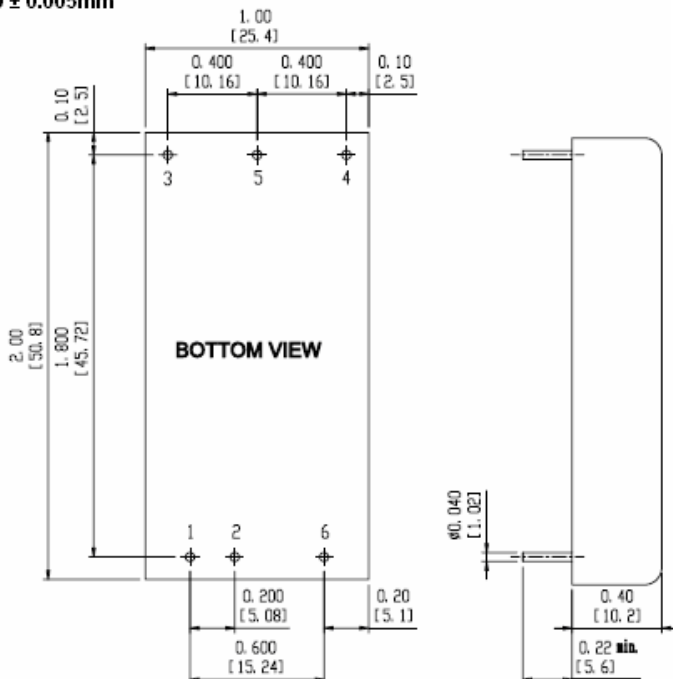
NOTE :

1. Measured From High Line to Low Line
2. Measured From Full Load to min. Load
3. Logic Compatibility CMOS or Open Collector TTL, ref. to -Vin
Module ON >3.5Vdc to 75Vdc or Open Circuit
Module OFF <1.2Vdc
4. Suffix "N" to the Model Number with Negative Logic Remote ON/OFF
Module ON <1.2Vdc,
Module OFF >3.5Vdc to 75Vdc or Open Circuit
5. Maximum case temperature under any operating condition should Not be exceeded 105°C.
6. Meet EN55022 Class A with external capacitor.(see application note)

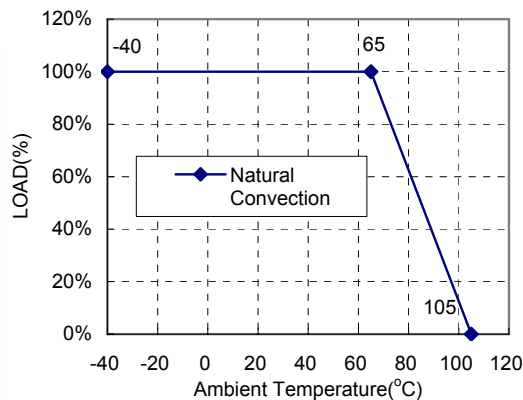
SIZE B Dimensions:

CASE B

All Dimensions in Inches (mm)
Tolerance Inches X.XX= ±0.02 , X.XXX= ±0.010
Millimeters X.X= ±0.5 , X.XX= ±0.25
Pin Diameter: 1.0 ± 0.005mm



Typical Derating curve for Natural Convection



PIN CONNECTION		
Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	Trim	-Vout
5	-Vout	Common
6	Remote ON/OFF	