

EC2SA

S E R I E S

NEW



2 WATT REGULATED DC-DC CONVERTERS



Features

- 2W Isolated Output
- SIP-8 Package
- Efficiency to 83%
- 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 | | |
| EC2SA-05S33 | 4.5-9.0 VDC | 3.3VDC | 0 mA | 500 mA | 60 mA | 458 mA | 72 | SIP-8 |
| EC2SA-05S05 | | 5VDC | 0 mA | 400 mA | | 526 mA | 76 | |
| EC2SA-05S12 | | 12VDC | 0 mA | 167 mA | | 507 mA | 79 | |
| EC2SA-05S15 | | 15VDC | 0 mA | 134 mA | | 503 mA | 80 | |
| EC2SA-05D05 | | ±5VDC | ±0 mA | ±200 mA | | 526 mA | 76 | |
| EC2SA-05D12 | | ±12VDC | ±0 mA | ±83 mA | | 498 mA | 80 | |
| EC2SA-05D15 | | ±15VDC | ±0 mA | ±67 mA | | 503 mA | 80 | |
| EC2SA-12S33 | 9-18 VDC | 3.3VDC | 0 mA | 500 mA | 30 mA | 186 mA | 74 | SIP-8 |
| EC2SA-12S05 | | 5VDC | 0 mA | 400 mA | | 214 mA | 78 | |
| EC2SA-12S12 | | 12VDC | 0 mA | 167 mA | | 206 mA | 81 | |
| EC2SA-12S15 | | 15VDC | 0 mA | 134 mA | | 204 mA | 82 | |
| EC2SA-12D05 | | ±5VDC | ±0 mA | ±200 mA | | 208 mA | 80 | |
| EC2SA-12D12 | | ±12VDC | ±0 mA | ±83 mA | | 202 mA | 82 | |
| EC2SA-12D15 | | ±15VDC | ±0 mA | ±67 mA | | 204 mA | 82 | |
| EC2SA-24S33 | 18-36 VDC | 3.3VDC | 0 mA | 500 mA | 18 mA | 90 mA | 76 | SIP-8 |
| EC2SA-24S05 | | 5VDC | 0 mA | 400 mA | | 107 mA | 78 | |
| EC2SA-24S12 | | 12VDC | 0 mA | 167 mA | | 103 mA | 81 | |
| EC2SA-24S15 | | 15VDC | 0 mA | 134 mA | | 102 mA | 82 | |
| EC2SA-24D05 | | ±5VDC | ±0 mA | ±200 mA | | 107 mA | 78 | |
| EC2SA-24D12 | | ±12VDC | ±0 mA | ±83 mA | | 102 mA | 81 | |
| EC2SA-24D15 | | ±15VDC | ±0 mA | ±67 mA | | 102 mA | 82 | |
| EC2SA-48S33 | 36-75 VDC | 3.3VDC | 0 mA | 500 mA | 9 mA | 46 mA | 74 | SIP-8 |
| EC2SA-48S05 | | 5VDC | 0 mA | 400 mA | | 53 mA | 78 | |
| EC2SA-48S12 | | 12VDC | 0 mA | 167 mA | | 51 mA | 82 | |
| EC2SA-48S15 | | 15VDC | 0 mA | 134 mA | | 50 mA | 83 | |
| EC2SA-48D05 | | ±5VDC | ±0 mA | ±200 mA | | 53 mA | 78 | |
| EC2SA-48D12 | | ±12VDC | ±0 mA | ±83 mA | | 50 mA | 83 | |
| EC2SA-48D15 | | ±15VDC | ±0 mA | ±67 mA | | 51 mA | 82 | |

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

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.

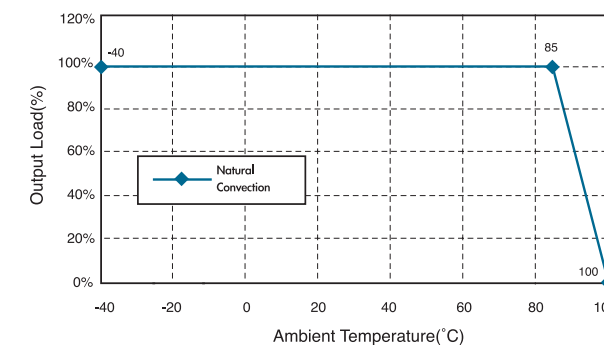
OUTPUT SPECIFICATIONS:

Voltage Accuracy : ±1.5% max.
Voltage Balance(Dual) ±1.0% max.
Cross regulation(Dual)¹.....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 Voltage1500VDC min.
Isolation Resistance10⁹ ohm min.
Switching Frequency100KHz min.
Operating Ambient Temperature..... -40°C to +85°C
De-rating, Above 85°C Linearly to Zero power at 100°C
Case Temperature⁴..... 100°C max.
Cooling.....Natural Convection
Storage Temperature -55°C to +125°C
Dimensions0.86×0.36×0.44 inches(21.80×9.20×11.10 mm)
Case Material Non-Conductive Black Plastic
Weight.....4.8g

EC2SA Series Derating Curve



NOTE:

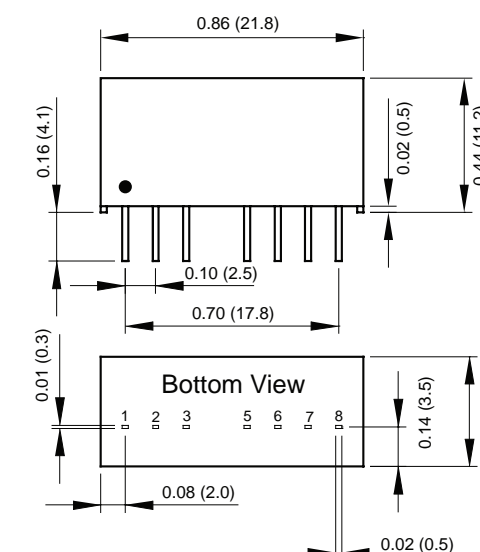
1. For asymmetric loading, Both channels must be at 25% load or more.
2. Measured From High Line to Low Line
3. Measured From Full Load to 10% Load
4. Maximum case temperature under any operating condition should not exceed 100°C.

PIN CONNECTION

| Pin | Single Output | Dual Outputs |
|-----|---------------|--------------|
| 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.