



EC4AW SERIES

3.3-6 WATT 4:1 INPUT RANGE

DC-DC CONVERTERS



FEATURES

- * 3.3-6W Isolated Output
- * DIP-24/SMD Package
- * Efficiency to 83%
- * 4:1 Input Range
- * Regulated Outputs
- * Pi Input Filter
- * Continuous Short Circuit Protection
- * Without Tantalum Capacitor Inside
- * Safety Meets IEC/EN/UL 62368-1



MODEL NUMBER ⁽¹⁾	INPUT VOLTAGE ⁽²⁾	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		% EFF.		CAPACITOR LOAD MAX.
				NO LOAD	FULL LOAD	(3)	(4)	
EC4AW01□	9-36 VDC	5 VDC	1000 mA	5 mA	254 mA	84	82	1000uF
EC4AW02□	9-36 VDC	12 VDC	470 mA	5 mA	283 mA	85	83	470uF
EC4AW03□	9-36 VDC	15 VDC	400 mA	5 mA	301 mA	85	83	400uF
EC4AW04□	9-36 VDC	±12 VDC	±230 mA	7.5 mA	280 mA	85	82	230uF
EC4AW05□	9-36 VDC	±15 VDC	±190 mA	7.5 mA	293 mA	85	81	190uF
EC4AW06□	9-36 VDC	±5 VDC	±500 mA	5 mA	251 mA	85	83	500uF
EC4AW07□	9-36 VDC	3.3 VDC	1000 mA	5 mA	176 mA	80	78	1000uF
EC4AW11□	18-72 VDC	5 VDC	1000 mA	5 mA	132 mA	83	79	1000uF
EC4AW12□	18-72 VDC	12 VDC	470 mA	5 mA	143 mA	86	82	470uF
EC4AW13□	18-72 VDC	15 VDC	400 mA	5 mA	154 mA	86	81	400uF
EC4AW14□	18-72 VDC	±12 VDC	±230 mA	7.5 mA	143 mA	85	80	230uF
EC4AW15□	18-72 VDC	±15 VDC	±190 mA	7.5 mA	148 mA	85	80	190uF
EC4AW16□	18-72 VDC	±5 VDC	±500 mA	5 mA	130 mA	84	80	500uF
EC4AW17□	18-72 VDC	3.3 VDC	1000 mA	5 mA	93 mA	79	74	1000uF

NOTE:

1. □ Can be None, H, HM or HMS.
2. Nominal Input Voltage: 24 or 48 VDC.
3. Measured at 12VDC for 24Vin, 24VDC for 48Vin.
4. 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	24V	9-36V
	48V	18-72V
Input Filter	Pi Type	

OUTPUT SPECIFICATIONS:

Voltage Accuracy	±2.0% max.
Voltage Balance (Dual)	±1.0% max.
Temperature Coefficient	±0.05%/°C max.
Ripple & Noise, 20MHz BW	100mV pk-pk max.
Short Circuit Protection	Continuous
Line Regulation Single/Dual (note1)	±0.5% max.
Load Regulation Single (note2)	±0.5% max.
Dual (note3)	±1.0% max.
Start up time	30 ms typ.

GENERAL SPECIFICATIONS:

Efficiency	See Table
Isolation Resistance	10 ⁹ Ohm min.
Switching Frequency	200KHz min.
Operating Ambient Temperature Range	-40°C to +85°C
De-rating, Above 71°C	Linearly to Zero Power at 100°C
Case Temperature.....	100°C max
Cooling	Natural Convection
Storage Temperature Range	-40°C to +100°C
Dimensions	DIP 1.25x0.80x0.40 inches (31.8x20.3x10.2 mm)
	SMD 1.25x0.80x0.45 inches (31.8x20.3x11.4 mm)
Weight	12.5g

ISOLATION VOLTAGE:

1.5K VDC min.	Standard or Suffix "HM" Models
3K VDC min. (note4)	Suffix "H" Models

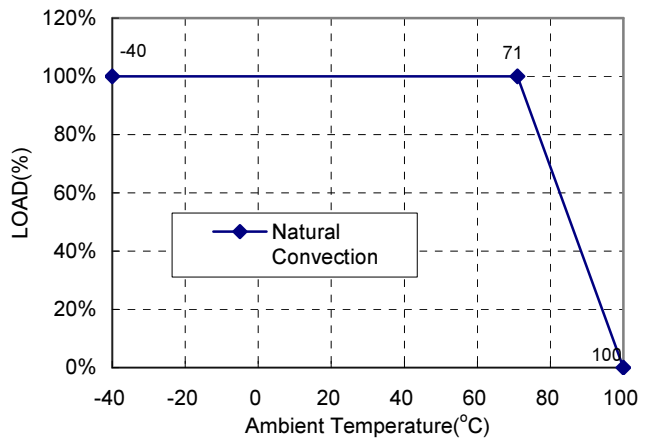
CASE MATERIAL:

Standard Models	Non-Conductive Black Plastic
Suffix "HM" Models (note5)	Black Coated Copper with Non-Conductive Base

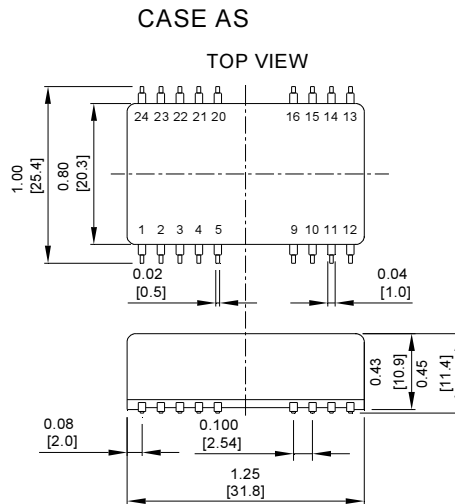
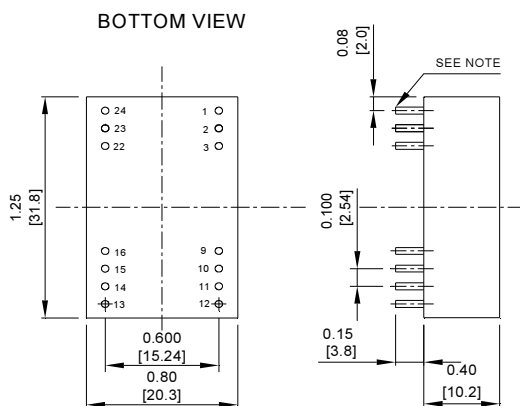
NOTE:

1. Measured from high line to low line.
2. Measured from full load to 10% load.
3. Measured from full load to 1/4 load.
4. Non-conductive black plastic only.
5. Suffix "S" to the model number with SMD packages.
6. Maximum case temperature under any operating condition should not be exceeded 100°C

Typical Derating curve for Natural Convection



Case A Dimensions:



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

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

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