ECLB75W SERIES
75 WATT 4:1 INPUT
DC-DC CONVERTERS

FEATURES



* 75W Isolated Output
* Efficiency to 92.5%
* Low No Load Power Consumption
* 2.05''x1.2x0.4'' Six-Sided Shield Metal Case
* Standard 2"X1" Pin Out Compatible
* 4:1 Input Range
* Regulated Outputs
* Fixed Switching Frequency
* Input Under Voltage Protection
* Over Current Protection
* Remote On/Off
* Continuous Short Circuit Protection
* No Tantalum Capacitor Inside
* Safety Meets IEC/EN/UL62368-1
* Full Load Operation Up to 54℃ with Heat-Sink LBT127 (M-C655) Natural Convection

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.		CAPACITOR LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD	(3)	(2)	
ECLB75W-24S05	9-36 VDC	5 VDC	0 mA	15000 mA	10 mA	3415 mA	92	91.5	15000μF
ECLB75W-24S12	9-36 VDC	12 VDC	0 mA	6250 mA	10 mA	3415 mA	92	91	6250μF
ECLB75W-24S15	9-36 VDC	15 VDC	0 mA	5000 mA	10 mA	3434 mA	92	90.5	5000μF
ECLB75W-24D12	9-36 VDC	±12 VDC	0 mA	±3120 mA	12 mA	3448 mA	91	90.5	3200μF
ECLB75W-24D15	9-36 VDC	±15 VDC	0 mA	±2500 mA	12 mA	3453 mA	91	91	2500μF
ECLB75W-24D24	9-36 VDC	±24 VDC	0 mA	±1560 mA	18 mA	3448 mA	91	90.5	1560μF
ECLB75W-48S05	18-75 VDC	5 VDC	0 mA	15000 mA	8 mA	1708 mA	92	91.5	15000μF
ECLB75W-48S12	18-75 VDC	12 VDC	0 mA	6250 mA	8 mA	1708 mA	92	91	6250μF
ECLB75W-48S15	18-75 VDC	15 VDC	0 mA	5000 mA	8 mA	1717 mA	92.5	91	5000μF
ECLB75W-48D12	18-75 VDC	±12 VDC	0 mA	±3120 mA	8 mA	1724 mA	91.5	90.5	3200μF
ECLB75W-48D15	18-75 VDC	±15 VDC	0 mA	±2500 mA	8 mA	1717 mA	91.5	91	2500μF
ECLB75W-48D24	18-75 VDC	±24 VDC	0 mA	±1560 mA	8 mA	1715 mA	92	91.5	1560uF

NOTE:

1. Nominal Input Voltage 24 or 48 VDC
2. Measured at Nominal Input Voltage
3. Measured at 12VDC for 24Vin, 24VDC for 48Vin
4. An External input Capacitor 100uF for 48Vin Models and 220uF for 24Vin Models are Recommended to Reduce Input ripple Voltage.

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 ..... 7.8VDC typ.
48Vin Power Up .....16VDC typ.
48Vin Power Down .....15VDC typ.
Input Filter (note6) ..... PI Type
Remote On/Off Control (note3&4)

OUTPUT SPECIFICATIONS:

Voltage Accuracy ..... ±1.0% max.
Voltage Balance (Dual) ..... ±1.0% 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=5V ..... 100mV pk-pk max.
Vo=12V&15V&±12V&±15V ..... 150mV pk-pk max
Vo=±24V ..... 240mV 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% - 160% Nominal Output
Output Short Circuit Protection ..... Continuous (Hiccup Mode)
External Trim Adj. Range ..... +10%, -20%
Start Up Time ..... 30ms typ.

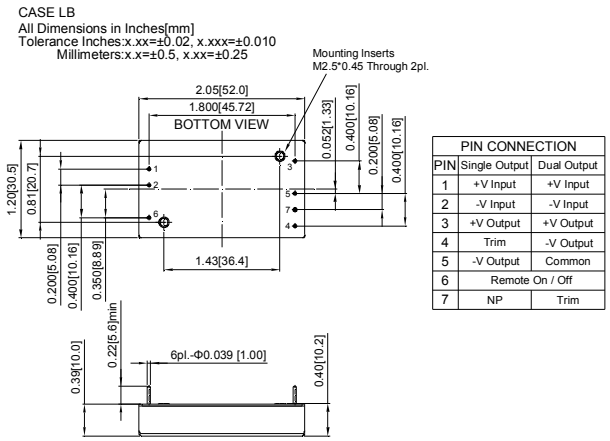
GENERAL SPECIFICATIONS:

Efficiency ..... See Table
Isolation Voltage ..... Input/Output ..... 2250VDC min.
Input/Case, Output/Case ..... 1600VDC min.
Isolation Resistance ..... 10^9 ohm min.
Isolation Capacitance ..... Input/Output ..... 1500pF typ.
Input/Case, Output/Case ..... 1000pF typ.
Switching Frequency ..... Single .... 270KHz typ, Dual ... 330KHz typ.
EMI/RFI ..... Six-Sided Continuous Shield
Operating Ambient Temperature Range ..... -40℃ to +85℃
De-rating, Above 22℃ (note5) ..... Linearly to Zero Power at +105℃
Case Temperature (note5) ..... 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
Vo=5V 904Khrs typ., Vo=12V 840Khrs typ., Vo=15V 995Khrs typ.
Vo=±12V 792Khrs typ., Vo=±15V 998Khrs typ., Vo=±24V 691Khrs typ.
Shock/Vibration ..... Meet MIL-STD-810F
Dimensions ..... 2.05x1.20x0.40 inches (52.0x30.5x10.2 mm)
Case Material ..... Aluminum with Non-Conductive Base
Weight 39g

NOTE :

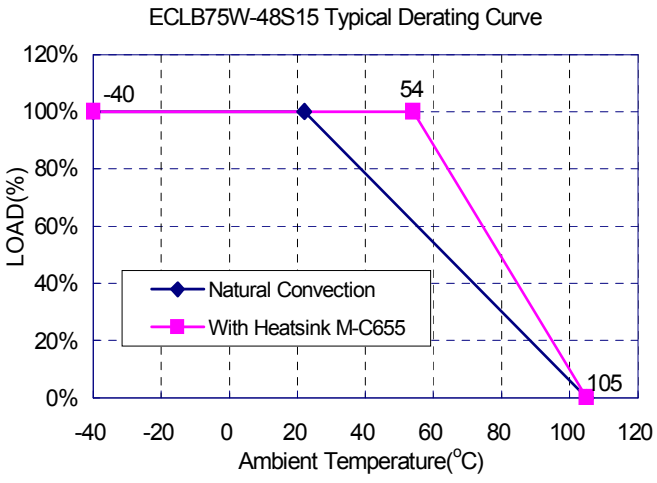
1. Measured from high line to low line.
2. Measured from full load to min. load.
3. Logic compatibility ... CMOS or open collector TTL, refer to –Vin.
   Module on ..... >3.5VDC to 75VDC or open circuit
   Module off ..... 0 to < 1.2VDC
4. Suffix "N" to the model number with negative logic remote on/off
   Module on ..... 0 to < 1.2 VDC
   Module off ..... >3.5VDC to 75VDC or open circuit
5. Maximum case temperature under any operating condition should not be exceeded 105℃.
6. An external input capacitor 100uF for 48Vin models and 220uF for 24Vin models are recommended to reduce input ripple voltage.

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	
7	NP	Trim

Derating Curve



External Output Trimming

