ECLB40W SERIES
40 WATT 4:1 INPUT
DC-DC CONVERTERS

FEATURES

* 40W Isolated Output
* Efficiency to 91%
* 2.05"x1.2x0.4" Six-Sided Shield Metal Case
* 4:1 Input Range
* Regulated Outputs
* Fixed Switching Frequency
* Low No Load Power Consumption
* Input Under Voltage Protection
* Over Current Protection
* Remote On/Off
* Continuous Short Circuit Protection
* No Tantalum Capacitor Inside
* Safety Meets IEC/EN/UL 62368-1



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.		CAPACITOR LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD	(3)	(2)	
ECLB40W-24S33	9-36 VDC	3.3 VDC	0 mA	10000 mA	8 mA	1528 mA	88.5	90	10000μF
ECLB40W-24S05	9-36 VDC	5 VDC	0 mA	8000 mA	8 mA	1842 mA	89.5	90.5	8000μF
ECLB40W-24S12	9-36 VDC	12 VDC	0 mA	3333 mA	10 mA	1832 mA	90.5	91	3300μF
ECLB40W-24S15	9-36 VDC	15 VDC	0 mA	2666 mA	10 mA	1842 mA	90.5	90.5	2700μF
ECLB40W-24D12	9-36 VDC	±12 VDC	0 mA	±1667 mA	10 mA	1873 mA	89.5	89	1650μF
ECLB40W-24D15	9-36 VDC	±15 VDC	0 mA	±1333 mA	10 mA	1862 mA	90	89.5	1350μF
ECLB40W-48S33	18-75 VDC	3.3 VDC	0 mA	10000 mA	6 mA	764 mA	89	90	10000μF
ECLB40W-48S05	18-75 VDC	5 VDC	0 mA	8000 mA	6 mA	921 mA	90	90.5	8000μF
ECLB40W-48S12	18-75 VDC	12 VDC	0 mA	3333 mA	8 mA	921 mA	91.5	90.5	3300μF
ECLB40W-48S15	18-75 VDC	15 VDC	0 mA	2666 mA	8 mA	921 mA	91	90.5	2700μF
ECLB40W-48D12	18-75 VDC	±12 VDC	0 mA	±1667 mA	8 mA	932 mA	90	89.5	1650μF
ECLB40W-48D15	18-75 VDC	±15 VDC	0 mA	±1333 mA	8 mA	926 mA	90.5	90	1350μF

NOTE:

1. Nominal Input Voltage 24 or 48 VDC
2. Measured at Nominal Input Voltage
3. Measured at 12VDC for 24Vin, 24VDC for 48Vin

SPECIFICATIONS

All Specifications Typical at Nominal Line, Full Load, and 25℃ Unless Otherwise Noted

INPUT SPECIFICATIONS:

Input Voltage Range ..... 24VDC ..... 9 – 36VDC
48VDC ..... 18 – 75VDC
Input Surge Voltage (100ms max.) ..... 24VDC ..... 50VDC max.
48VDC ..... 100VDC max.
Under Voltage Lockout ..... 24Vin power up ..... 8.5VDC typ.
24Vin power down ..... 8.0VDC typ.
48Vin power up ..... 17VDC typ.
48Vin power down ..... 16VDC typ.
Input Filter ..... PI Type
Remote On/Off Control (note3)

OUTPUT SPECIFICATIONS:

Voltage Accuracy ..... ±1.5% 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 1uF MLCC)
Vo=3.3 & 5V ..... 100mV pk-pk max.
Vo=12V&15V&±12V&±15V ..... 150mV pk-pk max.
Temperature Coefficient ..... ±0.02%/℃ max.
Line Regulation (note1) ..... Single/Dual ..... ±0.2% max.
Load Regulation (note2) ..... Single/Dual ..... ±0.5% max.
Cross Regulation (Dual Output) Load Cross Variation 10%/100% ... ±5% max.
Over Voltage Protection ..... Zener or TVS Clamp
Current Limit ..... 110% - 165% Nominal Output
Output Short Circuit Protection ..... Continuous (Hiccup Mode)
External Trim Adj. Range (Single Output Models Only) ..... ±10%
Start up Time ..... 15ms typ.

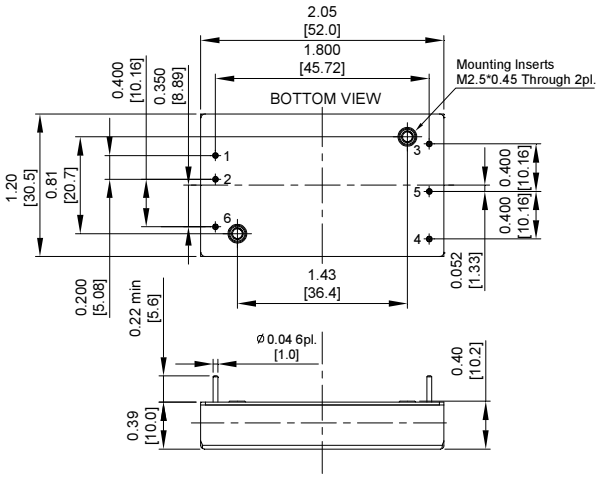
GENERAL SPECIFICATIONS:

Efficiency ..... See Table
Isolation Voltage ..... Input/Output ..... 1500VDC min.
Input/Case, Output/Case ..... 1000VDC min.
Isolation Resistance ..... 10^9 ohm min.
Isolation Capacitance ..... Input/Output ..... 1500pF typ.
Input/Case ..... 1000pF typ.
Output/Case ..... 1000pF typ.
Switching Frequency ..... 300KHz typ.
EMI/RFI ..... Six-Sided Continuous Shield
Operating Ambient Temperature Range ..... -40℃ to +85℃
De-rating, Above 60℃ ..... Linearly to Zero Power at +105℃
Case Temperature (note4) ..... 105℃ max.
Cooling ..... Natural Convection
Storage Temperature Range ..... -55℃ to +125℃
Thermal Shutdown, Case Temp. ..... 110℃ typ.
Humidity ..... 95% RH max. Non-Condensing
MTBF ... MIL-HDBK-217F. GB. 25℃. Full Load ..... 1400Khrs typ.
Dimensions ..... 2.05 x 1.20 x 0.40 inches (52 x 30.5 x 10.2 mm)
Case Material ..... Aluminum with Non-Conductive Base
Weight 36g

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, refer to –Vin.
   Module on ..... >3.5VDC to 75VDC or open circuit
   Module off ..... 0 to <1.2VDC
4. Maximum case temperature under any operating condition should not be exceeded 105℃.

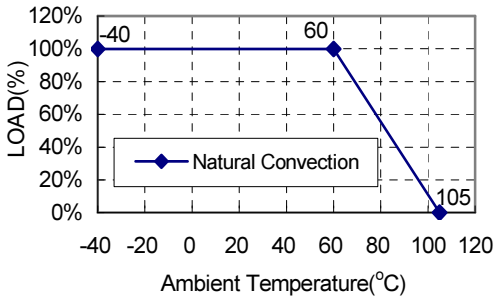
SIZE LB Dimensions:



PIN CONNECTION		
PIN	Single Output	Dual Output
1	+V Input	+V Input
2	-V Input	-V Input
3	+V Output	+V Output
4	Trim	-V Output
5	-V Output	Common
6	Remote On/Off	

NOTE: Pin Size is 0.04±0.004 Inch (1.0±0.1 mm)DIA
All Dimensions in Inches[mm]
Tolerance Inches:x.xx=±0.02 ,x.xxx=±0.010
Millimeters:x.x=±0.5 , x.xx=±0.25

Typical Derating Curve



External Output Trimming

