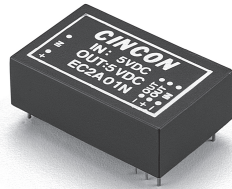


# EC2AN

## 1.0-1.5 WATT, UNREGULATED DC-DC CONVERTERS



### Features

- 1-1.5W Output Power
- Efficiency to 70%
- Unregulated Outputs
- Input Voltage 5V & 12V
- DIP-24 / SMD Package
- Input Voltage 5V & 12V
- Pi Input Filter

| MODEL NUMBER | INPUT VOLTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT | INPUT CURRENT |           | CASE   |
|--------------|---------------|----------------|----------------|---------------|-----------|--------|
|              |               |                |                | NO LOAD       | FULL LOAD |        |
| EC2A01N      | 5 VDC         | 5 VDC          | 220mA          | 115 mA        | 330 mA    | DIP-24 |
| EC2A02N      |               | 12 VDC         | 125 mA         | 115 mA        | 420 mA    | DIP-24 |
| EC2A03N      |               | 15 VDC         | 100 mA         | 115 mA        | 420 mA    | DIP-24 |
| EC2A04N      |               | ±12 VDC        | ±62 mA         | 115 mA        | 420 mA    | DIP-24 |
| EC2A05N      |               | ±15 VDC        | ±50 mA         | 115 mA        | 420 mA    | DIP-24 |
| EC2A11N      | 12 VDC        | 5 VDC          | 220 mA         | 45 mA         | 120 mA    | DIP-24 |
| EC2A12N      |               | 12 VDC         | 125 mA         | 45 mA         | 165 mA    | DIP-24 |
| EC2A13N      |               | 15 VDC         | 100 mA         | 45 mA         | 165 mA    | DIP-24 |
| EC2A14N      |               | ±12 VDC        | ±62 mA         | 45 mA         | 165 mA    | DIP-24 |
| EC2A15N      |               | ±15 VDC        | ±50 mA         | 45 mA         | 165 mA    | DIP-24 |

### Specifications

**INPUT SPECIFICATIONS:**  
 Input Voltage Range.....±10%  
 Input Filter.....Pi Type

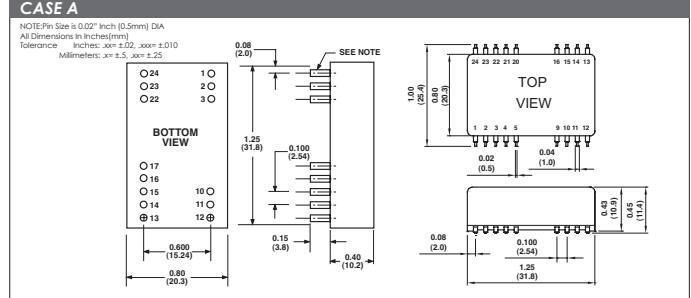
**OUTPUT SPECIFICATIONS:**  
 Voltage Accuracy.....±3.0% max.  
 Ripple and Noise, 20MHz BW.....100mV p-p max.  
 Short Circuit Protection.....Momentary  
 Line Regulation<sup>1</sup>, EC2A01N.....±1.2%  
 Load Regulation<sup>1</sup>, EC2A01N.....±8.0%  
 All Other Models.....±6.0%

**GENERAL SPECIFICATIONS:**  
 Efficiency.....60%-80%  
 Isolation Capacitance.....30pF  
 Isolation Resistance.....10<sup>9</sup>ohms  
 Switching Frequency.....20KHz, 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).....95°C max  
 Case Temperature (Copper case).....100°C max  
 Cooling.....Natural Convection  
 Dimensions.....DIP.....1.25 x 0.80 x 0.40 inches (31.8 x 20.3 x 10.2mm)  
 SMD.....1.25 x 0.80 x 0.45 inches (31.8 x 20.3 x 11.4mm)  
 Weight.....11.8g

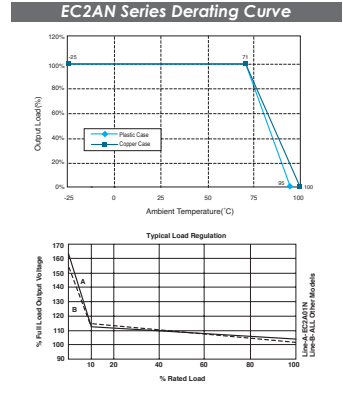
**ISOLATION VOLTAGE:**  
 500 VDC min.....Standard Models  
 3K VDC min.....Suffix "H" Models  
 1.5K VDC min.....Suffix "HM" Models

**CASE MATERIAL:**  
 Standard Models.....Non-Conductive Black Plastic  
 Suffix "M" Models.....Black Coated Copper  
 with Non-Conductive Base

- NOTE:**
1. 15uF 35V Tantalum Capacitor Across Each Output.
  2. Line regulation is per 1.0% change in input voltage.
  3. Load regulation is for load change from 100% to 20%. See graph of load regulation.
  4. Suffix "S" to the Model Number with SMD packages.
  5. Maximum case temperature under any operating condition should not exceed 95°C(Plastic Case), 100°C(Copper Case).



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



### PIN CONNECTION

| 500 VDC |               |             |         | 1.5K & 3K VDC |             |           |               |
|---------|---------------|-------------|---------|---------------|-------------|-----------|---------------|
| Pin     | Single Output | Dual Output | Pin     | Single Output | Dual Output | Pin       | Single Output |
| 1,24    | +V Input      | +V Input    | 1,2,3   | +V Input      | +V Input    | 1         | +V Input      |
| 2,23    | NC            | -V Output   | 2,23,24 | -V Input      | -V Input    | 2         | -V Input      |
| 3,22    | NC            | Common      | 4       | NP            | NC          | NP        | NC            |
| 4,5     | NP            | NC          | NP      | NC            | NP          | NC        | NP            |
| 9       | NP            | NC          | NP      | NC            | 9           | NP        | NC            |
| 10      | -V Output     | Common      | 10,11   | NP            | NC          | Go Output |               |
| 11      | +V Output     | +V Output   | 12      | -V Output     | -V Output   | -TP       |               |
| 12,13   | -V Input      | -V Input    | 13      | +V Output     | -V Output   |           |               |
| 14      | +V Output     | +V Output   | 14      | NP            | NC          | NP        | NC            |
| 15      | -V Output     | Common      | 15      | NP            | NC          | +V Output |               |
| 16      | NP            | NC          | NP      | NC            | 16          | NP        | NC            |
| 17      | NP            | NP          | 17      | +TP           | NP          | NP        |               |
| 20,21   | NP            | NC          | NP      | NC            | 20,21       | NP        | NC            |

\*NP=NO PIN \*TP=TEST POINT  
 \*NC=NO CONNECTION WITH PIN \*GO=GROUND