



## EC3SCW SERIES

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

### DC-DC CONVERTERS



#### FEATURE

- \* 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
- \* 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		
EC3SCW-24S3V3	9-36 VDC	3.3VDC	0 mA	7500 mA	50 mA	1172 mA	88	7500uF
EC3SCW-24S05	9-36 VDC	5 VDC	0 mA	6000 mA	60 mA	1404 mA	89	6000uF
EC3SCW-24S12	9-36 VDC	12 VDC	0 mA	2500 mA	80 mA	1374 mA	91	2500uF
EC3SCW-24S15	9-36 VDC	15 VDC	0 mA	2000 mA	50 mA	1374 mA	91	2000uF
EC3SCW-48S3V3	18-75 VDC	3.3VDC	0 mA	7500 mA	30 mA	586 mA	88	7500uF
EC3SCW-48S05	18-75 VDC	5 VDC	0 mA	6000 mA	30 mA	694 mA	90	6000uF
EC3SCW-48S12	18-75 VDC	12 VDC	0 mA	2500 mA	40 mA	687 mA	91	2500uF
EC3SCW-48S15	18-75 VDC	15 VDC	0 mA	2000 mA	50 mA	687 mA	91	2000uF

NOTE: 1. Nominal Input Voltage 24, 48VDC

# 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 (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 (note3&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 max.
Line Regulation (note1)	±0.5% max.
Load Regulation (note2)	±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.

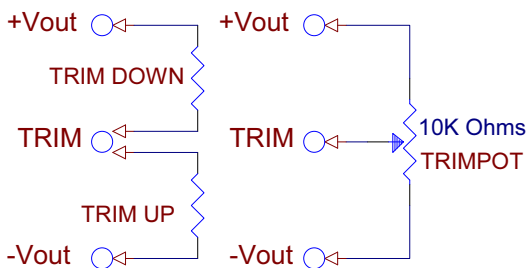
## GENERAL SPECIFICATIONS:

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 (note5)	100°C max.
Cooling	Natural Convection
Storage Temperature	-55°C to +125°C
Humidity	95% RH max. Non Condensing
MTBF	MILHDBK-217F. GB. 25°C. Full Load 650Khrs typ.
Thermal Shutdown Case Temp.	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

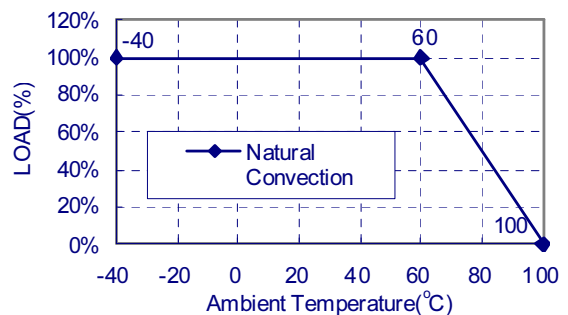
## NOTE:

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 ..... 0 to <1.2VDC
4. Suffix "N" to the model number with negative logic remote on/off  
 Module on ..... 0 to <1.2VDC  
 Module off ..... >3.5VDC to 75VDC or open circuit
5. Maximum case temperature under any operating condition should not be exceeded 100°C.

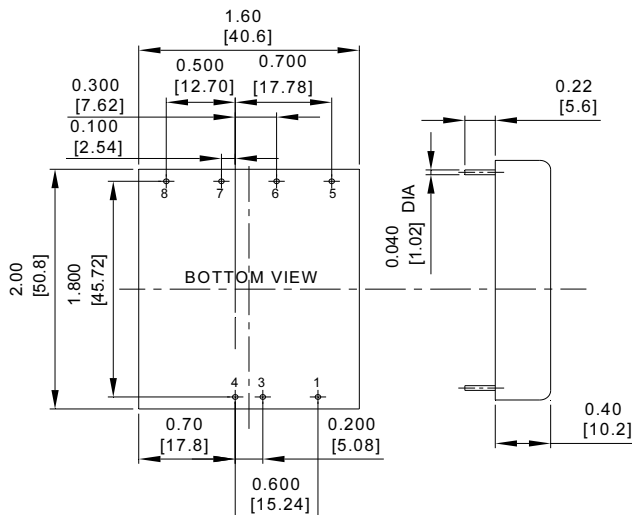
## EXTERNAL OUTPUT TRIM



Typical Derating curve for Natural Convection



## Case SC Dimensions:



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

NOTE: Pin Size is 0.04±0.004 Inch (1.0±0.1mm)DIA  
 All Dimensions in Inches(mm)  
 Tolerances Inches: X.XX=±0.04, X.XXX=±0.010  
 Millimeters: X.X=±1.0, X.XX=±0.25