DC DC

Part Num

EC2SA SERIES

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

Safety Approvals

RoHS

Electrical Characteristics:

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		%EFF	SIZE
			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	4.5-9.0 VDC	5VDC	0 mA	400 mA	60 mA	526 mA	76	SIP-8
EC2SA-05S12	4.5-9.0 VDC	12VDC	0 mA	167 mA	60 mA	507 mA	79	SIP-8
EC2SA-05S15	4.5-9.0 VDC	15VDC	0 mA	134 mA	60 mA	503 mA	80	SIP-8
EC2SA-05D05	4.5-9.0 VDC	±5VDC	±0 mA	±200 mA	60 mA	526 mA	76	SIP-8
EC2SA-05D12	4.5-9.0 VDC	±12VDC	±0 mA	±83 mA	60 mA	498 mA	80	SIP-8
EC2SA-05D15	4.5-9.0 VDC	±15VDC	±0 mA	±67 mA	60 mA	503 mA	80	SIP-8
EC2SA-12S33	9-18 VDC	3.3VDC	0 mA	500 mA	30 mA	186 mA	74	SIP-8
EC2SA-12S05	9-18 VDC	5VDC	0 mA	400 mA	30 mA	214 mA	78	SIP-8
EC2SA-12S12	9-18 VDC	12VDC	0 mA	167 mA	30 mA	206 mA	81	SIP-8
EC2SA-12S15	9-18 VDC	15VDC	0 mA	134 mA	30 mA	204 mA	82	SIP-8
EC2SA-12D05	9-18 VDC	±5VDC	±0 mA	±200 mA	30 mA	208 mA	80	SIP-8
EC2SA-12D12	9-18 VDC	±12VDC	±0 mA	±83 mA	30 mA	202 mA	82	SIP-8
EC2SA-12D15	9-18 VDC	±15VDC	±0 mA	±67 mA	30 mA	204 mA	82	SIP-8
EC2SA-24S33	18-36 VDC	3.3VDC	0 mA	500 mA	18 mA	90 mA	76	SIP-8
EC2SA-24S05	18-36 VDC	5VDC	0 mA	400 mA	18 mA	107 mA	78	SIP-8
EC2SA-24S12	18-36 VDC	12VDC	0 mA	167 mA	18 mA	103 mA	81	SIP-8
EC2SA-24S15	18-36 VDC	15VDC	0 mA	134 mA	18 mA	102 mA	82	SIP-8
EC2SA-24D05	18-36 VDC	±5VDC	±0 mA	±200 mA	18 mA	107 mA	78	SIP-8
EC2SA-24D12	18-36 VDC	±12VDC	±0 mA	±83 mA	18 mA	102 mA	81	SIP-8
EC2SA-24D15	18-36 VDC	±15VDC	±0 mA	±67 mA	18 mA	102 mA	82	SIP-8
EC2SA-48S33	36-75 VDC	3.3VDC	0 mA	500 mA	9 mA	46 mA	74	SIP-8
EC2SA-48S05	36-75 VDC	5VDC	0 mA	400 mA	9 mA	53 mA	78	SIP-8
EC2SA-48S12	36-75 VDC	12VDC	0 mA	167 mA	9 mA	51 mA	82	SIP-8
EC2SA-48S15	36-75 VDC	15VDC	0 mA	134 mA	9 mA	50 mA	83	SIP-8
EC2SA-48D05	36-75 VDC	±5VDC	±0 mA	±200 mA	9 mA	53 mA	78	SIP-8
EC2SA-48D12	36-75 VDC	±12VDC	±0 mA	±83 mA	9 mA	50 mA	83	SIP-8
EC2SA-48D15	36-75 VDC	±15VDC	±0 mA	±67 mA	9 mA	51 mA	82	SIP-8

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

Specification

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.

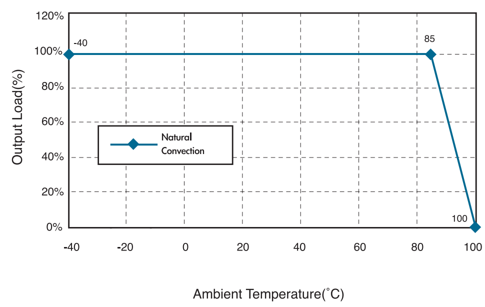
OUTPUT SPECIFICATIONS:

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 Voltage ....1500VDC min
Isolation Resistance ....10^9 ohm min.
Switching Frequency ....……...................................100KHz typ.
Operating Ambient Temperature Range...…..….............….......... -40˚C to +85˚C
Derating, Above 71˚C ……………................Linearly to Zero Power at +100˚C
Case Temperature4…………………………….......................... 100°C max.
Cooling..Natural Convection
Storage Temperature Range ...…..................…....…...........-55˚C to +125˚C
Dimensions ………….…..........0.86×0.36x0.44 inches(21.80x9.20×11.10 mm)
Structure.…………………………….......................Non-Conductive Black Plastic
Weight..4.8g

EC2SA Series Derating Curve



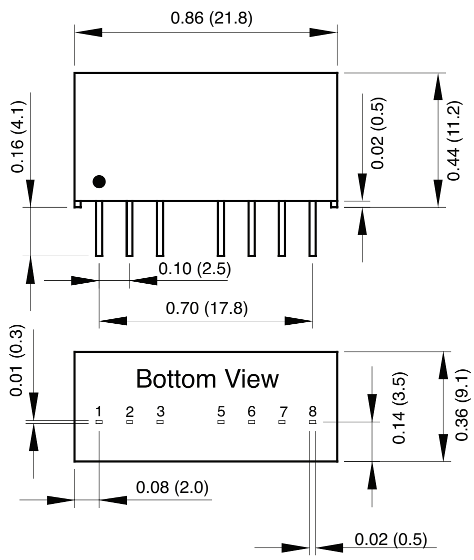
NOTE:

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.