

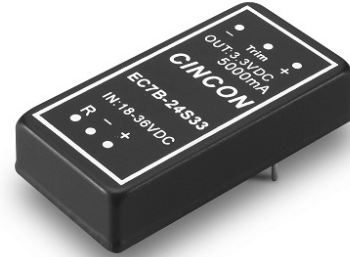


EC7B SERIES 20 WATT 2:1 INPUT RANGE DC-DC CONVERTERS



FEATURES

- * 20W Isolated Output
- * Efficiency to 90%
- * Fixed Switching Frequency
- * 2:1 Input Range
- * Regulated Outputs
- * Continuous Short Circuit Protection
- * Pi Input Filter
- * CE Mark Meets 2004/108/EC
- * UL60950-1 Approval



| MODEL NUMBER | INPUT VOLTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT | | INPUT CURRENT | | % EFF. | CAPACITOR LOAD MAX. |
|--------------|---------------|----------------|----------------|---------|---------------|-----------|--------|---------------------|
| | | | MIN. | MAX. | NO LOAD | FULL LOAD | | |
| EC7B-12D12 | 9-18 VDC | ±12 VDC | 42 mA | ±835 mA | 40 mA | 1856 mA | 90 | 1000uF |
| EC7B-12D15 | 9-18 VDC | ±15 VDC | 33 mA | ±670 mA | 40 mA | 1861 mA | 90 | 800uF |
| EC7B-24S18 | 18-36 VDC | 1.8 VDC | 0 mA | 6000 mA | 30 mA | 523 mA | 86 | 6000uF |
| EC7B-24S25 | 18-36 VDC | 2.5 VDC | 0 mA | 6000 mA | 30 mA | 710 mA | 88 | 6000uF |
| EC7B-24S33 | 18-36 VDC | 3.3 VDC | 0 mA | 5000 mA | 40 mA | 764 mA | 90 | 5000uF |
| EC7B-24S05 | 18-36 VDC | 5 VDC | 0 mA | 4000 mA | 60 mA | 926 mA | 90 | 4000uF |
| EC7B-24S12 | 18-36 VDC | 12 VDC | 0 mA | 1670 mA | 20 mA | 928 mA | 90 | 2000uF |
| EC7B-24S15 | 18-36 VDC | 15 VDC | 0 mA | 1330 mA | 20 mA | 924 mA | 90 | 2000uF |
| EC7B-24D12 | 18-36 VDC | ±12 VDC | 42 mA | ±835 mA | 20 mA | 928 mA | 90 | 1000uF |
| EC7B-24D15 | 18-36 VDC | ±15 VDC | 33 mA | ±670 mA | 20 mA | 930 mA | 90 | 800uF |
| EC7B-48S18 | 36-75 VDC | 1.8 VDC | 0 mA | 6000 mA | 30 mA | 262 mA | 86 | 6000uF |
| EC7B-48S25 | 36-75 VDC | 2.5 VDC | 0 mA | 6000 mA | 30 mA | 359 mA | 87 | 6000uF |
| EC7B-48S33 | 36-75 VDC | 3.3 VDC | 0 mA | 5000 mA | 30 mA | 386 mA | 89 | 5000uF |
| EC7B-48S05 | 36-75 VDC | 5 VDC | 0 mA | 4000 mA | 40 mA | 463 mA | 90 | 4000uF |
| EC7B-48S12 | 36-75 VDC | 12 VDC | 0 mA | 1670 mA | 15 mA | 469 mA | 89 | 2000uF |
| EC7B-48S15 | 36-75 VDC | 15 VDC | 0 mA | 1330 mA | 15 mA | 472 mA | 88 | 2000uF |
| EC7B-48D12 | 36-75 VDC | ±12 VDC | 42 mA | ±835 mA | 10 mA | 464 mA | 90 | 1000uF |
| EC7B-48D15 | 36-75 VDC | ±15 VDC | 33 mA | ±670 mA | 10 mA | 471 mA | 89 | 800uF |

NOTE: 1. Nominal Input Voltage 12, 24, 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 - 75V |
| Input Surge Voltage (100ms max.) | 12V | 25Vdc max. |
| | 24V | 50Vdc max. |
| | 48V | 100Vdc max. |
| Under Voltage Lockout | 12Vin power up | 8.8V |
| | 12Vin power down | 8.0V |
| | 24Vin power up | 17V |
| | 24Vin power down | 16V |
| | 48Vin power up | 34V |
| | 48Vin power down | 33V |

Positive Logic Remote ON/OFF (see note3&4)

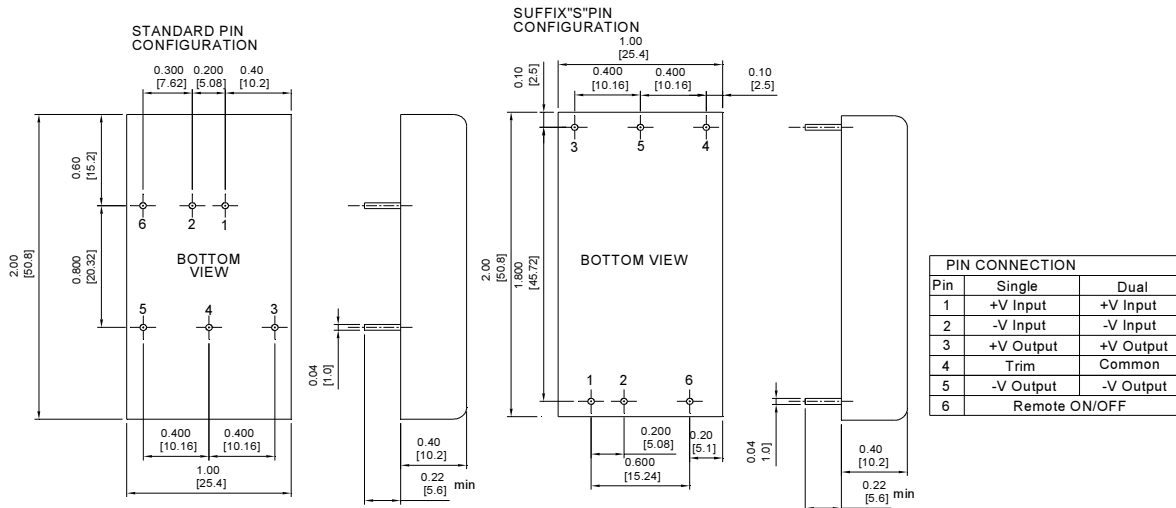
Input Filter Pi Type

OUTPUT SPECIFICATIONS:

| | |
|---|--|
| Voltage Accuracy | ±1.5% max. |
| Voltage Balance (Dual) | ±2.0% max. |
| Transient Response: 75% - 100% Step Load Change | |
| Error Band | ±5% Vout nominal, Recovery Time <500us |
| Ripple & Noise, 20MHz BW (Measured with 0.1uF MLCC) | 75mVpk-pk, max. |
| Temperature Coefficient | ±0.03%/°C |
| Line Regulation (note1) | Single ±0.2% max. |
| | Dual ±0.5% max. |
| Load Regulation (note2) | Single/Dual ±1.0% max. |
| Over Voltage Protection | Zener or TVS Clamp |
| Output Short Circuit Protection | Continuous |
| External Trim Adj. Range | Single ±10% |
| Start up time | EC7B-24S12/15 13ms typ. |
| | EC7B-48S12/15 22ms typ. |
| | Other 5ms typ. |

Case B Dimensions:

NOTE: Pin Size is 0.04±0.004 Inch (1.0±0.1 mm)DIA
 All Dimensions In Inches (mm)
 Tolerances Inches: X.XX= ±.04 , X.XXX= ±.010
 Millimeters: X.X= ±1.0 , X.XX= ±0.25



GENERAL SPECIFICATIONS:

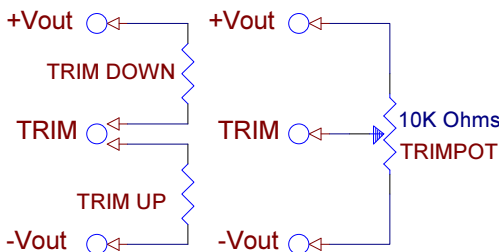
| | |
|-------------------------------|---|
| Efficiency | See Table |
| Isolation Voltage | Input/Output 1500VDC max. |
| Isolation Resistance | 10 ⁸ ohm min. |
| Isolation Capacitance | 1000pF typ. |
| Switching Frequency | 350KHz typ. |
| EMI/RFI | Six Sided Continuous Shield |
| Operating Ambient Temperature | -40°C to +85°C |
| De-rating, Above 71°C | Linearly to Zero power at 100°C |
| Case Temperature (note6) | 100°C max. |
| Cooling | Natural Convection |
| Storage Temperature | -55°C to +125°C |
| Humidity | 95% RH max. Non condensing |
| MTBF | MIL-STD-217F, GB, 25°C, Full Load Single ... 900Khrs typ. |
| | Dual 740Khrs typ. |

| | |
|---------------|--|
| Dimensions | 2.00x1.00x0.40 inches (50.8x25.4x10.2 mm) |
| Case Material | Black Coated Copper with Non-Conductive Base |
| Weight | 35g |

NOTE :

1. Measured from high line to low line.
2. Measured from full load to 10% load.
3. Logic compatibility CMOS or open collector TTL, ref. to -Vin
 Module on >5.5VDC or open circuit
 Module off <1.2VDC
4. Suffix "N" to the model number with negative logic remote on/off
 Module on <1.2VDC
 Module off >5.5VDC or open circuit
5. Suffix "S" to the model number with alternative pin configuration, single output models only.
6. Maximum case temperature under any operating condition should not be exceeded 100°C.

EXTERNAL OUTPUT TRIM



Typical Derating curve for Natural Convection

