



EC6A SERIES

7.5WATT 2:1 INPUT RANGE

DC-DC CONVERTERS



FEATURES

- * 7.5W Isolated Output
- * 24-Pin DIP Package
- * Efficiency to 87%
- * 2:1 Input Range
- * Regulated Outputs
- * Pi Input Filter
- * Continuous Short Circuit Protection
- * CE Mark Meets 2004/108/EC
- * UL60950-1 Approval
- * Without Tantalum Capacitor inside



| MODEL NUMBER | INPUT VOLTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT | | INPUT CURRENT | | % EFF. | CAPACITOR LOAD MAX. |
|--------------|---------------|----------------|----------------|---------|---------------|-----------|--------|---------------------|
| | | | MIN. | MAX. | NO LOAD | FULL LOAD | | |
| EC6A01 | 9-18 VDC | 5 VDC | 0 mA | 1500 mA | 25 mA | 781 mA | 80 | 4700uF |
| EC6A02 | 9-18 VDC | 12 VDC | 0 mA | 625 mA | 25 mA | 753 mA | 83 | 4700uF |
| EC6A03 | 9-18 VDC | 15 VDC | 0 mA | 500 mA | 25 mA | 744 mA | 84 | 4700uF |
| EC6A04 | 9-18 VDC | ±5 VDC | 0 mA | ±750 mA | 30 mA | 772 mA | 81 | 2200uF |
| EC6A05 | 9-18 VDC | ±12 VDC | 0 mA | ±310 mA | 30 mA | 753 mA | 83 | 2200uF |
| EC6A06 | 9-18 VDC | ±15 VDC | 0 mA | ±250 mA | 30 mA | 753 mA | 83 | 2200uF |
| EC6A07 | 9-18 VDC | 3.3 VDC | 0 mA | 1500 mA | 25 mA | 529 mA | 78 | 4700uF |
| EC6A11 | 18-36 VDC | 5 VDC | 0 mA | 1500 mA | 20 mA | 377 mA | 83 | 4700uF |
| EC6A12 | 18-36 VDC | 12 VDC | 0 mA | 625 mA | 20 mA | 359 mA | 87 | 4700uF |
| EC6A13 | 18-36 VDC | 15 VDC | 0 mA | 500 mA | 20 mA | 359 mA | 87 | 4700uF |
| EC6A14 | 18-36 VDC | ±5 VDC | 0 mA | ±750 mA | 25 mA | 372 mA | 84 | 2200uF |
| EC6A15 | 18-36 VDC | ±12 VDC | 0 mA | ±310 mA | 25 mA | 356 mA | 87 | 2200uF |
| EC6A16 | 18-36 VDC | ±15 VDC | 0 mA | ±250 mA | 25 mA | 372 mA | 84 | 2200uF |
| EC6A17 | 18-36 VDC | 3.3 VDC | 0 mA | 1500 mA | 20 mA | 264 mA | 78 | 4700uF |
| EC6A21 | 36-72 VDC | 5 VDC | 0 mA | 1500 mA | 10 mA | 193 mA | 81 | 4700uF |
| EC6A22 | 36-72 VDC | 12 VDC | 0 mA | 625 mA | 10 mA | 184 mA | 85 | 4700uF |
| EC6A23 | 36-72 VDC | 15 VDC | 0 mA | 500 mA | 10 mA | 182 mA | 86 | 4700uF |
| EC6A24 | 36-72 VDC | ±5 VDC | 0 mA | ±750 mA | 15 mA | 191 mA | 82 | 2200uF |
| EC6A25 | 36-72 VDC | ±12 VDC | 0 mA | ±310 mA | 15 mA | 182 mA | 85 | 2200uF |
| EC6A26 | 36-72 VDC | ±15 VDC | 0 mA | ±250 mA | 15 mA | 184 mA | 85 | 2200uF |
| EC6A27 | 36-72 VDC | 3.3 VDC | 0 mA | 1500 mA | 10 mA | 136 mA | 76 | 4700uF |

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

SPECIFICATIONS

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

INPUT SPECIFICATIONS:

| | | |
|----------------------------------|---------|-------------|
| Input Voltage Range | 12V | 9-18V |
| | 24V | 18-36V |
| | 48V | 36-72V |
| Input Surge Voltage (100ms max.) | 12V | 20Vdc max. |
| | 24V | 50Vdc max. |
| | 48V | 100Vdc max. |
| Input Filter | Pi Type | |

OUTPUT SPECIFICATIONS:

| | |
|-------------------------------------|-------------------------|
| Voltage Accuracy | ±2.0% max. |
| Voltage Balance (Dual) | ±1.0% max. |
| Temperature Coefficient | ±0.05%/°C |
| Ripple & Noise, 20MHz BW | 100mV pk-pk max. |
| Short Circuit Protection | Continuous |
| Line Regulation Single/Dual (note1) | ±0.2% max. |
| Load Regulation Single (note2) | ±0.5% max. |
| | Dual (note3) ±1.0% max. |
| Start up time | EC6A0XX 5ms typ. |
| | Other 20ms typ. |

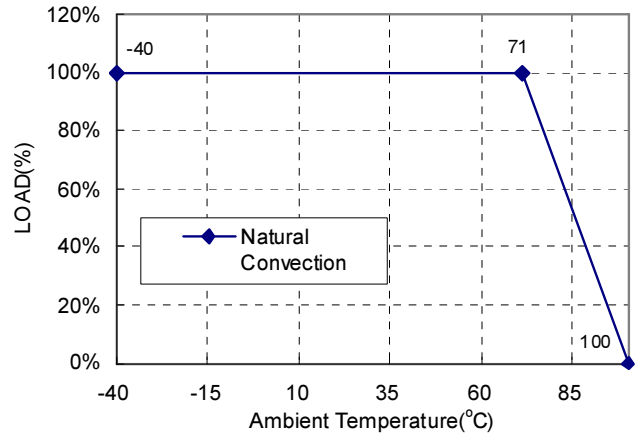
NOTE:

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

GENERAL SPECIFICATIONS:

| | |
|-------------------------------------|---|
| Efficiency | See Table |
| Isolation Resistance | 10 ⁹ ohm min. |
| Isolation Capacitance | 560pF typ. |
| Isolation Voltage | 1500VDC min. |
| Switching Frequency | 300KHz typ. |
| Operating Ambient Temperature Range | -40°C to +85°C |
| De-rating, Above 71°C | Linearly to Zero power at 100°C |
| Case Temperature (note5) | 100°C max. |
| Cooling | Natural Convection |
| Storage Temperature Range | -40°C to +100°C |
| Humidity | 95% RH max. Non condensing |
| MTBF | MIL-STD-217F, GB, 25°C, Full Load 1800Khrs typ. |
| Dimensions | DIP 1.25x0.80x0.40 inches(31.8x20.3x10.2 mm) |
| | SMD 1.25x0.80x0.45 inches(31.8x20.3x11.4 mm) |
| Weight | 18.4g |
| Case Material | Black Coated Copper with Non-conductive Base |

Typical Derating curve for Natural Convection



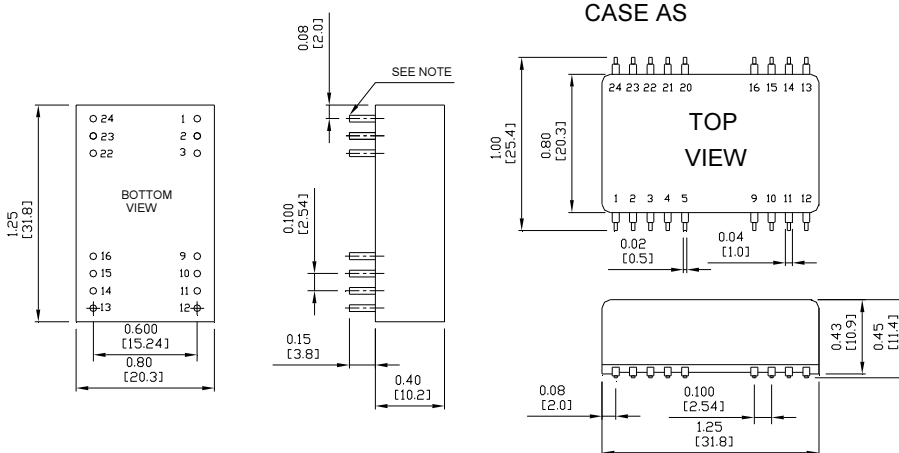
Case A Dimensions:

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



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

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