

# 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.

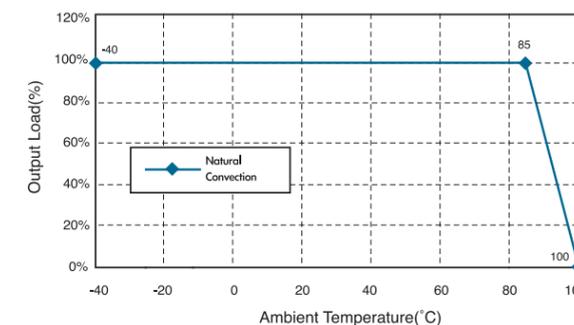
#### OUTPUT SPECIFICATIONS:

Voltage Accuracy : ..... ±1.5% max.  
 Voltage Balance(Dual) ..... ±1.0% max.  
 Cross regulation(Dual).....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 Regulation<sup>2</sup> ..... ±0.5% max.  
 Load Regulation<sup>3</sup>.....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<sup>9</sup> ohm min.  
 Switching Frequency .....100KHz min.  
 Operating Ambient Temperature..... -40°C to +85°C  
 De-rating, Above 85°C ..... Linearly to Zero power at 100°C  
 Case Temperature<sup>4</sup>..... 100°C max.  
 Cooling.....Natural Convection  
 Storage Temperature ..... -55°C to +125°C  
 Dimensions .....0.86×0.36×0.44 inches(21.80×9.20×11.10 mm)  
 Case Material ..... Non-Conductive Black Plastic  
 Weight.....4.8g

### EC2SA Series Derating Curve



#### NOTE:

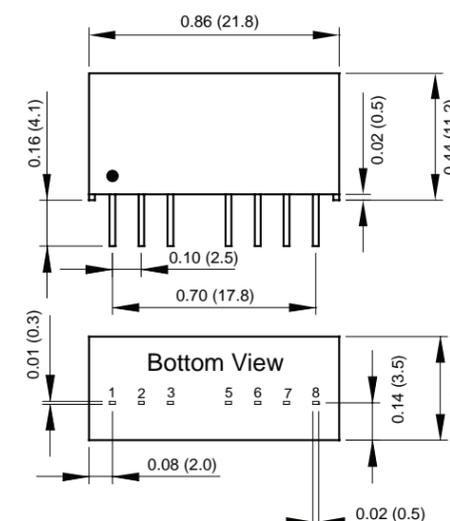
1. For asymmetric loading, Both channels must be at 25% load or more.
2. Measured From High Line to Low Line
3. Measured From Full Load to 10% Load
4. Maximum case temperature under any operating condition should not exceed 100°C.

### 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.