EC4SAW SERIES

5-6 WATT WIDE INPUT DC-DC CONVERTERS

FEATURE

* 5-6W Isolated Output
* Compact SIP-8 Package
* Efficiency up to 89%
* 4:1 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.		CAPACITOR LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD	(3)	(2)	
EC4SAW-24S33N	9-36 VDC	3.3 VDC	0 mA	1500 mA	4 mA	310 mA	82	82	4700uF
EC4SAW-24S05N	9-36 VDC	5 VDC	0 mA	1200 mA	4 mA	298 mA	86	86	2200uF
EC4SAW-24S12N	9-36 VDC	12 VDC	0 mA	500 mA	5 mA	288 mA	88	88	1100uF
EC4SAW-24S15N	9-36 VDC	15 VDC	0 mA	400 mA	5 mA	288 mA	89	88	470uF
EC4SAW-24D05N	9-36 VDC	±5 VDC	0 mA	±600 mA	4 mA	298 mA	86	86	1400uF
EC4SAW-24D12N	9-36 VDC	±12 VDC	0 mA	±250 mA	6 mA	288 mA	88	88	660uF
EC4SAW-24D15N	9-36 VDC	±15 VDC	0 mA	±200 mA	6 mA	288 mA	88	88	220uF
EC4SAW-48S33N	18-75 VDC	3.3 VDC	0 mA	1500 mA	3 mA	155 mA	82	82	4700uF
EC4SAW-48S05N	18-75 VDC	5 VDC	0 mA	1200 mA	3 mA	150 mA	85	85	2200uF
EC4SAW-48S12N	18-75 VDC	12 VDC	0 mA	500 mA	3 mA	145 mA	88	89	1100uF
EC4SAW-48S15N	18-75 VDC	15 VDC	0 mA	400 mA	3 mA	145 mA	89	88	470uF
EC4SAW-48D05N	18-75 VDC	±5 VDC	0 mA	±600 mA	4 mA	150 mA	85	85	1400uF
EC4SAW-48D12N	18-75 VDC	±12 VDC	0 mA	±250 mA	3 mA	145 mA	88	89	660uF
EC4SAW-48D15N	18-75 VDC	±15 VDC	0 mA	±200 mA	3 mA	145 mA	88	89	220uF

NOTE:

1. Nominal Input Voltage 24 or 48 VDC
2. Measured at Nominal Input Voltage
3. Measured at 12VDC for 24Vin, 24VDC for 48Vin

SPECIFICATIONS

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

INPUT SPECIFICATIONS:

Input Voltage Range ..... 24V 9-36V
48V..... 18-75V
Input Surge Voltage (100 ms max.) ..... 24V ..... 50VDC max.
48V..... 100VDC max.
Input Filter ..... Capacitive
Remote On/Off control:
Module On ..... Open or high impedance
Module Off ..... 2mA to 4mA
Module Off (input idle current) ..... 2.5mA max.

OUTPUT SPECIFICATIONS:

Voltage Accuracy ..... ±1.5% max.
Voltage Balance(Dual) ..... ±1.0% max
Transient Response: 25% Step Load Change
Error Band ..... ±5% Vout nominal, Recovery Time ..... < 250μs
Ripple & Noise, 20MHz BW ..... 100mV pk-pk max.
Temperature Coefficient ..... ±0.03%/°C
Short Circuit Protection ..... Continuous
Line Regulation (note 1) ..... ±0.2% max.
Load Regulation (note 2) ..... Single ..... ±0.5% max.
Dual ..... ±1.0% max.
Cross regulation(Dual note 3) ..... Asymmetrical load 25%/100% .... ±5.0% max.
Current Limit ..... 180% typ.
Start up time ..... 15ms typ.

GENERAL SPECIFICATIONS:

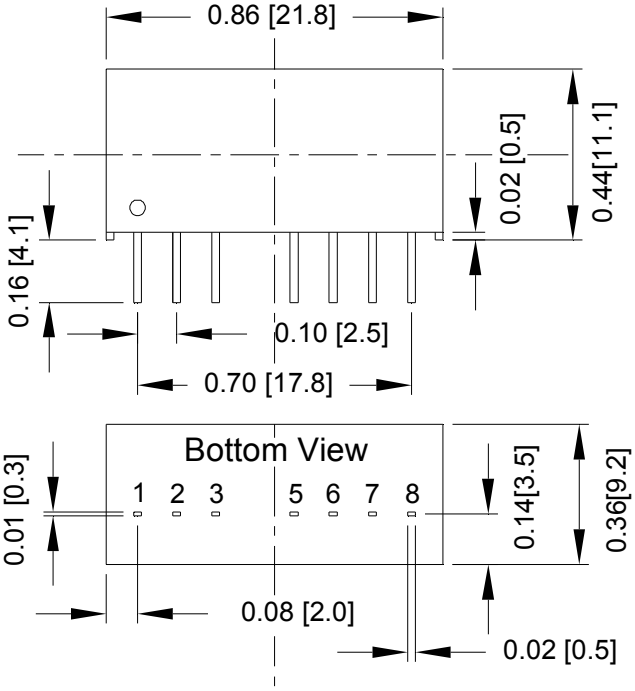
Efficiency ..... See Table
Isolation Voltage ..... 1500VDC min.
Isolation Resistance ..... 10^9 ohm min.
Isolation Capacitance ..... 50pF max.
Switching Frequency ..... 580KHz typ.
Operating Ambient Temperature ..... -40℃ to +85℃
De-rating, Above 61℃ ..... 3.3V/5V ... Linearly to Zero power at 105℃
De-rating, Above 65℃ ..... 12V/15V ... Linearly to Zero power at 105℃
Case Temperature (note 4) ..... 105℃ max.
Cooling ..... Natural Convection
Storage Temperature ..... -55℃ to +125℃
Humidity ..... 95% RH max. Non condensing
MTBF .... MIL-HDBK-217F, GB, 25℃, Full Load ..... 1850Khrs typ.
Dimensions ..... 0.86x0.36x0.44 inches(21.8x9.2x11.1 mm)
Case Material ..... Non-Conductive Black Plastic
Weight 4.8g

NOTE:

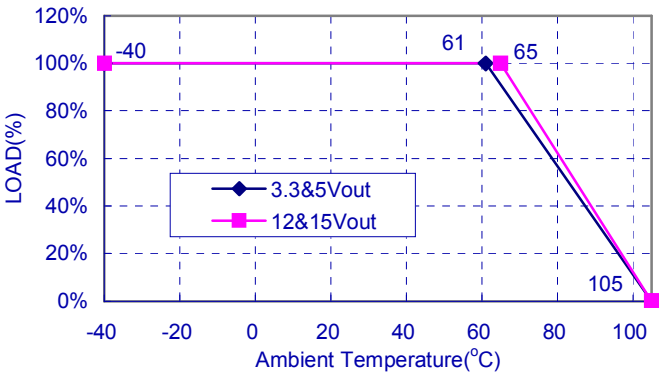
1. Measured from high line to low line.
2. Measured from full load to no load.
3. For asymmetric loading, both channels must be at 25% load or more.
4. Maximum case temperature under any operating condition should not be exceeded 105℃.

CASE SIP-8 DIMENSIONS:

All Dimensions In Inches(mm)
Tolerances : Inches millimeters
X.XX±0.02 X.X±0.5
Pin ±0.002 ±0.05



Typical Derating curve for Natural Convection



PIN CONNECTION		
Pin	Single	Dual
1	-V Input	-V Input
2	+V Input	+V Input
3	On/Off	On/Off
5	NC	NC
6	+V Output	+V Output
7	-V Output	Common
8	NC	-V Output