



EC3SAW SERIES

3 WATT 4:1 INPUT DC-DC CONVERTERS



FEATURES

- * 3W Isolated Output
- * Compact SIP-8 Package
- * Efficiency to 85%
- * 4:1 Input Range
- * Regulated Outputs
- * Remote On/Off Control
- * 1500VDC Isolation
- * Continuous Short Circuit Protection
- * Input Under Voltage Protection
- * No Tantalum Capacitor Inside
- * CE Mark Meets 2014/30/EU
- * Safety Meets UL60950-1, EN60950-1, and IEC60950-1



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	CAPACITOR LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD		
EC3SAW-24S33P	9-36 VDC	3.3 VDC	0 Ma	700 Ma	4 Ma	122 Ma	79	1800Uf
EC3SAW-24S05P	9-36 VDC	5 VDC	0 Ma	600 Ma	4 Ma	154 Ma	81	1000Uf
EC3SAW-24S12P	9-36 VDC	12 VDC	0 Ma	250 Ma	8 Ma	150 Ma	84	220Uf
EC3SAW-24S15P	9-36 VDC	15 VDC	0 Ma	200 Ma	12 Ma	150 Ma	84	120Uf
EC3SAW-24D05P	9-36 VDC	±5 VDC	0 Ma	±300 Ma	8 Ma	154 Ma	81	470Uf
EC3SAW-24D12P	9-36 VDC	±12 VDC	0 Ma	±125 Ma	12 Ma	150 Ma	84	100Uf
EC3SAW-24D15P	9-36 VDC	±15 VDC	0 Ma	±100 Ma	12 Ma	151 Ma	83	47Uf
EC3SAW-48S33P	18-75 VDC	3.3 VDC	0 Ma	700 Ma	3 Ma	61 Ma	79	1800Uf
EC3SAW-48S05P	18-75 VDC	5 VDC	0 Ma	600 Ma	3 Ma	76 Ma	82	1000Uf
EC3SAW-48S12P	18-75 VDC	12 VDC	0 Ma	250 Ma	5 Ma	74 Ma	85	220Uf
EC3SAW-48S15P	18-75 VDC	15 VDC	0 Ma	200 Ma	5 Ma	75 Ma	84	120Uf
EC3SAW-48D05P	18-75 VDC	±5 VDC	0 Ma	±300 Ma	5 Ma	76 Ma	82	470Uf
EC3SAW-48D12P	18-75 VDC	±12 VDC	0 Ma	±125 Ma	10 Ma	75 Ma	84	100Uf
EC3SAW-48D15P	18-75 VDC	±15 VDC	0 Ma	±100 Ma	10 Ma	75 Ma	83	47Uf

NOTE: 1. Nominal Input Voltage 24 or 48VDC

SPECIFICATIONS

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

INPUT SPECIFICATIONS:

Input Voltage Range	24VDC	9-36VDC
	48VDC	18-75VDC
Input Surge Voltage (100ms max.)	24VDC	50VDC max.
	48VDC	100VDC max.

Under Voltage Protection:

24Vin Power Up	7.5 VDC max.
Power Down	6 VDC min.
48Vin Power Up	15.5 VDC max.
Power Down	12 VDC min.

Input Filter Capacitive

Remote On/Off Control: (Referenced to -Vin)

Module On	Open Circuit
Module Off	0 to < 1.2VDC
Module Off (Input Idle Current)	1Ma max.

OUTPUT SPECIFICATIONS:

Voltage Accuracy	±1.5% max.
Voltage Balance (Dual)	±1.0% max.
Cross Regulation (Dual)(note 4) ... 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 50Mv pk-pk max.

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

Line Regulation (note 1) ±0.5% max.

Load Regulation (note 2)	Single	±0.5% max.
	Dual	±1.0% max.

Output Short Circuit Protection Continuous

Start Up Time 5ms max.

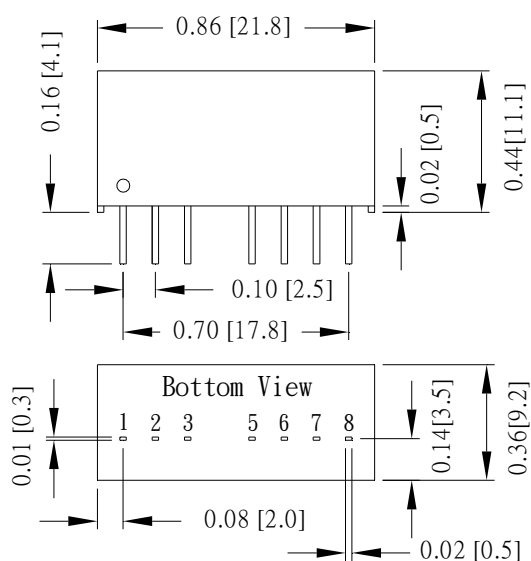
CASE SIP-8:

All Dimensions In Inches(mm)

Tolerances : Inches millimeters

X.XX±0.02 X.X±0.5

Pin ±0.002 ±0.05



PIN CONNECTION		
Pin	Single	Dual
1	-Vin	-Vin
2	+Vin	+Vin
3	ON/OFF	ON/OFF
5	NC	NC
6	+Vo	+Vo
7	-Vo	Common
8	NC	-Vo

GENERAL SPECIFICATIONS:

Efficiency	See Table
Isolation Voltage	1500VDC min.
Isolation Resistance	10 ⁹ ohm min.
Isolation Capacitance	500Pf typ.
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 Temperature (note 3)	100°C max.
Cooling	Natural Convection
Storage Temperature	-55°C to +125°C
Humidity	95% RH max. Non-Condensing
MTBF . MIL-HDBK-217F, GB, 25°C, Full Load ... Single ...	2800Khrs typ.
	Dual 2100Khrs typ.
EMI	Conductive EMI Meets EN55022 Class A & Class B (note5)
Dimensions	0.86x0.36x0.44 inches(21.8x9.2x11.1 mm)
Case Material	Non-Conductive Black Plastic
Weight	4.8g

NOTE:

1. Measured from high line to low line.
2. Measured from full load to 10% load.
3. Maximum case temperature under any operating condition should not be exceeded 100°C.
4. For asymmetric loading both channels must be at 25% load or more.
5. The EC3SAW series meet EN55022 Class A & Class B with external C-L filter before the input pins to the converter. (see application note)

Typical Derating curve for Natural Convection

