

# EC3SCW

S E R I E S

## 20-30 WATT 4 : 1 INPUT RANGE DC-DC CONVERTERS



### Features

- 20-30W Isolated Output
- 2"x1.6" Six-Sided Shield Metal Case
- High Efficiency Up to 91%
- Fixed 300KHz Switching Frequency
- 4 : 1 Wide Input Range
- Regulated Outputs
- Continuous Short Circuit Protection
- Industry Standard Pin-Out
- CE Mark Meets 2004/108/EC
- 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		
EC3SCW-24S3V3	9-36 VDC	3.3 VDC	0 mA	7500 mA	50 mA	1172 mA	88	7500uF
EC3SCW-24S05		5 VDC		6000 mA	60 mA	1404 mA	89	6000uF
EC3SCW-24S12		12 VDC		2500 mA	80 mA	1374 mA	91	2500uF
EC3SCW-24S15		15 VDC		2000 mA	50 mA	1374 mA	91	2000uF
EC3SCW-48S3V3	18-75 VDC	3.3 VDC	0 mA	7500 mA	30 mA	586 mA	88	7500uF
EC3SCW-48S05		5 VDC		6000 mA	30 mA	694 mA	90	6000uF
EC3SCW-48S12		12 VDC		2500 mA	40 mA	687 mA	91	2500uF
EC3SCW-48S15		15 VDC		2000 mA	50 mA	687 mA	91	2000uF

NOTE: 1. Nominal Input Voltage 24 or 48 VDC

## Specifications

### INPUT SPECIFICATIONS:

Input Voltage Range.....	24V.....	9-36V
	48V.....	18-75V
Input Surge Voltage(100ms max.).....	24V.....	50Vdc max.
	48V.....	100Vdc max.
Under Voltage lockout.....	24Vin Power Up.....	8.8V typ.
	24Vin Power Down.....	8.0V typ.
	48Vin Power Up.....	17V typ.
	48Vin Power Down.....	16V typ.
Positive Logic Remote ON/OFF (see note 3 & 4)		
Input Filter.....		Pi Type

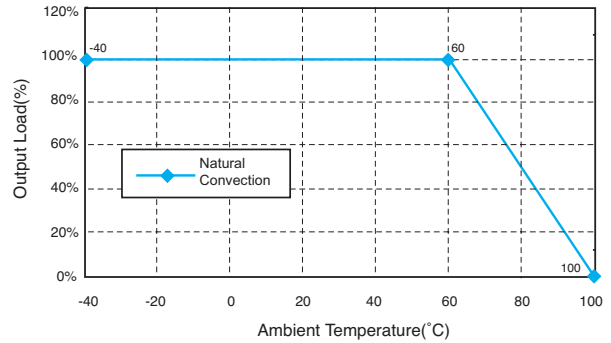
### OUTPUT SPECIFICATIONS:

Voltage Accuracy.....	±1.5% max.
Transient Response: 75% - 100% Step Load Change	
Error Band.....	±5% Vout Nominal
Recovery Time.....	< 300µs
External Adjustment Range, %Vo.....	±10%
Ripple & Noise, 20MHz BW (Measured with 0.1µF MLCC)	
3.3V & 5V.....	20mV RMS max., 75mV pk-pk max.
12V & 15V.....	20mV RMS max., 100mV pk-pk max.
Temperature Coefficient.....	±0.02%/°C
Line Regulation <sup>1</sup> .....	± 0.5% max.
Load Regulation <sup>2</sup> .....	± 0.5% max.
Output Over Voltage Protection (Zener or TVS Clamp)	
3.3V.....	3.9V
5V.....	6.2V
12V.....	15V
15V.....	18V
Output Current Limit, % Nominal Output.....	110% - 150%
Output Short Circuit Protection.....	Continuous (Hiccup Mode)
Start up time .....	8ms typ.

### GENERAL SPECIFICATIONS:

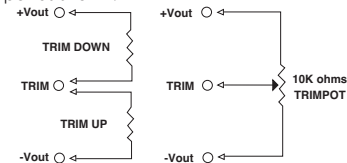
Efficiency.....	See Table
Isolation Voltage.....	Input/Output..... 1500VDC min.
Isolation Resistance.....	10 <sup>8</sup> ohm min.
Isolation Capacitance.....	1000pF typ.
Switching Frequency .....	24Vin..... 300KHz typ.
	48Vin..... 250KHz typ.
Operating Ambient Temperature .....	-40°C to + 85°C
De-Rating Above 60°C.....	Linearly to Zero Power at 100°C
Case Temperature <sup>3</sup> .....	100°C max.
Cooling .....	Natural Convection
Storage Temperature.....	-55°C to + 125°C
Humidity .....	95% RH max. Non condensing
MTBF .....MIL-STD-217-F, GB, 25°C, Full Load .....	650Khrs typ.
Thermal Shutdown, Case Temperature.....	110°C typ.
Dimensions.....	2.00x1.60x0.40 inches (50.8x40.6x10.2 mm)
Case Material.....	Black Coated Copper with Non-Conductive Base
Weight.....	50g

## EC3SCW Series Derating Curve



### External Output Trimming

Output may optionally be externally trimmed (±10%) with a fixed resistor or an external trimpot as shown.



### NOTE:

1. Measured From High Line to Low Line
2. Measured From Full Load to 10% Load
3. Logic Compatibility.....CMOS or Open Collector TTL, ref. to - Vin  
 Module ON.....>3.5VDC to 75VDC or Open Circuit  
 Module OFF.....<1.2VDC
4. Suffix "N" to the Model Number with Negative Logic Remote ON/OFF  
 Module ON.....>3.5VDC to 75VDC or Open Circuit  
 Module OFF.....<1.2VDC
5. Maximum case temperature under any operating condition should not be exceeded 100°C.

### PIN CONNECTION

Pin	Function
1	On/Off Control
3	-V Input
4	+V Input
5	Trim
6	-V Output
7	+V Output
8	No Pin

## Mechanical Specification

All Dimensions In Inches(mm)  
 Tolerance Inches: x.xx= ±0.04, x.xxx= ±0.010  
 Millimeters: x.x= ±1.0, x.xx= ±0.25

