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℃ 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.

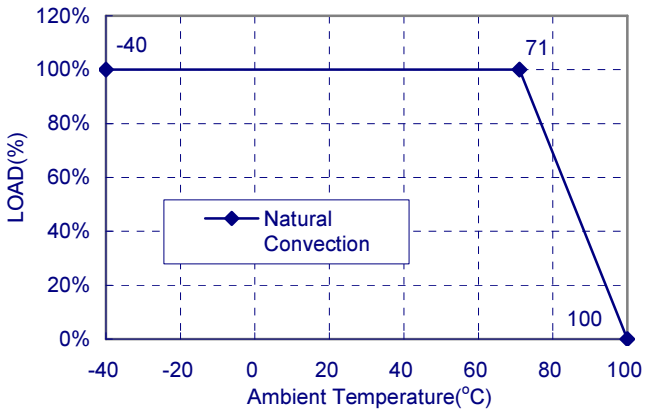
GENERAL SPECIFICATIONS:

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℃ to +85℃
De-rating, Above 71℃ ..... Linearly to Zero Power at 100℃
Case Temperature (note 3) ..... 100℃ max.
Cooling ..... Natural Convection
Storage Temperature ..... -55℃ to +125℃
Humidity ..... 95% RH max. Non-Condensing
MTBF . MIL-HDBK-217F, GB, 25℃, 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:

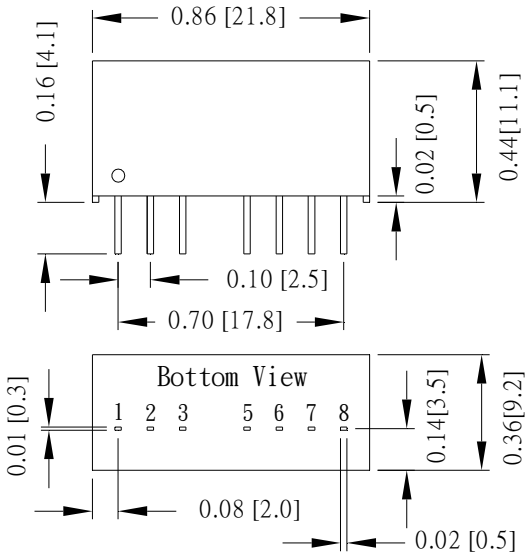
1. Measured from high line to low line.
2. Measured from full load to 10% load.
3. Maximum case temperature under any operating condition should not be exceeded 100℃.
4. For asymmetric loading both channels must be at 25% load or more.
5. The EC3SAW series meet EN55022 Class A & Class B with external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

Typical Derating curve for Natural Convection



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