



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 10⁹ 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

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

ISOLATION VOLTAGE:

500 VDC min. Standard Models

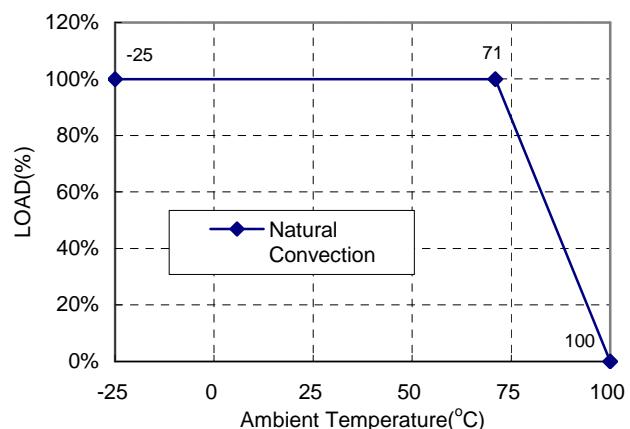
CASE MATERIAL:

Standard Models Black Coated Copper with Non-conductive Base

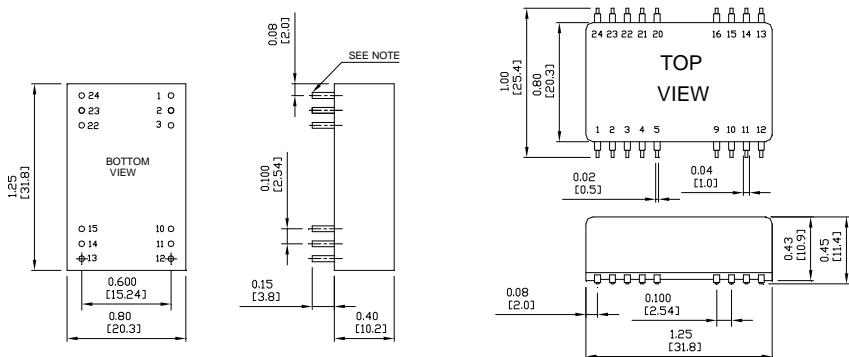
NOTE:

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 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