



ECLB60 SERIES 60 WATT 2:1 INPUT DC-DC CONVERTERS



FEATURES

- * 60W Isolated Output
- * Efficiency to 93.5%
- * 2.05"X1.2"X0.4" Six-Sided Shield Metal Case
- * 2:1 Input Range
- * Regulated Outputs
- * Fixed Switching Frequency
- * Input Under Voltage Protection
- * Over Current Protection
- * Remote On/Off
- * Low No Load Power Consumption
- * Continuous Short Circuit Protection
- * No Tantalum Capacitor Inside
- * Safety Meets UL60950-1, EN60950-1, and IEC60950-1
- * Full Load Operation Up to 60°C with Heat-Sink M-C655 Natural Convection



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	CAPACITOR LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD		
ECLB60-12S33	9-18 VDC	3.3 VDC	0 mA	15 A	10 mA	4.59 A	90.5	15000μF
ECLB60-12S05	9-18 VDC	5 VDC	0 mA	12 A	10 mA	5.50 A	91.5	12000μF
ECLB60-12S12	9-18 VDC	12 VDC	0 mA	5 A	10 mA	5.45 A	92.5	5000μF
ECLB60-12S15	9-18 VDC	15 VDC	0 mA	4 A	10 mA	5.45 A	92.5	4000μF
ECLB60-24S33	18-36 VDC	3.3 VDC	0 mA	15 A	8 mA	2.28 A	91	15000μF
ECLB60-24S05	18-36 VDC	5 VDC	0 mA	12 A	8 mA	2.72 A	92.5	12000μF
ECLB60-24S12	18-36 VDC	12 VDC	0 mA	5 A	8 mA	2.69 A	93.5	5000μF
ECLB60-24S15	18-36 VDC	15 VDC	0 mA	4 A	8 mA	2.69 A	93.5	4000μF
ECLB60-48S33	36-75 VDC	3.3 VDC	0 mA	15 A	5 mA	1.14 A	91	15000μF
ECLB60-48S05	36-75 VDC	5 VDC	0 mA	12 A	5 mA	1.36 A	92	12000μF
ECLB60-48S12	36-75 VDC	12 VDC	0 mA	5 A	5 mA	1.35 A	93	5000μF
ECLB60-48S15	36-75 VDC	15 VDC	0 mA	4 A	5 mA	1.35 A	93	4000μF

NOTE:

1. Nominal Input Voltage 12, 24, 48 VDC
2. Measured at Nominal Input Voltage

SPECIFICATIONS

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

INPUT SPECIFICATIONS:

Input Voltage Range	12VDC	9 – 18VDC
	24VDC	18 – 36VDC
	48VDC	36 – 75VDC
Input Surge Voltage (100ms max.)	12VDC	25VDC max.
	24VDC	50VDC max.
	48VDC	100VDC max.
Under Voltage Lockout	12Vin Power Up	8.5VDC typ.
	12Vin Power Down	8VDC typ.
	24Vin Power Up	17VDC typ.
	24Vin Power Down	16VDC typ.
	48Vin Power Up	34VDC typ.
	48Vin Power Down	32VDC typ.

Positive Logic Remote ON/OFF Control (note3&4).

Input Filter Pi Type

OUTPUT SPECIFICATIONS:

Voltage Accuracy $\pm 1.5\%$ max.

Transient Response: 75% ~ 100% Step Load Change

Error Band $\pm 5\%$ Vout nominal, Recovery Time < 250 μ s

Ripple & Noise, 20MHz BW (Measured with 1uF MLCC)

Vo=3.3 & 5V 100mV pk-pk max.

Vo=12V & 15V 150mV pk-pk max.

Temperature Coefficient $\pm 0.02\%/^{\circ}\text{C}$ max.

Line Regulation (note1) Single $\pm 0.2\%$ max.

Load Regulation (note2) Single $\pm 0.5\%$ max.

Over Voltage Protection Zener or TVS Clamp

Current Limit 110% - 150% Nominal Output

Output Short Circuit Protection Continuous (Hiccup Mode)

External Trim Adj. Range (Single Output Models Only) $\pm 10\%$

Start up time 30ms 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, Output/Case 1000pF typ.

Switching Frequency 260KHz typ.

EMI/RFI Six-Sided Continuous Shield

Operating Ambient Temperature Range -40°C to $+85^{\circ}\text{C}$

De-rating, Above 45°C Linearly to Zero Power at $+105^{\circ}\text{C}$

Case Temperature (note5) 105°C

Cooling Natural Convection

Storage Temperature Range -55°C to $+125^{\circ}\text{C}$

Thermal Shutdown Case Temp. 110°C typ.

Humidity 95% RH max. Non-Condensing

MTBF...MIL-HDBK-217F, GB, 25°C , Full Load ...XXS05, XXS12 ... 900Khrs typ.

Others 1100Khrs typ.

Dimensions 2.05 x 1.20 x 0.40 inches (52.0 x 30.5 x 10.2 mm)

Case Material Aluminum with Non-Conductive Base

Weight 39g

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, Referenced to $-V_{in}$.

Module on $>3.5\text{VDC}$ to 75VDC or open circuit

Module off 0 to $< 1.2\text{VDC}$

4. Suffix "N" to the model number with negative logic remote on/off

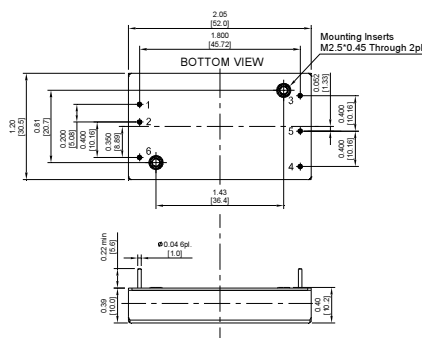
Module on 0 to $< 1.2\text{VDC}$

Module off $>3.5\text{VDC}$ to 75VDC or open circuit

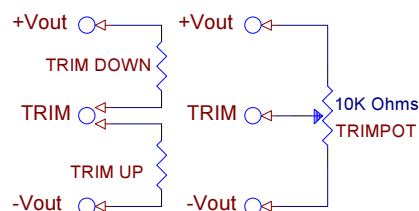
5. Maximum case temperature under any operating condition should not be exceeded 105°C .

SIZE LB Dimensions:

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

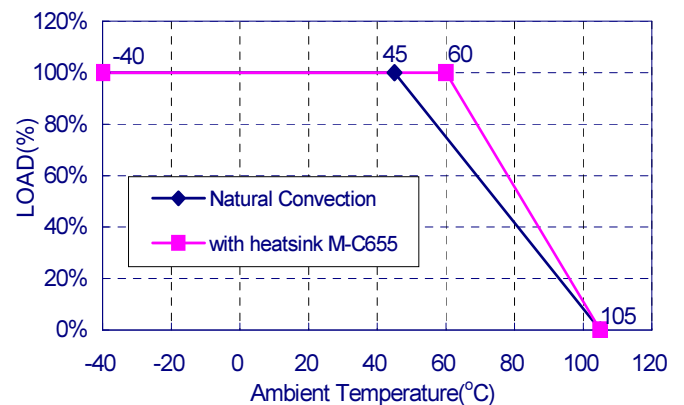


External Output Trimming



Derating Curve

Typical Derating Curve



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Cincon:

[ECLB60-12S05](#) [ECLB60-12S15](#) [ECLB60-12S15N](#) [ECLB60-24S12N](#) [ECLB60-24S05N](#) [ECLB60-12S33](#) [ECLB60-48S12N](#) [ECLB60-12S12](#) [ECLB60-12S33N](#) [ECLB60-48S33N](#) [ECLB60-24S15N](#) [ECLB60-12S05N](#) [ECLB60-48S15N](#) [ECLB60-48S05N](#) [ECLB60-12S12N](#) [ECLB60-24S33N](#)