

EC7A

S E R I E S

10 WATT DC-DC CONVERTERS



Features

- 10W Isolated Output
- Efficiency to 89%
- DIP-24 / SMD Package
- Pi Input Filter
- Regulated Outputs
- Continuous Short Circuit Protection

| MODEL NUMBER | INPUT VOLTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT | | INPUT CURRENT | | % EFF. | CASE |
|--------------|---------------|----------------|----------------|---------|---------------|-----------|--------|--------|
| | | | MIN. | MAX. | NO LOAD | FULL LOAD | | |
| EC7A-12S25 | 9-18 VDC | 2.5 VDC | 0 mA | 3000 mA | 40 mA | 735 mA | 85 | DIP-24 |
| EC7A-12S33 | | 3.3 VDC | 0 mA | 3000 mA | 50 mA | 971 mA | 85 | |
| EC7A-12S05 | | 5 VDC | 0 mA | 2000 mA | 60 mA | 947 mA | 88 | |
| EC7A-12S12 | | 12 VDC | 0 mA | 835 mA | 40 mA | 949 mA | 88 | |
| EC7A-12S15 | | 15 VDC | 0 mA | 666 mA | 40 mA | 946 mA | 88 | |
| EC7A-12D12 | | ±12 VDC | 42 mA | ±416 mA | 30 mA | 956 mA | 87 | |
| EC7A-12D15 | | ±15 VDC | 33 mA | ±333 mA | 30 mA | 968 mA | 86 | |
| EC7A-24S25 | 18-36 VDC | 2.5 VDC | 0 mA | 3000 mA | 30 mA | 368 mA | 85 | DIP-24 |
| EC7A-24S33 | | 3.3 VDC | 0 mA | 3000 mA | 30 mA | 480 mA | 86 | |
| EC7A-24S05 | | 5 VDC | 0 mA | 2000 mA | 30 mA | 473 mA | 88 | |
| EC7A-24S12 | | 12 VDC | 0 mA | 835 mA | 30 mA | 469 mA | 89 | |
| EC7A-24S15 | | 15 VDC | 0 mA | 666 mA | 30 mA | 473 mA | 88 | |
| EC7A-24D12 | | ±12 VDC | 42 mA | ±416 mA | 20 mA | 467 mA | 89 | |
| EC7A-24D15 | | ±15 VDC | 33 mA | ±333 mA | 20 mA | 478 mA | 87 | |
| EC7A-48S25 | 36-75 VDC | 2.5 VDC | 0 mA | 3000 mA | 15 mA | 184 mA | 85 | DIP-24 |
| EC7A-48S33 | | 3.3 VDC | 0 mA | 3000 mA | 15 mA | 243 mA | 85 | |
| EC7A-48S05 | | 5 VDC | 0 mA | 2000 mA | 15 mA | 237 mA | 88 | |
| EC7A-48S12 | | 12 VDC | 0 mA | 835 mA | 15 mA | 235 mA | 89 | |
| EC7A-48S15 | | 15 VDC | 0 mA | 666 mA | 15 mA | 237 mA | 88 | |
| EC7A-48D12 | | ±12 VDC | 42 mA | ±416 mA | 10 mA | 236 mA | 88 | |
| EC7A-48D15 | | ±15 VDC | 33 mA | ±333 mA | 10 mA | 242 mA | 86 | |

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

Specifications

INPUT SPECIFICATIONS:

Input Voltage Range.....12V.....9-18V
 24V.....18-36V
 48V.....36-75V

Under Voltage lockout.....12Vin Power Up.....8.8V
 12Vin Power Down.....8V
 24Vin Power Up.....17V
 24Vin Power Down.....16V
 48Vin Power Up.....34V
 48Vin Power Down.....32V

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% Volt Nominal
 Recovery Time.....< 300µs

Ripple and Noise, 20MHz BW.....Single.....75mV pk-pk, max.
 Dual.....100mV pk-pk, max.

Temperature Coefficient.....±0.05%/°C

Line Regulation.....Single.....±0.2% max.
 Dual.....±0.5% max.

Load Regulation.....Single.....DIP±0.5% max., SMD±1.0% max.
 Dual.....±1.0% max.

Output Short Circuit Protection.....Continuous
 Over Voltage Protection (Zener Diode Clamp, Single Output Only)

2.5V, 3.3V.....3.9VDC Typ.
 5V.....6.2VDC Typ., 12V.....15VDC Typ.
 15V.....18VDC Typ.

GENERAL SPECIFICATIONS:

Efficiency.....See Table

Isolation Voltage.....Input/Output.....1500VDC min.
 Isolation Resistance.....10¹⁰ Ohm min.

Switching Frequency.....380kHz, Typical

Operating Ambient Temperature.....-40°C to +85°C
 Derating, Above 71°C.....Linearly to Zero Power at 100°C

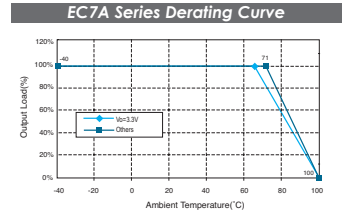
Case Temperature.....100°C max
 Cooling.....Natural Convection

Storage Temperature.....-40°C to +125°C

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)

Case Material.....Black Coated Copper with Non-Conductive Base

Weight.....18.4g



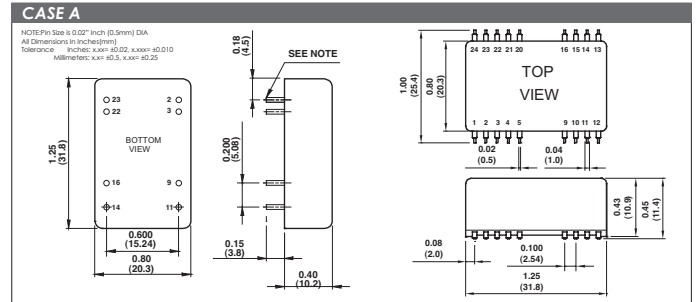
NOTE:

1. Measured From High Line to Low Line
2. Measured From Full Load to 10% Load
3. Suffix "S" to the Model Number with SMD packages
4. Maximum case temperature under any operating condition should not exceed 100°C.

PIN CONNECTION

| Pin | 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 | NP | NC | Common | |
| 10 | NP | NC | NC | |
| 11 | NC | | -V Output | |
| 12 | NP | NC | NP | NC |
| 13 | NP | +V Output | NP | NC |
| 14 | +V Output | | +V Output | |
| 15 | NP | -V Output | NP | NC |
| 16 | -V Output | | Common | |
| 20, 21 | NP | NC | NP | NC |
| 22, 23 | +V Input | | +V Input | |

*NP=NO PIN
 *NC=NO CONNECTION WITH PIN



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