



## EC3AW SERIES

### 3 WATT 4:1 INPUT RANGE

### DC-DC CONVERTERS



## FEATURES

- \* 3W Isolated Output
- \* DIP-24/SMD Package
- \* Efficiency to 77%
- \* 4:1 Input Range
- \* Regulated Outputs
- \* Pi Input Filter
- \* Continuous Short Circuit Protection
- \* Safety Meets IEC/EN/UL 62368-1



MODEL NUMBER <sup>(1)</sup>	INPUT VOLTAGE <sup>(2)</sup>	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		% EFF. <sup>(3)</sup>	CASE
				NO LOAD	FULL LOAD		
EC3AW01□	9-36 VDC	5 VDC	600 mA	15 mA	174 mA	72	DIP-24
EC3AW02□	9-36 VDC	12 VDC	250 mA	15 mA	165 mA	76	DIP-24
EC3AW03□	9-36 VDC	15 VDC	200 mA	15 mA	165 mA	76	DIP-24
EC3AW04□	9-36 VDC	±5 VDC	±300 mA	25 mA	179 mA	70	DIP-24
EC3AW05□	9-36 VDC	±12 VDC	±125 mA	25 mA	174 mA	72	DIP-24
EC3AW06□	9-36 VDC	±15 VDC	±100 mA	25 mA	174 mA	72	DIP-24
EC3AW07□	9-36 VDC	3.3 VDC	600 mA	15 mA	117 mA	70	DIP-24
EC3AW11□	18-72 VDC	5 VDC	600 mA	7.5 mA	87 mA	72	DIP-24
EC3AW12□	18-72 VDC	12 VDC	250 mA	7.5 mA	81 mA	77	DIP-24
EC3AW13□	18-72 VDC	15 VDC	200 mA	7.5 mA	81 mA	77	DIP-24
EC3AW14□	18-72 VDC	±5 VDC	±300 mA	12 mA	88 mA	71	DIP-24
EC3AW15□	18-72 VDC	±12 VDC	±125 mA	12 mA	87 mA	72	DIP-24
EC3AW16□	18-72 VDC	±15 VDC	±100 mA	12 mA	87 mA	72	DIP-24
EC3AW17□	18-72 VDC	3.3 VDC	600 mA	7.5 mA	58 mA	70	DIP-24

#### NOTE:

1. □ Can be None, M, H, HM, MS or HMS.
2. Nominal Input Voltage 24 or 48 VDC
3. Typical Value at Nominal Input Voltage and Full Load.

# 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

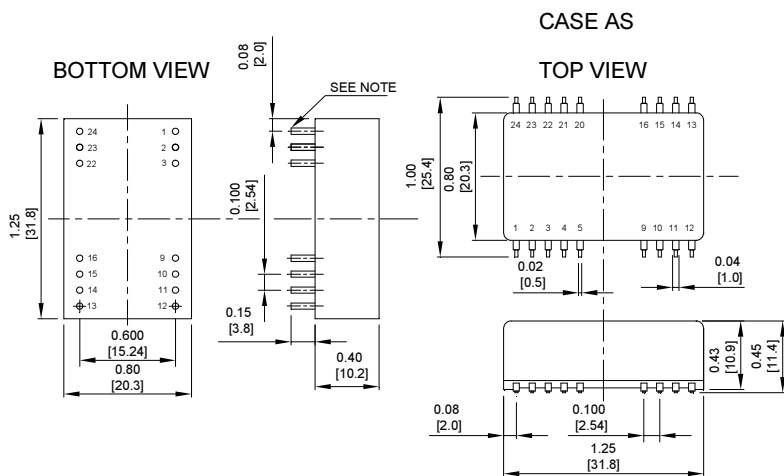
## OUTPUT SPECIFICATIONS:

Voltage Accuracy ..... ±2.0% max.  
 Voltage Balance (Dual) ..... ±1.0% max.  
 Temperature Coefficient ..... ±0.05%/°C max.  
 Ripple & Noise, 20MHz BW Single & ±5V ..... 100mV pk-pk max.  
 Dual ..... 1% 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.

## GENERAL SPECIFICATIONS:

Efficiency ..... See Table  
 Isolation Resistance ..... 10<sup>9</sup> Ohm min.  
 Switching Frequency ..... 100KHz min.  
 Operating Ambient Temperature Range ..... -25°C to +71°C  
 De-rating, Above 71°C (Plastic Case) ..... Linearly to Zero Power at 95°C  
 De-rating, Above 71°C (Copper Case) ..... Linearly to Zero Power at 100°C  
 Case Temperature (Plastic case note6) ..... 95°C max.  
 (Copper case note6) ..... 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

## Case A Dimensions:



## ISOLATION VOLTAGE:

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

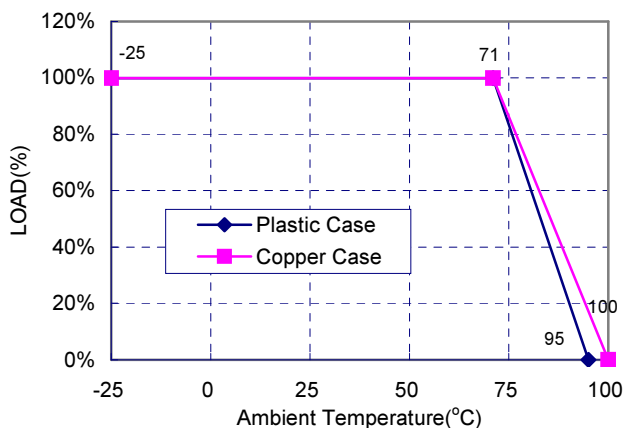
## CASE MATERIAL:

Standard Models ..... Non-Conductive Black Plastic  
 Suffix "M" 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 95°C (Plastic Case), 100°C (Copper Case).

Typical Derating curve for Natural Convection



PIN CONNECTION									
500 VDC				1.5K & 3K VDC					
Pin	Single Output		Dual Output		Pin	Single Output		Dual Output	
	DIP	SMD	DIP	SMD		DIP	SMD	DIP	SMD
1,24	+V Input		+V Input		1,24	NP	NC	NP	NC
2,23	NC		-V Output		2,3	-V Input		-V Input	
3,22	NC		Common		4,5	NP	NC	NP	NC
4	NP	NC	NP	NC	9	NC		Common	
5	NP	NC	NP	NC	10,15	NC		NC	
9	NP	NC	NP	NC	11	NC		-V Output	
10,15	-V Output		Common		12,13	NP	NC	NP	NC
11,14	+V Output		+V Output		14	+V Output		+V Output	
12,13	-V Input		-V Input		16	-V Output		Common	
16	NP	NC	NP	NC	20,21	NP	NC	NP	NC
20,21	NP	NC	NP	NC	22,23	+V Input		+V Input	

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

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