



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

FEATURES

- * 8.25-10W 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
- * All Ceramic Capacitor Design
- * 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-110S33	43-160 VDC	3.3 VDC	0 mA	2500 mA	6 mA	89 mA	85	2500 μ F
EC6AW-110S05	43-160 VDC	5 VDC	0 mA	2000 mA	6 mA	105 mA	87	2000 μ F
EC6AW-110S12	43-160 VDC	12 VDC	0 mA	835 mA	6 mA	104 mA	88	835 μ F
EC6AW-110S15	43-160 VDC	15 VDC	0 mA	666 mA	6 mA	103 mA	88.5	666 μ F
EC6AW-110D05	43-160 VDC	± 5 VDC	0 mA	± 1000 mA	6 mA	107 mA	85	1000 μ F
EC6AW-110D12	43-160 VDC	± 12 VDC	0 mA	± 416 mA	6 mA	105 mA	87	416 μ F
EC6AW-110D15	43-160 VDC	± 15 VDC	0 mA	± 333 mA	6 mA	104 mA	87.5	333 μ F

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 (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=3.3V, 5V, ±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
	Dual
	±0.5% max.
	±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:

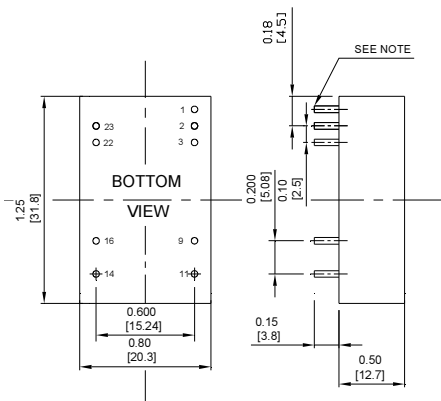
Efficiency	See Table	
Isolation Voltage	3000VDC min.	
Isolation Resistance	10^9 Ohms min	
Isolation Capacitance	1000pF typ.	
Switching Frequency	240KHz typ	
Operating Ambient Temperature Range	-40°C to $+85^{\circ}\text{C}$	
De-rating, Above 60°C	Vo= $\pm 5V$	Linearly to Zero Power at $+100^{\circ}\text{C}$
De-rating, Above 67°C (note 7) ..	Others Linearly to Zero Power at $+100^{\circ}\text{C}$	
Case Temperature (note5)	100°C max.	
Cooling	Natural Convection	
Storage Temperature Range	-55°C to $+125^{\circ}\text{C}$	
Humidity	95% RH max. Non-Condensing	
MTBF	MIL-HDBK-217F, GB, 25°C , Full Load	
	1200Khrs typ.	
Safety	Meets UL60950-1 2 nd (Basic insulation)	
EMC (note6)	Meets EN50155(EN50121-3-2) with external filter	
Shock/Vibration	Meets EN50155(EN61373)	
Fire & Smoke	Meet EN45545-2	
Dimensions	1.25x0.80x0.50 inches(31.8x20.3x12.7mm)	
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 $-V_{in}$.
Module on $>3.5\text{VDC}$ to 160VDC 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 160VDC or open circuit
5. Maximum case temperature under any operating condition should not be exceeded 100°C .
6. For information about EN50155 and RIA12, refer to application note.
7. Others model 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

