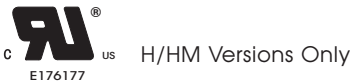


# EC3A

## 3 WATT WIDE INPUT DC-DC CONVERTERS



### Features

- 3W Isolated Output
- 24-Pin DIP Package
- Efficiency to 80%
- 2:1 Input Range
- Regulated Outputs
- Pi Input Filter
- Continuous Short Circuit Protection

| MODEL NUMBER | INPUT VOLTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT | INPUT CURRENT NO LOAD | INPUT CURRENT FULL LOAD | % EFF. | CASE |
|--------------|---------------|----------------|----------------|-----------------------|-------------------------|--------|------|
| EC3A01       | 4.5-6.0 VDC   | 5 VDC          | 600 mA         | 15 mA                 | 850 mA                  | 70     | A    |
| EC3A02       |               | 12 VDC         | 250 mA         | 15 mA                 | 800 mA                  | 75     |      |
| EC3A03       |               | 15 VDC         | 200 mA         | 15 mA                 | 800 mA                  | 75     |      |
| EC3A04       |               | ±5 VDC         | ±300 mA        | 25 mA                 | 850 mA                  | 70     |      |
| EC3A05       |               | ±12 VDC        | ±125 mA        | 25 mA                 | 800 mA                  | 75     |      |
| EC3A06       |               | ±15 VDC        | ±100 mA        | 25 mA                 | 800 mA                  | 75     |      |
| EC3A07       |               | 3.3 VDC        | 600 mA         | 15 mA                 | 619 mA                  | 64     |      |
| EC3A11       | 9-18 VDC      | 5 VDC          | 600 mA         | 7.5 mA                | 340 mA                  | 73     | A    |
| EC3A12       |               | 12 VDC         | 250 mA         | 7.5 mA                | 320 mA                  | 78     |      |
| EC3A13       |               | 15 VDC         | 200 mA         | 7.5 mA                | 320 mA                  | 78     |      |
| EC3A14       |               | ±5 VDC         | ±300 mA        | 12 mA                 | 340 mA                  | 73     |      |
| EC3A15       |               | ±12 VDC        | ±125 mA        | 12 mA                 | 320 mA                  | 78     |      |
| EC3A16       |               | ±15 VDC        | ±100 mA        | 12 mA                 | 320 mA                  | 78     |      |
| EC3A17       |               | 3.3 VDC        | 600 mA         | 7.5 mA                | 236 mA                  | 70     |      |
| EC3A21       | 18-36 VDC     | 5 VDC          | 600 mA         | 5 mA                  | 168 mA                  | 74     | A    |
| EC3A22       |               | 12 VDC         | 250 mA         | 5 mA                  | 156 mA                  | 80     |      |
| EC3A23       |               | 15 VDC         | 200 mA         | 5 mA                  | 156 mA                  | 80     |      |
| EC3A24       |               | ±5 VDC         | ±300 mA        | 7.5 mA                | 168 mA                  | 74     |      |
| EC3A25       |               | ±12 VDC        | ±125 mA        | 7.5 mA                | 156 mA                  | 80     |      |
| EC3A26       |               | ±15 VDC        | ±100 mA        | 7.5 mA                | 156 mA                  | 80     |      |
| EC3A27       |               | 3.3 VDC        | 600 mA         | 5 mA                  | 113 mA                  | 73     |      |
| EC3A31       | 36-72 VDC     | 5 VDC          | 600 mA         | 2 mA                  | 82 mA                   | 76     | A    |
| EC3A32       |               | 12 VDC         | 250 mA         | 2 mA                  | 78 mA                   | 80     |      |
| EC3A33       |               | 15 VDC         | 200 mA         | 2 mA                  | 78 mA                   | 80     |      |
| EC3A34       |               | ±5 VDC         | ±300 mA        | 3 mA                  | 82 mA                   | 76     |      |
| EC3A35       |               | ±12 VDC        | ±125 mA        | 3 mA                  | 80 mA                   | 78     |      |
| EC3A36       |               | ±15 VDC        | ±100 mA        | 3 mA                  | 80 mA                   | 78     |      |
| EC3A37       |               | 3.3 VDC        | 600 mA         | 3 mA                  | 58 mA                   | 71     |      |

NOTE: 1. Nominal Input Voltage 5, 12, 24 or 48 VDC

### Specifications

#### INPUT SPECIFICATIONS:

|                          |          |        |
|--------------------------|----------|--------|
| Input Voltage Range..... | 5V.....  | 4.5-6V |
|                          | 12V..... | 9-18V  |
|                          | 24V..... | 18-36V |
|                          | 48V..... | 36-72V |
| Input Filter.....        | Pi Type  |        |

#### OUTPUT SPECIFICATIONS:

|                                   |                |                |
|-----------------------------------|----------------|----------------|
| Voltage Accuracy.....             | ± 2.0% max.    |                |
| Voltage Balance (Dual).....       | ±1.0% max.     |                |
| Temperature Coefficient.....      | ± 0.05% / °C   |                |
| Ripple and Noise, 20MHz BW.....   | 3.3V / 5V..... | 100mV p-p max. |
|                                   | 12V / 15V..... | 1% p-p max.    |
| Short Circuit Protection.....     | Continuous     |                |
| Line Regulation, Single/Dual..... | ± 0.5%         |                |
| Load Regulation, Single.....      | ± 0.5%         |                |
| Dual.....                         | ± 1.0%         |                |

#### GENERAL SPECIFICATIONS:

|                                      |                                                    |  |
|--------------------------------------|----------------------------------------------------|--|
| Efficiency.....                      | See Table                                          |  |
| Isolation Resistance.....            | 10 <sup>9</sup> Ohms                               |  |
| Switching Frequency.....             | 100kHz min.                                        |  |
| Operating Temperature Range.....     | -25°C to +71°C                                     |  |
| Case Temperature (Plastic case)..... | 95°C max.                                          |  |
| (Copper case).....                   | 100°C max.                                         |  |
| Cooling.....                         | Free-Air Convection                                |  |
| Storage Temperature Range.....       | -40°C to +100°C                                    |  |
| Dimensions.....                      | 1.25 x 0.8 x 0.4 inches<br>(31.8 x 20.3 x 10.2 mm) |  |
| Weight.....                          | 12.5g                                              |  |

#### ISOLATION VOLTAGE:

|                  |                   |
|------------------|-------------------|
| 500 VDC min..... | Standard Models   |
| 3K VDC min.....  | Suffix "H" Models |

#### CASE MATERIAL:

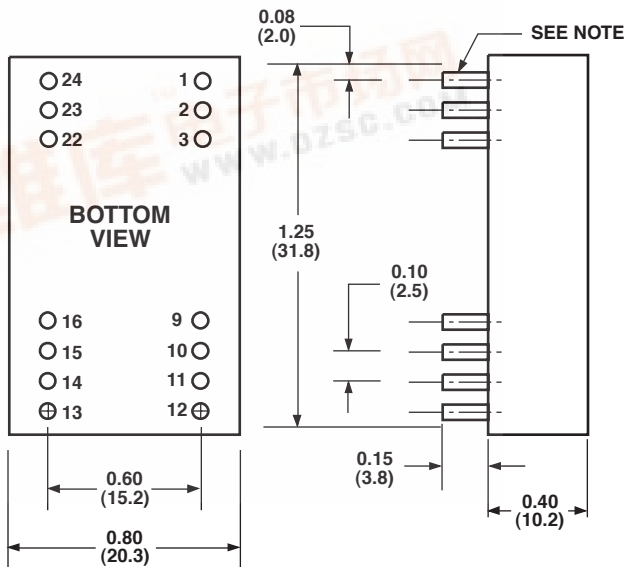
|                        |                                              |
|------------------------|----------------------------------------------|
| Standard Models.....   | Non-Conductive Black Plastic                 |
| Suffix "M" Models..... | Black Coated Copper with Non-Conductive Base |

#### NOTE:

1. Measured From High Line to Low Line
2. Measured From Full Load to 10% Load
3. Measured From Full Load to 1/4 Load
4. Non-Conductive Black Plastic Only
5. Suffix "HM" 1.5K VDC Instead of 3K VDC Isolation

### CASE A

NOTE: Pin Size is 0.02" Inch (0.5mm) DIA  
All Dimensions in Inches(mm)  
Tolerance .xx= ±0.02, .xxx= ±0.010



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

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