



# EC3AE SERIES

## 3 WATT

### DC-DC CONVERTERS



## FEATURES

- \* 3W Isolated Output
- \* DIP-24/SMD Package
- \* Efficiency to 61%
- \* Regulated Outputs
- \* LC Input Filter
- \* Low Ripple and Noise



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		% EFF.	CASE
				NO LOAD	FULL LOAD		
EC3AE01M	5 VDC	5 VDC	600 mA	120 mA	984 mA	61	DIP-24
EC3AE02M	5 VDC	12 VDC	250 mA	120 mA	984 mA	61	DIP-24
EC3AE03M	5 VDC	15 VDC	200 mA	120 mA	984 mA	61	DIP-24
EC3AE04M	5 VDC	±12 VDC	±125 mA	120 mA	984 mA	61	DIP-24
EC3AE05M	5 VDC	±15 VDC	±100 mA	120 mA	984 mA	61	DIP-24
EC3AE11M	12 VDC	5 VDC	600 mA	60 mA	410 mA	61	DIP-24
EC3AE12M	12 VDC	12 VDC	250 mA	60 mA	410 mA	61	DIP-24
EC3AE13M	12 VDC	15 VDC	200 mA	60 mA	410 mA	61	DIP-24
EC3AE14M	12 VDC	±12 VDC	±125 mA	60 mA	410 mA	61	DIP-24
EC3AE15M	12 VDC	±15 VDC	±100 mA	60 mA	410 mA	61	DIP-24
EC3AE21M	24 VDC	5 VDC	600 mA	40 mA	205 mA	61	DIP-24
EC3AE22M	24 VDC	12 VDC	250 mA	40 mA	205 mA	61	DIP-24
EC3AE23M	24 VDC	15 VDC	200 mA	40 mA	205 mA	61	DIP-24
EC3AE24M	24 VDC	±12 VDC	±125 mA	40 mA	205 mA	61	DIP-24
EC3AE25M	24 VDC	±15 VDC	±100 mA	40 mA	205 mA	61	DIP-24
EC3AE31M	28 VDC	5 VDC	600 mA	35 mA	176 mA	61	DIP-24
EC3AE32M	28 VDC	12 VDC	250 mA	35 mA	176 mA	61	DIP-24
EC3AE33M	28 VDC	15 VDC	200 mA	35 mA	176 mA	61	DIP-24
EC3AE34M	28 VDC	±12 VDC	±125 mA	35 mA	176 mA	61	DIP-24
EC3AE35M	28 VDC	±15 VDC	±100 mA	35 mA	176 mA	61	DIP-24
EC3AE41M	48 VDC	5 VDC	600 mA	20 mA	102 mA	61	DIP-24
EC3AE42M	48 VDC	12 VDC	250 mA	20 mA	102 mA	61	DIP-24
EC3AE43M	48 VDC	15 VDC	200 mA	20 mA	102 mA	61	DIP-24
EC3AE44M	48 VDC	±12 VDC	±125 mA	20 mA	102 mA	61	DIP-24
EC3AE45M	48 VDC	±15 VDC	±100 mA	20 mA	102 mA	61	DIP-24

# SPECIFICATIONS

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

## INPUT SPECIFICATIONS:

Input Voltage Range ..... ±10%  
 Input Filter ..... LC Type

## OUTPUT SPECIFICATIONS:

Voltage Accuracy ..... ±3.0% max.  
 Temperature Coefficient ..... ±0.02%/°C  
 Ripple & Noise, 20MHz BW ..... 50mV pk-pk max.  
 Short Circuit Protection ..... Indefinite & Current Limit  
 Line Regulation (note 1) ..... ±0.3% max.  
 Load Regulation (note 2) Single ..... ±0.5% max.  
   Dual ..... ±1.0% max.

## GENERAL SPECIFICATIONS:

Efficiency ..... See Table  
 Isolation Capacitance ..... 150pF typ.  
 Isolation Resistance ..... 10<sup>9</sup> ohm min.  
 Switching Frequency ..... 80KHz typ.  
 Operating Ambient Temperature Range ..... -25°C to +71°C  
 De-rating, Above 71°C ..... Linearly to Zero power at 100°C  
 Case Temperature (note 4) ..... 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 ..... 17.2g

## ISOLATION VOLTAGE:

500 VDC min. .... Standard Models

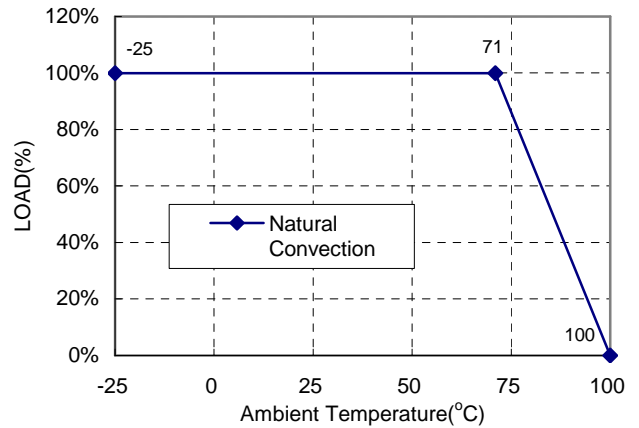
## CASE MATERIAL:

Standard Models ..... 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. Suffix "S" to the model number with SMD packages.
4. Maximum case temperature under any operating condition should not be exceeded 100°C.

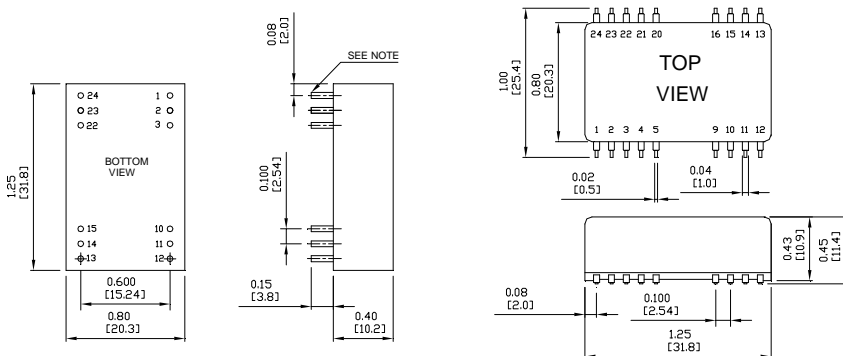
Typical Derating curve for Natural Convection



## 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

CASE AS



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

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

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