

EC3SA

SERIES

3 WATT REGULATED

DC-DC CONVERTERS



Features

- 3W Isolated Output
  - SIP-8 Package
  - Efficiency to 86%
  - 2:1 Input Range
- Regulated Outputs
  - Remote On/Off Control
  - 1500VDC Isolation
  - Continuous Short Circuit Protection

| MODEL NUMBER | INPUT VOLTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT |         | INPUT CURRENT |           | % EFF. | CASE  |
|--------------|---------------|----------------|----------------|---------|---------------|-----------|--------|-------|
|              |               |                | MIN.           | MAX.    | NO LOAD       | FULL LOAD |        |       |
| EC3SA-05S33  | 4.5-9.0 VDC   | 3.3VDC         | 0 mA           | 700 mA  | 60 mA         | 632 mA    | 73     | SIP-8 |
| EC3SA-05S05  |               | 5VDC           | 0 mA           | 600 mA  |               | 769 mA    | 78     |       |
| EC3SA-05S12  |               | 12VDC          | 0 mA           | 250 mA  |               | 759 mA    | 81     |       |
| EC3SA-05S15  |               | 15VDC          | 0 mA           | 200 mA  |               | 741 mA    | 81     |       |
| EC3SA-05D05  |               | ±5VDC          | ±0 mA          | ±300 mA |               | 769 mA    | 78     |       |
| EC3SA-05D12  |               | ±12VDC         | ±0 mA          | ±125 mA |               | 741 mA    | 81     |       |
| EC3SA-05D15  |               | ±15VDC         | ±0 mA          | ±100 mA |               | 741 mA    | 81     |       |
| EC3SA-12S33  | 9-18 VDC      | 3.3VDC         | 0 mA           | 700 mA  | 30 mA         | 253 mA    | 76     | SIP-8 |
| EC3SA-12S05  |               | 5VDC           | 0 mA           | 600 mA  |               | 309 mA    | 81     |       |
| EC3SA-12S12  |               | 12VDC          | 0 mA           | 250 mA  |               | 301 mA    | 83     |       |
| EC3SA-12S15  |               | 15VDC          | 0 mA           | 200 mA  |               | 298 mA    | 84     |       |
| EC3SA-12D05  |               | ±5VDC          | ±0 mA          | ±300 mA |               | 305 mA    | 82     |       |
| EC3SA-12D12  |               | ±12VDC         | ±0 mA          | ±125 mA |               | 301 mA    | 83     |       |
| EC3SA-12D15  |               | ±15VDC         | ±0 mA          | ±100 mA |               | 298 mA    | 84     |       |
| EC3SA-24S33  | 18-36 VDC     | 3.3VDC         | 0 mA           | 700 mA  | 18 mA         | 125 mA    | 77     | SIP-8 |
| EC3SA-24S05  |               | 5VDC           | 0 mA           | 600 mA  |               | 154 mA    | 81     |       |
| EC3SA-24S12  |               | 12VDC          | 0 mA           | 250 mA  |               | 149 mA    | 84     |       |
| EC3SA-24S15  |               | 15VDC          | 0 mA           | 200 mA  |               | 147 mA    | 85     |       |
| EC3SA-24D05  |               | ±5VDC          | ±0 mA          | ±300 mA |               | 156 mA    | 80     |       |
| EC3SA-24D12  |               | ±12VDC         | ±0 mA          | ±125 mA |               | 149 mA    | 84     |       |
| EC3SA-24D15  |               | ±15VDC         | ±0 mA          | ±100 mA |               | 147 mA    | 85     |       |
| EC3SA-48S33  | 36-75 VDC     | 3.3VDC         | 0 mA           | 700 mA  | 9 mA          | 63mA      | 77     | SIP-8 |
| EC3SA-48S05  |               | 5VDC           | 0 mA           | 600 mA  |               | 77 mA     | 81     |       |
| EC3SA-48S12  |               | 12VDC          | 0 mA           | 250 mA  |               | 73 mA     | 86     |       |
| EC3SA-48S15  |               | 15VDC          | 0 mA           | 200 mA  |               | 73 mA     | 86     |       |
| EC3SA-48D05  |               | ±5VDC          | ±0 mA          | ±300 mA |               | 77 mA     | 81     |       |
| EC3SA-48D12  |               | ±12VDC         | ±0 mA          | ±125 mA |               | 73 mA     | 86     |       |
| EC3SA-48D15  |               | ±15VDC         | ±0 mA          | ±100 mA |               | 73 mA     | 86     |       |

NOTE: 1. Nominal Input Voltage 5, 12, 24 or 48 VDC



NEW

Specifications

INPUT SPECIFICATIONS:

Input Voltage Range..... 5V.....4.5-9V  
12V.....9-18V  
24V.....18-36V  
48V.....36-75V

Input Filter.....Capacitive

Remote on/off control :

Module On.....< 1.2VDC or Open Circuit  
Module Off.....5.5...15VDC  
Module Off (input idle current).....1mA max.

OUTPUT SPECIFICATIONS:

Voltage Accuracy : ..... ±1.5% max.

Voltage Balance(Dual) ..... ±1.0% max.

Cross regulation(Dual).....Asymmetrical load 25%/100%.....±5.0% max.

Transient Response: 25% Step Load Change

Error Band ..... ±6% Vout nominal

Recovery Time .....< 500us

Ripple & Noise, 20MHz BW..... 75mV pk-pk, max.

Temperature Coefficient..... ±0.03%/°C

Line Regulation² ..... ±0.5% max.

Load Regulation³.....Single..... ±0.5% max.

Dual..... ±1.0% max.

Output Short Circuit Protection ..... Continuous

GENERAL SPECIFICATIONS:

Efficiency.....See Table

Isolation Voltage .....1500VDC min.

Isolation Resistance .....10^9 ohm min.

Switching Frequency .....100KHz min.

Operating Ambient Temperature..... -40°C to +85°C

De-rating, Above 71°C ..... Linearly to Zero power at 100°C

Case Temperature⁴..... 100°C max.

Cooling.....Natural Convection

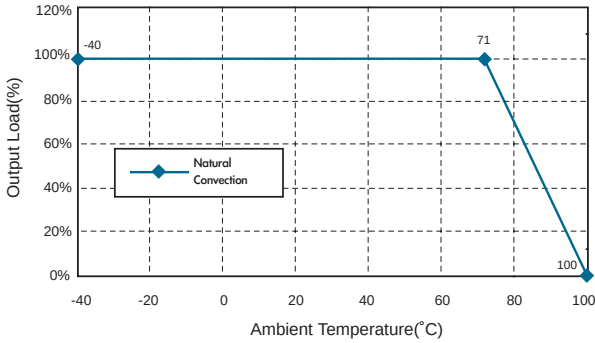
Storage Temperature ..... -55°C to +125°C

Dimensions .....0.86×0.36×0.44 inches(21.80x9.20×11.10 mm)

Case Material ..... Non-Conductive Black Plastic

Weight.....4.8g

EC3SA Series Derating Curve



NOTE:

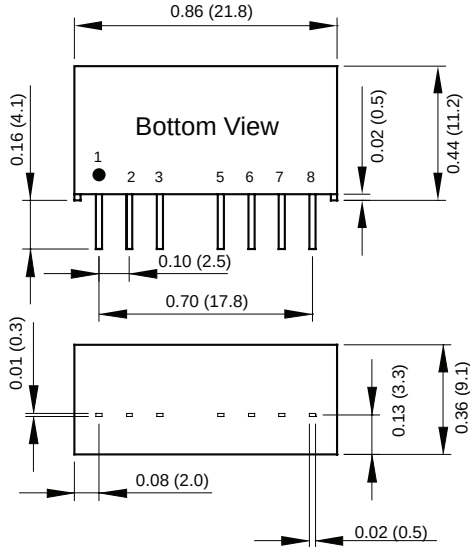
1. For asymmetric loading, Both channels must be at 25% load or more.
2. Measured From High Line to Low Line
3. Measured From Full Load to 10% Load
4. Maximum case temperature under any operating condition should not exceed 100°C.

PIN CONNECTION

| Pin | Single Output | Dual Output |
|-----|---------------|-------------|
| 1   | -V Input      | -V Input    |
| 2   | +V Input      | +V Input    |
| 3   | CTRL          | CTRL        |
| 5   | NC            | NC          |
| 6   | +V Output     | +V Output   |
| 7   | -V Output     | Common      |
| 8   | NC            | -V Output   |

CASE A

All Dimensions In Inches(mm)  
Tolerance Inches: .xx= ±.02, .xxx= ±.002  
Millimeters: .x= ±.5, .xx= ±.05



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