



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
- * Safety Meets IEC/EN/UL 62368-1



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	252 mA	82	82	4700uF
EC4SAW-24S05N	9-36 VDC	5 VDC	0 mA	1200 mA	4 mA	291 mA	86	86	2200uF
EC4SAW-24S12N	9-36 VDC	12 VDC	0 mA	500 mA	5 mA	284 mA	88	88	1100uF
EC4SAW-24S15N	9-36 VDC	15 VDC	0 mA	400 mA	5 mA	284 mA	89	88	470uF
EC4SAW-24D05N	9-36 VDC	±5 VDC	0 mA	±600 mA	4 mA	291 mA	86	86	1400uF
EC4SAW-24D12N	9-36 VDC	±12 VDC	0 mA	±250 mA	6 mA	284 mA	88	88	660uF
EC4SAW-24D15N	9-36 VDC	±15 VDC	0 mA	±200 mA	6 mA	284 mA	88	88	220uF
EC4SAW-48S33N	18-75 VDC	3.3 VDC	0 mA	1500 mA	3 mA	126 mA	82	82	4700uF
EC4SAW-48S05N	18-75 VDC	5 VDC	0 mA	1200 mA	3 mA	147 mA	85	85	2200uF
EC4SAW-48S12N	18-75 VDC	12 VDC	0 mA	500 mA	3 mA	140 mA	88	89	1100uF
EC4SAW-48S15N	18-75 VDC	15 VDC	0 mA	400 mA	3 mA	142 mA	89	88	470uF
EC4SAW-48D05N	18-75 VDC	±5 VDC	0 mA	±600 mA	4 mA	147 mA	85	85	1400uF
EC4SAW-48D12N	18-75 VDC	±12 VDC	0 mA	±250 mA	3 mA	140 mA	88	89	660uF
EC4SAW-48D15N	18-75 VDC	±15 VDC	0 mA	±200 mA	3 mA	140 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°C 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	Short, 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 (note1)	±0.2% max.	
Load Regulation (note2)	Single	±0.5% max.
	Dual	±1.0% max.
Cross Regulation (Dual note3)	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°C to +85°C	
De-rating, Above 61°C	3.3V/5V	Linearly to Zero Power at 105°C
De-rating, Above 65°C	12V/15V	Linearly to Zero Power at 105°C
Case Temperature (note4)	105°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	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°C.

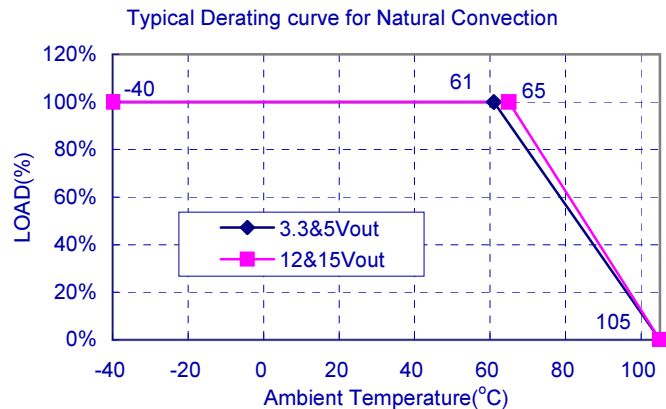
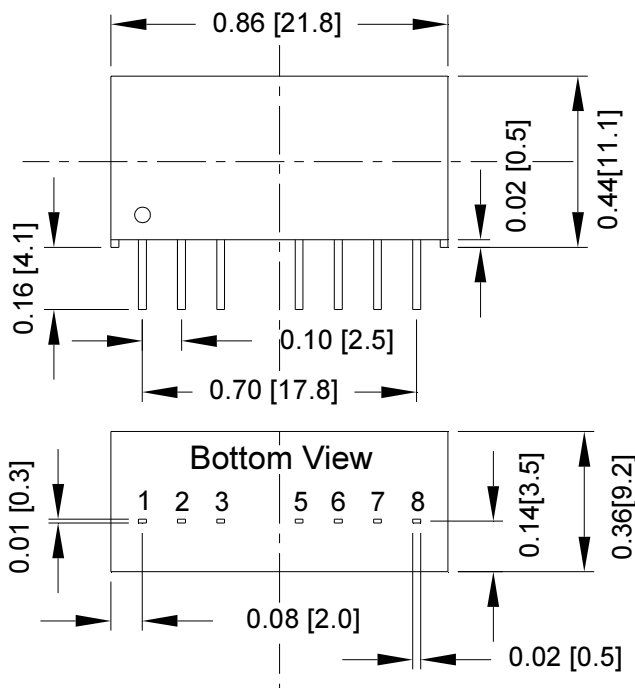
CASE SIP-8 DIMENSIONS:

All Dimensions In Inches(mm)

Tolerances : Inches millimeters

X.XX±0.02 X.X±0.5

Pin ±0.002 ±0.05



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