

# ECLB40W-110 SERIES

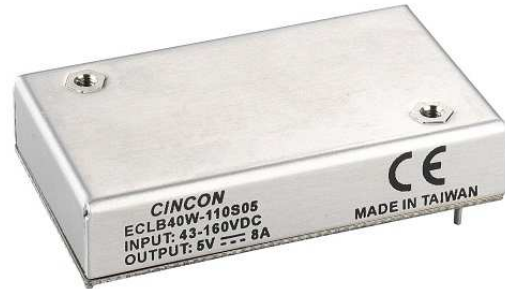
## 40 WATT 4:1 INPUT

## DC-DC CONVERTERS



### FEATURES

- \* 40W Isolated Output
- \* Efficiency to 91%
- \* 2.05" X1.2" X0.4" Six-Sided Shield Metal Case
- \* 4:1 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
- \* UL60950-1 2nd (Basic Insulation) Approval
- \* Meets EN50155 with External Circuits
- \* Fire & Smoke Meets EN45545-2
- \* 3000m Operating Altitude
- \* Full Load Operation Up to 69°C with Heat-Sink M-C655 Natural Convection
- \* 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		
ECLB40W-110S33	43-160 VDC	3.3 VDC	0 mA	10000 mA	6 mA	340 mA	88%	10000μF
ECLB40W-110S05	43-160 VDC	5 VDC	0 mA	8000 mA	6 mA	409 mA	88.5%	8000μF
ECLB40W-110S12	43-160 VDC	12 VDC	0 mA	3333 mA	6 mA	404 mA	90%	3300μF
ECLB40W-110S15	43-160 VDC	15 VDC	0 mA	2666 mA	6 mA	399 mA	91%	2700μF
ECLB40W-110D12	43-160 VDC	±12 VDC	0 mA	±1667 mA	6 mA	408 mA	88%	1650μF
ECLB40W-110D15	43-160 VDC	±15 VDC	0 mA	±1333 mA	6 mA	408 mA	88.5%	1350μF
ECLB40W-110D24	43-160 VDC	±24 VDC	0 mA	±833 mA	6 mA	408 mA	89%	850μF

#### NOTE:

1. Nominal Input Voltage 110 VDC

# SPECIFICATIONS

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

## INPUT SPECIFICATIONS:

Input Voltage Range .....	110V .....	43-160V
Input Surge Voltage (100ms max.) .....	200Vdc max.	
Under Voltage Lockout .....	power up .....	40V
	power down .....	38V
Positive Logic Remote On/Off (note4&5)		
Input Filter .....	Pi Type	

## OUTPUT SPECIFICATIONS:

Voltage Accuracy .....	±1.5% max.	
Voltage Balance (Dual Output) .....	±1.0% max.	
Transient Response: 25% Step Load Change		
Error Band .....	±5% Vout Nominal	Recovery Time .....
External Trim Adj. Range (Single Output Models Only) .....	±10%	
Ripple & Noise, 20MHz BW (Measured with 1uF MLCC)		
Vo= 3.3V&5V .....	100mV pk-pk max	
Vo=12V, 15V, ±12V& ±15V .....	150mV pk-pk max.	
Vo=±24V .....	200mV pk-pk max.	
Temperature Coefficient .....	±0.02%/°C max.	
Short Circuit Protection .....	Continuous	
Line Regulation (note1) .....	±0.2% max.	
Load Regulation (note2) .....	Single .....	±0.5% max.
	Dual.....	±1.0% max.
Cross Regulation (Dual output) Load Cross Variation 10%/100% .....	±5.0% max.	
Over Voltage Protection .....	Zener or TVS Clamp	
Current Limit .....	110%-170%	Nominal Output
Start up Time .....	15ms typ.	

## GENERAL SPECIFICATIONS:

Efficiency .....	See Table	
Isolation Voltage .....	Input/Output .....	3000VDC min.
	Input/Case, Output/Case .....	1600VDC min.
Isolation Resistance .....	10 <sup>9</sup> Ohms min.	
Isolation Capacitance .....	1500pF typ.	
Case grounding .....	Output/case .....	1000pF typ.
Switching Frequency .....	250KHz typ.	
EMI/RFI .....	Six-Sided Continuous Shield	
Operating Ambient Temperature Range .....	-40°C to +85°C	
De-rating. Above 45°C .....	Linearly to Zero Power at +105°C	
Case Temperature (note5) .....	105°C max.	
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-HDBK-217F, GB, 25°C, Full Load .....	905Khrs typ.
Safety .....	Meet UL60950-1 2nd (Basic Insulation)	
EMC(note6) .....	Meet EN50155(EN50121-3-2) with External Filter	
Shock/Vibration .....	Meet EN50155(EN61373)	
Dimensions .....	2.05x1.20x0.40inches (52x30.5x10.2mm)	
Case Material .....	Aluminum with Non-Conductive Base	
Weight .....	36g	

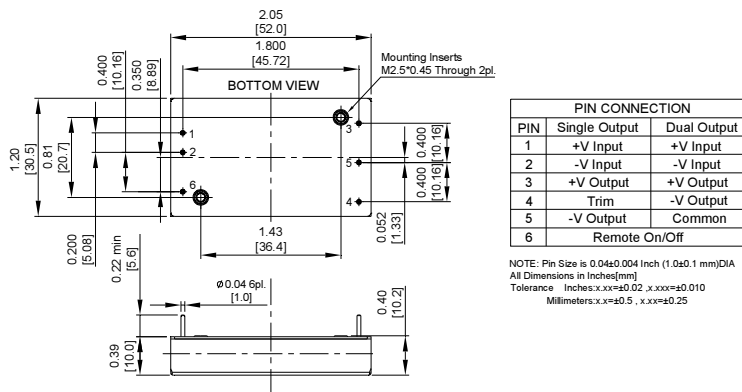
## NOTE:

1. Measured from high line to low line.
2. Measured from full load to min. load.
3. Logic Compatibility ... CMOS or open collector TTL, referenced to -Vin.  
Module on .....

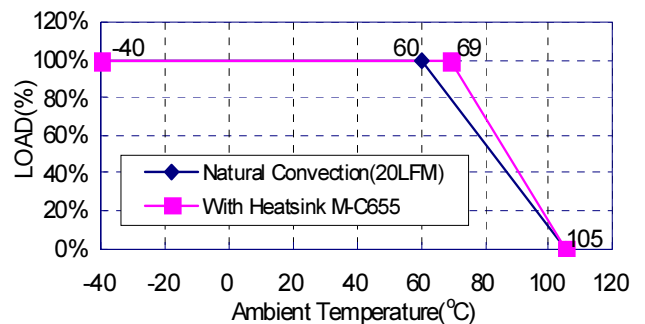
Module on .....	>3.5VDC to 75VDC or open circuit
Module off .....	0 to <1.2VDC

4. Suffix "N" to the model number with negative logic remote on/off  
Module on .....
5. Maximum case temperature under any operating condition should not be Exceeded 105°C.
6. For information about EN50155 and RIA12, refer to application note.

## SIZE LB Dimensions:



ECLB40W-110S15 Typical Derating Curve



## External Output Trimming

