EC6AW-110 SERIES
10 WATT 4:1 INPUT
DC-DC CONVERTERS

E176177

Railway System

FEATURES

* 10W Isolated Output
* Efficiency to 88.5%
* Low No Load Power Consumption
* 4:1 Input Range
* Regulated Outputs
* Input Under-Voltage Protection
* Remote On/Off
* Continuous Short Circuit Protection
* Over Current Protection
* CE Mark Meets 2014/30/EU
* UL60950-1 2nd (Basic Insulation) Approval
* Meets EN50155 with External Circuits
* Shock & Vibration Meets EN50155 (EN61373)
* Fire & Smoke Meets EN45545-2
* 3050m Operating Altitude

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	CAPACITOR LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD		
EC6AW-110S12	43-160 VDC	12 VDC	0 mA	835 mA	6 mA	104 mA	88	835μF
EC6AW-110S15	43-160 VDC	15 VDC	0 mA	666 mA	6 mA	103 mA	88.5	666μF
EC6AW-110D05	43-160 VDC	±5 VDC	0 mA	±1000mA	6 mA	107 mA	85	1000μF
EC6AW-110D12	43-160 VDC	±12 VDC	0 mA	±416mA	6 mA	105 mA	87	416μF
EC6AW-110D15	43-160 VDC	±15 VDC	0 mA	±333mA	6 mA	104 mA	87.5	333μF

NOTE:
1. Nominal Input Voltage 110 VDC

SPECIFICATIONS

All Specifications Typical At Nominal Line, Full Load, and 25℃ 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 (note 3&4)
Input Filter ..... PI Type

OUTPUT SPECIFICATIONS:

Voltage Accuracy ..... ±1.0% max.
Voltage Balance (Dual Output) ..... ±2.0% 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 ..... 75mV pk-pk max.
Vo=12V, 15V, ±12V, ±15V ..... 100mV 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 25%/100% ..... ±5.0% max.
Over Voltage Protection ..... Zener or TVS Clamp
Current Limit ..... 110%-170% Nominal Output
Start up time ..... 10ms typ.

GENERAL SPECIFICATIONS:

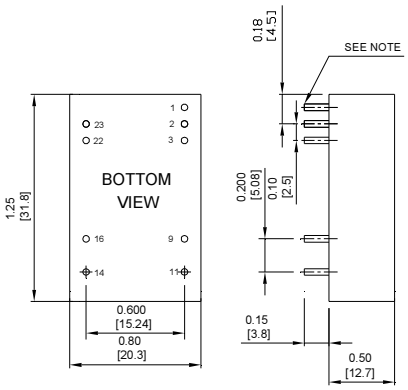
Efficiency ..... See Table
Isolation Voltage ..... 3000VDC min.
Isolation Resistance ..... 10^9 Ohms min
Isolation Capacitance ..... 1000pF typ.
Switching Frequency ..... 240KHz typ
Operating Ambient Temperature Range ..... -40℃ to +85℃
De-rating, Above 60℃ ..... Linearly to Zero Power at +100℃
Case Temperature (note5) ..... 100℃ max.
Cooling ..... Natural Convection
Storage Temperature Range ..... -55℃ to +125℃
Humidity ..... 95% RH max. Non-Condensing
MTBF ..... MIL-HDBK-217F, GB, 25℃, Full Load ..... 1200Khrs typ.
Safety ..... Meets UL60950-1 2nd(Basic insulation)
EMC (note6) ..... Meets EN50155(EN50121-3-2) with external filter
Shock/Vibration ..... Meets EN50155(EN61373)
Fire & Smoke ..... Meet EN45545-2
Dimensions ..... 1.25×0.80x0.50 inches(31.8x20.3×12.7mm)
Case Material ..... Non-Conductive Black Plastic
Weight 16g

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 ..... >3.5VDC to 160VDC 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 < 1.2Vdc
   Module off ..... >3.5VDC to 160VDC or open circuit
5. Maximum case temperature under any operating condition should not be exceeded 100℃.
6. For information about EN50155 and RIA12, refer to application note.

CASE A Dimensions:

NOTE:Pin Size is 0.02±0.002 Inch (0.5±0.05 mm)DIA
All Dimensions In Inches (mm)
Tolerances Inches: X.XX= ±0.02 , X.XXX= ±0.010
Millimeters: X.X= ±0.5 , X.XX=±0.25



PIN CONNECTION		
Pin	Single Output	Dual Output
1	Remote On/Off	Remote On/Off
2,3	-V Input	-V Input
4,5	NP	NP
9	NP	Common
10	NP	NP
11	NC	-V Output
12	NP	NP
13	NP	NP
14	+V Output	+V Output
15	NP	NP
16	-V Output	Common
20,21,24	NP	NP
22,23	+V Input	+V Input

* NC-NO CONNECTION WITH PIN
* NP-NO PIN

Typical Derating curve for Natural Convection