

15 WATT 4:1 INPUT DC-DC CONVERTERS



Features:

- 15W Isolated Output
- Efficiency to 88%
- 2" X1" Six-Sided Shield Metal Case
- 4:1 Input Range
- Regulated Outputs
- Fixed Switching Frequency
- Input Under Voltage Protection
- Over Current Protection
- Remote On/Off (Option)
- Continuous Short Circuit Protection
- No Tantalum Capacitor Inside
- Conductive EMI Meets EN55022 Class A
- CE Mark Meets 2004/108/EC
- Safety Meets UL60950-1, EN60950-1, and IEC60950-1

Electrical Characteristics:

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		%EFF (2)	%EFF (3)	CAPACITOR LOAD MAX
			MIN	MAX	NO LOAD	FULL LOAD			
EC5BW-24S33	9-36 VDC	3.3 VDC	0 mA	4000 mA	60 mA	632 mA	87	87	4000µF
EC5BW-24S05	9-36 VDC	5 VDC	0 mA	3000 mA	70 mA	718 mA	87	87	3000µF
EC5BW-24S12	9-36 VDC	12 VDC	0 mA	1250 mA	30 mA	718 mA	87	87	1250µF
EC5BW-24S15	9-36 VDC	15 VDC	0 mA	1000 mA	30 mA	710 mA	88	88	1000µF
EC5BW-24D05	9-36 VDC	±5 VDC	0 mA	±1500mA	30 mA	735 mA	85	85	1500µF
EC5BW-24D12	9-36 VDC	±12 VDC	0 mA	±625mA	30 mA	718 mA	87	87	625µF
EC5BW-24D15	9-36 VDC	±15 VDC	0 mA	±500mA	30 mA	710 mA	88	88	470µF
EC5BW-48S33	18-75 VDC	3.3 VDC	0 mA	4000 mA	40 mA	313 mA	88	88	4000µF
EC5BW-48S05	18-75 VDC	5 VDC	0 mA	3000 mA	40 mA	355 mA	88	88	3000µF
EC5BW-48S12	18-75 VDC	12 VDC	0 mA	1250 mA	20 mA	359 mA	87	87	1250µF
EC5BW-48S15	18-75 VDC	15 VDC	0 mA	1000 mA	20 mA	359 mA	87	87	1000µF
EC5BW-48D05	18-75 VDC	±5 VDC	0 mA	±1500mA	20 mA	368 mA	85	85	1500µF
EC5BW-48D12	18-75 VDC	±12 VDC	0 mA	±625mA	20 mA	359 mA	87	87	625µF
EC5BW-48D15	18-75 VDC	±15 VDC	0 mA	±500mA	20 mA	359 mA	87	87	470µF

Specification

INPUT SPECIFICATIONS:

Input Voltage Range.....	24V.....	9-36V
	48V.....	18-75V
Input Surge Voltage (100ms max.)	24VDC	50VDC max
	48VDC	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

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 (Measured with 0.1uF MLCC)	
	Vo=3.3 & 5V
	75mV p-p max
	Vo=12 & 15V & ±12V & ±15V....
	100mV p-p max
Temperature Coefficient	±0.03%/C max
Short Circuit Protection	Continuous
Load 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
Current Limit	110% - 170% Nominal Output
Output Short Circuit Protection	Continuous (Hiccup Mode)
Start Up Time	10ms typ

OPTION

- Suffix "T" to the Model Number With Remote Positive On/Off Control:
Logic Compatibility CMOS or Open Collector TTL, Referenced to -Vin
Module On >3.5VDC to 75VDC or Open Circuit
Module Off <1.2VDC
- Suffix "A" to the Model Number with Output Voltage Adjustable
External Trim Adj. Range ≥±10%, Single Output Only

Specification

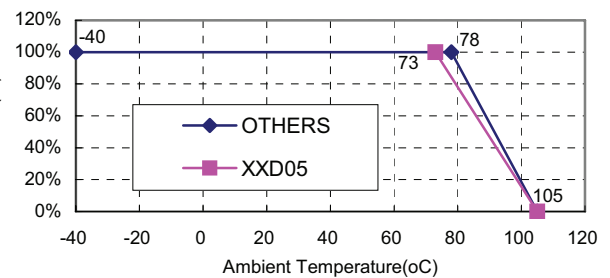
GENERAL SPECIFICATIONS:

Efficiency.....	See Table
Isolation Voltage	1500VDC min
Isolation Resistance	10 ⁹ ohm min.
Switching Frequency	1000KHz typ.
EMI/RFI	Conductive EMI Meets EN55022 Class A
Case Grounding	Connect Case to -Vin with Decoupling Y Cap
Operating Ambient Temperature Range.....	-40°C to +85°C
Derating, Above 78°C	Linearly to Zero Power at +105°C
Case Temperature (note 3).....	105°C max
Cooling.....	Natural Convection
Storage Temperature Range	-55°C to +125°C
Humidity.....	.95% RH max. Non condensing
Dimensions	2.00 x 1.00 x 0.40 inches (50.8 x 25.4 x 10.2 mm)
Case Material	Black Coated Copper with Non-Conductive Base
Weight.....	35g

NOTE:

- Measured From High Line to Low Line
- Measured From Full Load to min. Load
- Maximum case temperature under any operating condition should Not be exceeded 105°C

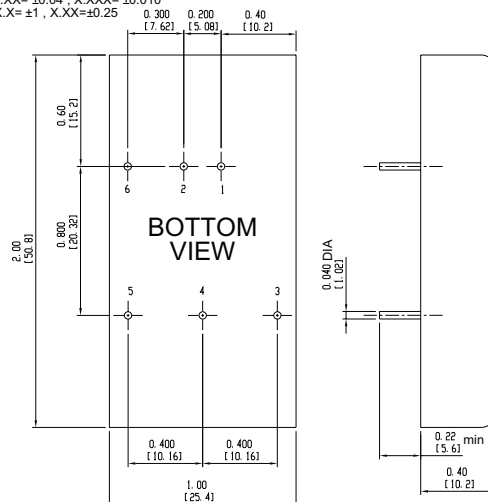
Typical Derating curve for Natural Convection



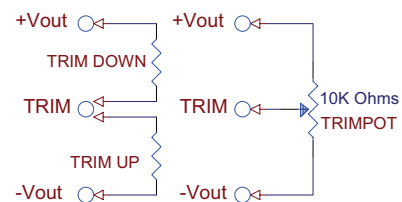
SIZE SB Dimensions

SIZE B Dimensions:

All Dimensions In Inches (mm)
Tolerances Inches: X.XX= ±0.04, X.XXX= ±0.010
Millimeters: X.X= ±1, X.XX= ±0.25



EXTERNAL OUTPUT TRIM



PIN CONNECTION	
Pin	Function
1.	+Input
2.	-Input
3.	+Output
4.	Common/NP/Trim (Option)
5.	-V Output
6.	NP/Remote (Option)

*NP-NO PIN ON SINGLE OUTPUT

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

Data sheets are subject to change without notice

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