

EC2EE

15 WATT WIDE INPUT DC-DC CONVERTERS



Features

- 15W Isolated Output
- 2:1 Input Range
- Six-Sided Shield
- Remote ON/OFF Control
- Efficiency to 84%
- 200KHz Switching Frequency

| MODEL NUMBER | INPUT VOLTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT | INPUT CURRENT | | % EFF. | CASE |
|--------------|---------------|----------------|-----------------|---------------|-----------|--------|------|
| | | | | NO LOAD | FULL LOAD | | |
| EC2EE01 | | 5 VDC | 3000 mA | 20 mA | 1700 mA | 77 | |
| EC2EE02 | | 12 VDC | 1250 mA | 20 mA | 1600 mA | 78 | |
| EC2EE03 | | 15 VDC | 1000 mA | 20 mA | 1600 mA | 78 | |
| EC2EE04 | 9-18 VDC | ±12 VDC | ±625 mA | 35 mA | 1520 mA | 82 | E |
| EC2EE05 | | ±15 VDC | ±500 mA | 35 mA | 1520 mA | 82 | |
| EC2EE06 | | 5/±12 VDC | 1500/±310 mA | 30 mA | 1600 mA | 78 | |
| EC2EE07 | | 5/±15 VDC | 1500/±250 mA | 30 mA | 1600 mA | 78 | |
| EC2EE08 | | +5/+12/-5 VDC | 1500/310/500 mA | 30 mA | 1470 mA | 78 | |
| EC2EE11 | | 5 VDC | 3000 mA | 25 mA | 810 mA | 77 | |
| EC2EE12 | | 12 VDC | 1250 mA | 25 mA | 780 mA | 80 | |
| EC2EE13 | | 15 VDC | 1000 mA | 25 mA | 780 mA | 80 | |
| EC2EE14 | 18-36 VDC | ±12 VDC | ±625 mA | 25 mA | 750 mA | 84 | E |
| EC2EE15 | | ±15 VDC | ±500 mA | 25 mA | 750 mA | 84 | |
| EC2EE16 | | 5/±12 VDC | 1500/±310 mA | 25 mA | 780 mA | 80 | |
| EC2EE17 | | 5/±15 VDC | 1500/±250 mA | 25 mA | 780 mA | 80 | |
| EC2EE18 | | +5/+12/-5 VDC | 1500/310/500 mA | 25 mA | 715 mA | 80 | |
| EC2EE21 | | 5 VDC | 3000 mA | 10 mA | 410 mA | 77 | |
| EC2EE22 | | 12 VDC | 1250 mA | 10 mA | 390 mA | 80 | |
| EC2EE23 | | 15 VDC | 1000 mA | 10 mA | 390 mA | 80 | |
| EC2EE24 | 36-72 VDC | ±12 VDC | ±625 mA | 15 mA | 380 mA | 82 | E |
| EC2EE25 | | ±15 VDC | ±500 mA | 15 mA | 380 mA | 82 | |
| EC2EE26 | | 5/±12 VDC | 1500/±310 mA | 15 mA | 380 mA | 82 | |
| EC2EE27 | | 5/±15 VDC | 1500/±250 mA | 15 mA | 380 mA | 82 | |
| EC2EE28 | | +5/+12/-5 VDC | 1500/310/500 mA | 15 mA | 350 mA | 82 | |

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

Specifications

INPUT SPECIFICATIONS:

| | | |
|--------------------------|----------|---------|
| Input Voltage Range..... | 12V..... | 9-18V |
| | 24V..... | 18-36V |
| | 48V..... | 36-72V |
| Input Filter..... | | PI Type |

OUTPUT SPECIFICATIONS:

| | | |
|---|--|---------------------------------|
| Voltage Accuracy..... | | ±1.0% max. |
| Single Output..... | | ±1.0% max. |
| Dual +Output..... | | ±3.0% max. |
| -Output..... | | ±2.0% max. |
| Triple, 5V..... | | ±3.0% max. |
| 12V/15V..... | | ±1.0% max. |
| Voltage Balance (Dual)..... | | ±1.0% max. |
| Transient Response: | | |
| Single, 25% Step Load Change..... | | <500µ sec. |
| Dual, FL-1/2L±1% Error Band..... | | <500µ sec. |
| External Trim Adj. Range..... | | ±10%. |
| Ripple & Noise, 20MHz BW..... | | 10mV RMS, max. 75mV p-p max. |
| Temperature Coefficient..... | | ± 0.02%/°C |
| Short Circuit Protection..... | | Continuous |
| Line Regulation ¹ , Single/Dual..... | | ±0.2% max. |
| Triple..... | | ±1.0% max. |
| Load Regulation ² , Single/Dual..... | | ±1.0% max. |
| Triple..... | | ±5.0% max. |

GENERAL SPECIFICATIONS:

| | |
|----------------------------------|---|
| Efficiency..... | See Table |
| Isolation Voltage..... | 500 VDC min. |
| Isolation Resistance..... | 10 ⁹ ohms |
| Switching Frequency..... | 200KHz, typ. |
| Operating Temperature Range..... | -25°C to + 71°C |
| Case Temperature..... | 100°C max. |
| Cooling..... | Free-Air Convection |
| Storage Temperature Range..... | -55°C to + 105°C |
| EMI/RFI..... | Six-Sided Continuous Shield |
| Dimensions..... | 2.56 x 3.0 x 0.83 inches (65 x 76.2 x 21.1 mm) |
| Case Material..... | Black Coated Copper with Non-Conductive Base |

NOTE:

1. Measured From High Line to Low Line
2. Measured From Full Load to 1/4 Load

TRIPLE OUTPUT LOADING TABLE (1)

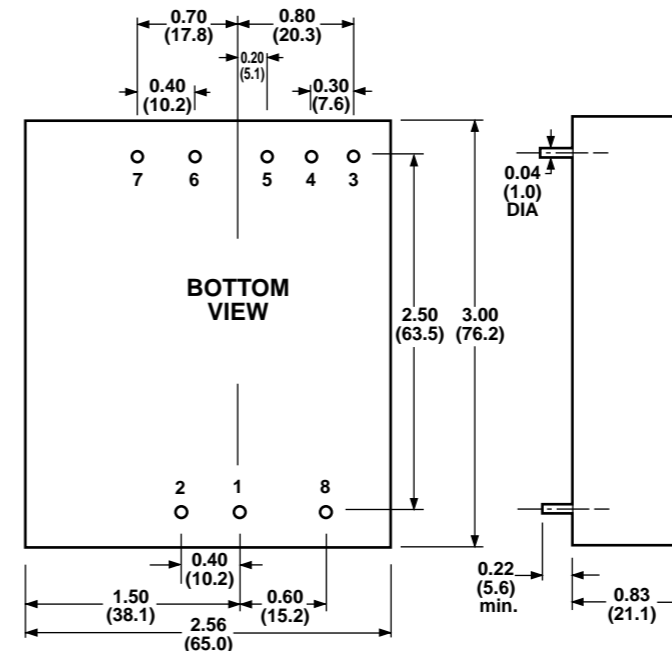
| Output (Pin No.) | Voltage | Amperes | |
|------------------|------------|-----------|-----------|
| | | Min.(2) | Nom. |
| 6 | +5 | 0.25 | 1.5 |
| 3 & 5 | +12 or -12 | 0.10 | 0.31 |
| 3 & 5 | +15 or -15 | 0.10 | 0.25 |
| 3 & 5 | +12 & -5 | 0.10/0.10 | 0.31/0.50 |

NOTE:

1. Maximum total power from all outputs is limited to 15 watts but no output should be allowed to exceed its maximum current.
2. Minimum current on each output is required to maintain specified regulation.

CASE E

All Dimensions In Inches(mm)
Tolerance .xx= ±.04, .xxx= ±.010



| PIN CONNECTION | | | |
|----------------|-----------------------|-------------|---------------|
| Pin | Single Output | Dual Output | Triple Output |
| 1. | +Input | +Input | +Input |
| 2. | -Input | -Input | -Input |
| 3. | No Pin | +Output | +Output |
| 4. | Output Trim | Common | Common |
| 5. | No Pin | -Output | -Output |
| 6. | +Output | No Pin | +5V Output |
| 7. | -Output | No Pin | No Pin |
| 8. | Remote On/Off Control | | |

Remote On/Off Control

| | |
|-----------------------|--------------------------------|
| Logic Compatibility | CMOS or Open Collector TTL |
| EC-On | >+5.5VDC or Open Circuit |
| EC-Off | <1.8 VDC |
| Shutdown Idle Current | 10 mA |
| Input Resistance | 100K ohms (Ein 0 VDC to 9 VDC) |
| Control Common | Referenced to Input Minus |

External Output Trimming

Output may optionally be externally trimmed (±10%) with a fixed resistor or an external trimpot as shown.

