

EC3SA Series

3 WATTS - DC/DC SINGLE & MULTIPLE OUTPUT

FEATURES

- Industry Standard SIP and SMD Packages
Input ranges 2:1 and 4:1
Single and Multiple Outputs
- Efficiency up to 85%
- 1500VDC Isolation
- Low Cost
- Regulated Outputs
- Low Ripple and Noise
- Remote On/Off control
- No Tantalum Capacitors



SPECIFICATIONS

INPUT		
DC input voltage range	5V	4.5-9V, EC3SA
	12V	9-18V, EC3SA
	24V	18-36V, EC3SA
	48V	36-75V, EC3SA
	24V	9-36V, EC3SAW
	48V	18-75V, EC3SAW
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.
Isolation voltage	1500 VDC min	
Isolation resistance	10 ⁹ Ohms min	
Isolation capacitance	500pF typ EC3SAW	
OUTPUT		
Output voltage	See table	
Output current	See table	
Voltage accuracy	±3.0% max.	
Voltage balance	±1.0% max. Dual	
Cross regulation (Note4)	Asymmetrical load 25%/100%	
	±5.0% max. Dual	
Transient response	25% Step Load Change	
	Error Band	±6% Vout nominal
	Recovery Time	< 500us
Ripple and noise, 20MHz BW	75mV p-p max	
Temperature coefficient	±0.03%/C max	
Short circuit protection	Momentary 1sec max	
Line regulation (Note1)	±0.5% max	
Load regulation (Note2)	±0.5% max, Single	
	±1.0% max, Dual	
Efficiency	See table	
Switching frequency	100kHz	
Short circuit protection	Continuous	

ENVIRONMENTAL	
Operating ambient temperature range	40°C to +85°C
De-rating	See curve
Case temperature (Note4)	+100°C max
Cooling	Natural convection
Storage temperature range	-55°C to +125°C
Humidity	95% RH max. Non condensing
MTBF	MIL-STD-217F,GB 1.7Mhrs min
EMI (Note5)	Conductive EMI Meet EN55022 Class A & Class B
MECHANICAL	
Dimensions	21.8 x 9.2 x 11.1mm
Weight	4.8g
Case material	Non-conductive black plastic

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)

PIN CONNECTION

PIN	SINGLE OUTPUT	MULTIPLE OUTPUT
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

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DC-DC PCB MOUNTED CONVERTERS & POWER MODULES

SELECTION TABLE

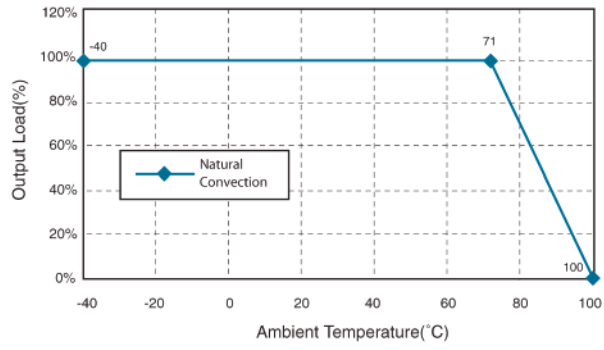
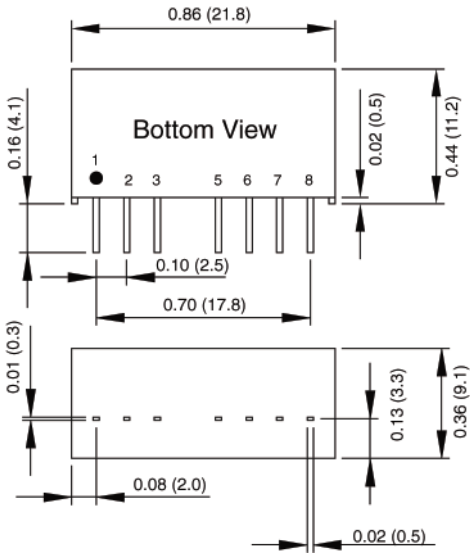
MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	CASE
			MIN.	MAX.	NO LOAD	FULL LOAD		
EC3SA-05S33		3.3VDC	0 mA	700 mA		632 mA	73	
EC3SA-05S05		5VDC	0 mA	600 mA		769 mA	78	
EC3SA-05S12		12VDC	0 mA	250 mA		759 mA	81	
EC3SA-05S15	4.5-9.0 VDC	15VDC	0 mA	200 mA	60 mA	741 mA	81	SIP-8
EC3SA-05D05		±5VDC	±0 mA	±300 mA		769 mA	78	
EC3SA-05D12		±12VDC	±0 mA	±125 mA		741 mA	81	
EC3SA-05D15		±15VDC	±0 mA	±100 mA		741 mA	81	
EC3SA-12S33		3.3VDC	0 mA	700 mA		253 mA	76	
EC3SA-12S05		5VDC	0 mA	600 mA		309 mA	81	
EC3SA-12S12		12VDC	0 mA	250 mA		301 mA	83	
EC3SA-12S15	9-18 VDC	15VDC	0 mA	200 mA	30 mA	298 mA	84	SIP-8
EC3SA-12D05		±5VDC	±0 mA	±300 mA		305 mA	82	
EC3SA-12D12		±12VDC	±0 mA	±125 mA		301 mA	83	
EC3SA-12D15		±15VDC	±0 mA	±100 mA		298 mA	84	
EC3SA-24S33		3.3VDC	0 mA	700 mA		125 mA	77	
EC3SA-24S05		5VDC	0 mA	600 mA		154 mA	81	
EC3SA-24S12		12VDC	0 mA	250 mA		149 mA	84	
EC3SA-24S15	18-36 VDC	15VDC	0 mA	200 mA	18 mA	147 mA	85	SIP-8
EC3SA-24D05		±5VDC	±0 mA	±300 mA		156 mA	80	
EC3SA-24D12		±12VDC	±0 mA	±125 mA		149 mA	84	
EC3SA-24D15		±15VDC	±0 mA	±100 mA		147 mA	85	
EC3SA-48S33		3.3VDC	0 mA	700 mA		63mA	77	
EC3SA-48S05		5VDC	0 mA	600 mA		77 mA	81	
EC3SA-48S12		12VDC	0 mA	250 mA		73 mA	86	
EC3SA-48S15	36-75 VDC	15VDC	0 mA	200 mA	9 mA	73 mA	86	SIP-8
EC3SA-48D05		±5VDC	±0 mA	±300 mA		77 mA	81	
EC3SA-48D12		±12VDC	±0 mA	±125 mA		73 mA	86	
EC3SA-48D15		±15VDC	±0 mA	±100 mA		73 mA	86	
EC3SAW-24S33P	9-36 VDC	3.3VDC	0 mA	700 mA	4 mA	122 mA	79	1800uF
EC3SAW-24S05P	9-36 VDC	5VDC	0 mA	600 mA	4 mA	154 mA	81	1000uF
EC3SAW-24S12P	9-36 VDC	12VDC	0 mA	250 mA	8 mA	150 mA	84	220uF
EC3SAW-24S15P	9-36 VDC	15VDC	0 mA	200 mA	8 mA	150 mA	84	120uF
EC3SAW-24D05P	9-36 VDC	±5VDC	0 mA	±300 mA	8 mA	154 mA	81	±470uF
EC3SAW-24D12P	9-36 VDC	±12VDC	0 mA	±125 mA	12 mA 1	50 mA	84	±100uF
EC3SAW-24D15P	9-36 VDC	±15VDC	0 mA	±100 mA	12 mA	151 mA	83	±47uF
EC3SAW-48S33P	18-75 VDC	3.3VDC	0 mA	700 mA	3 mA	61 mA	79	1800uF
EC3SAW-48S05P	18-75 VDC	5VDC	0 mA	600 mA	3 mA	76 mA	82	1000uF
EC3SAW-48S12P	18-75 VDC	12VDC	0 mA	250 mA	5 mA	74 mA	85	220uF
EC3SAW-48S15P	18-75 VDC	15VDC	0 mA	200 mA	5 mA	75 mA	84	120uF
EC3SAW-48D05P	18-75 VDC	±5VDC	0 mA	±300 mA	5 mA	76 mA	82	±470uF
EC3SAW-48D12P	18-75 VDC	±12VDC	0 mA	±125 mA 1	0 mA	75 mA	84	±100uF
EC3SAW-48D15P	18-75 VDC	±15VDC	0 mA	±100 mA	10mA	75 mA	83	±47uF

NOTE: 1. Nominal Input Voltage 5, 12 or 24VDC

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TECHNICAL ILLUSTRATION



DC-DC PCB MOUNTED CONVERTERS & POWER MODULES