

EC3SCW

S E R I E S

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



Features

- 20-30W Isolated Output
- 2" x 1.6" Six-Sided Shield Metal Case
- 4 : 1 Input Range
- Regulated Outputs
- Efficiency to 91%
- Fixed 300KHz Switching Frequency
- Continuous Short Circuit Protection
- Remote On/Off Control

| MODEL NUMBER | INPUT VOLTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT | | INPUT CURRENT | | % EFF. | SIZE |
|---------------|---------------|----------------|----------------|--------|---------------|-----------|--------|-----------|
| | | | MIN. | MAX. | NO LOAD | FULL LOAD | | |
| EC3SCW-24S3V3 | 9-36 VDC | 3.3 VDC | 0mA | 7500mA | 50mA | 1172mA | 87 | 2" x 1.6" |
| EC3SCW-24S05 | | 5 VDC | | 6000mA | 60mA | 1404mA | 89 | |
| EC3SCW-24S12 | | 12 VDC | | 2500mA | 80mA | 1374mA | 91 | |
| EC3SCW-24S15 | | 15 VDC | | 2000mA | 50mA | 1374mA | 91 | |
| EC3SCW-48S3V3 | 18-75 VDC | 3.3 VDC | 0mA | 7500mA | 30mA | 586mA | 88 | 2" x 1.6" |
| EC3SCW-48S05 | | 5 VDC | | 6000mA | 30mA | 694mA | 90 | |
| EC3SCW-48S12 | | 12 VDC | | 2500mA | 40mA | 687mA | 91 | |
| EC3SCW-48S15 | | 15 VDC | | 2000mA | 50mA | 687mA | 91 | |

NOTE: 1. Nominal Input Voltage 24 or 48 VDC

Specifications

INPUT SPECIFICATIONS:

Input Voltage Range.....24V.....9-36V
 48V.....18-75V
 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

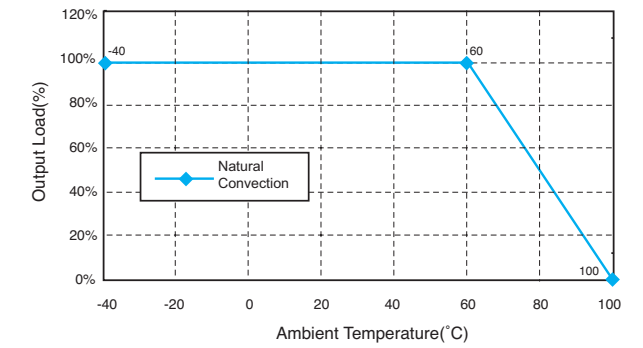
OUTPUT SPECIFICATIONS:

Voltage Accuracy.....±1.5% max.
 Transient Response: 75% - 100% Step Load Change
 Error Band.....±5% Vout Nominal
 Recovery Time.....<300us
 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 Regulation¹.....±0.5% max.
 Load Regulation².....±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)

GENERAL SPECIFICATIONS:

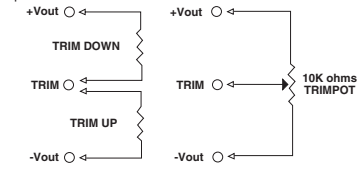
Efficiency.....See Table
 Isolation Voltage.....Input/Output.....1500VDC max.
 Isolation Resistance.....10⁹ Ohm min.
 Switching Frequency24Vin.....300KHz, Typ.
 48Vin.....250KHz, Typ.
 Operating Ambient Temperature-40°C to +85°C
 De-Rating Above 60°C.....Linearly to Zero Power at 100°C
 Case Temperature³.....100°C max.
 CoolingNatural Convection
 Storage Temperature.....-55°C to +125°C
 Thermal Shutdown, Case Temperature.....110°C Typ.
 Dimensions:
 Metal Case.....2.00 x 1.60 x 0.40 inches(50.8 x 40.6 x 10.2mm)
 Metal Case Material..Black Coated Copper with Non-Conductive Base

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:

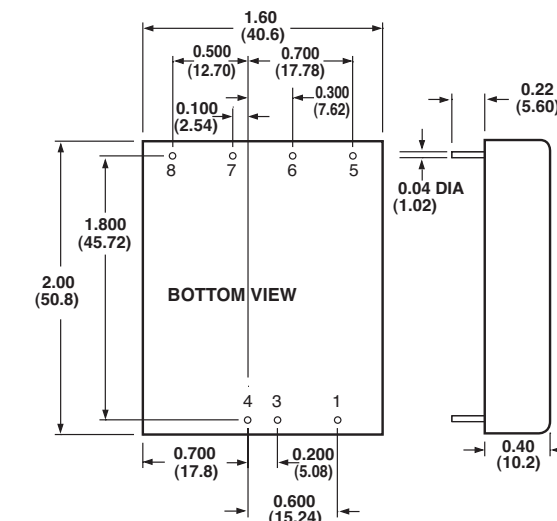
1. Measured From High Line to Low Line
2. Measured From Full Load to 10% Load
3. Logic Compatibility.....CMOS or Open Collector TTL, ref. to - Vin
 Module ON.....>3.5VDC to 75VDC or Open Circuit
 Module OFF.....<1.2VDC
4. Suffix "N" to the Model Number with Negative Logic Remote ON/OFF
 Module ON.....<1.2VDC
 Module OFF.....>3.5VDC to 75VDC or Open Circuit
5. Maximum case temperature under any operating condition should not exceed 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: .xx= ±0.04, .xxx= ±0.10
 Millimeters: .x= ±1.0, .xx= ±0.25



All Specifications Typical At Nominal Line, Full Load and 25°C Unless Otherwise Noted.