

EC2SC

S E R I E S

14.4-25 WATT 2 : 1 INPUT DC-DC CONVERTERS



Features

- 14.4-25W Isolated Output
- 2"x1.6" Six-Sided Shield Metal Case or Open Frame Design
- High Efficiency Up to 90%
- Fixed 300KHz Switching Frequency
- 2 : 1 Input Range
- Regulated Outputs
- Continuous Short Circuit Protection
- 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		
EC2SC-12S18	9-18 VDC	1.8 VDC	0 mA	8000 mA	95 mA	1411 mA	85	8000uF
EC2SC-12S25		2.5 VDC		8000 mA	95 mA	1894 mA	88	8000uF
EC2SC-12S33		3.3 VDC		6000 mA	100 mA	1875 mA	88	6000uF
EC2SC-12S05		5.0 VDC		5000 mA	105 mA	2431 mA	89	5000uF
EC2SC-12S12		12 VDC		2000 mA	60 mA	2299 mA	87	2000uF
EC2SC-12S15		15 VDC		1600 mA	1600 mA	85 mA	2325 mA	86
EC2SC-24S18	18-36 VDC	1.8 VDC	0 mA	8000 mA	60 mA	714 mA	84	8000uF
EC2SC-24S25		2.5 VDC		8000 mA	55 mA	947 mA	88	8000uF
EC2SC-24S33		3.3 VDC		6000 mA	55 mA	927 mA	89	6000uF
EC2SC-24S05		5.0 VDC		5000 mA	60 mA	1157 mA	90	5000uF
EC2SC-24S12		12 VDC		2000 mA	30 mA	1149 mA	87	2000uF
EC2SC-24S15		15 VDC		1600 mA	1600 mA	50 mA	1162 mA	86
EC2SC-48S18	36-75 VDC	1.8 VDC	0mA	8000 mA	30 mA	357 mA	84	8000uF
EC2SC-48S25		2.5 VDC		8000 mA	30 mA	473 mA	88	8000uF
EC2SC-48S33		3.3 VDC		6000 mA	40 mA	463 mA	89	6000uF
EC2SC-48S05		5.0 VDC		5000 mA	40 mA	579 mA	90	5000uF
EC2SC-48S12		12 VDC		2000 mA	20 mA	568 mA	88	2000uF
EC2SC-48S15		15 VDC		1600 mA	1600 mA	20 mA	574 mA	87

NOTE: 1. Nominal Input Voltage 12, 24 or 48 VDC

Specifications

INPUT SPECIFICATIONS:

Input Voltage Range.....	12V.....	9-18V
	24V.....	18-36V
	48V.....	36-75V
Input Surge Voltage(100ms max.).....	12V.....	25Vdc max.
	24V.....	50Vdc max.
	48V.....	100Vdc max.
Under Voltage locket.....	12Vin Power Up.....	8.8V
	12Vin Power Down.....	8.0V
	24Vin Power Up.....	17V
	24Vin Power Down.....	16V
	48Vin Power Up.....	34V
	48Vin Power Down.....	32V
Positive Logic Remote ON/OFF (see note 3 & 4)		
Input Filter.....		Pi Type

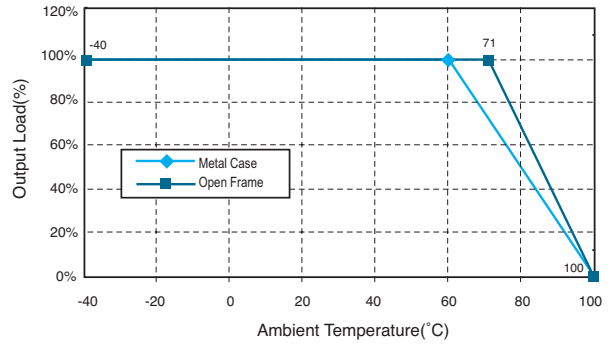
OUTPUT SPECIFICATIONS:

Voltage Accuracy.....	±1.0% max.
Transient Response: 75% - 100% Step Load Change	
Error Band.....	±5% Vout Nominal, Recovery Time..... < 300µs
Output Voltage Adjustment Range.....	90% - 110%Vo
Ripple & Noise, 20MHz BW (Measured with 0.1µF MLCC)	
1.8V & 2.5V & 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 ¹	± 0.5% max.
Load Regulation ²	± 0.5% max.
Over Voltage Protection (Zener Diode Clamp)	
1.8V.....	3.3VDC typ., 2.5V..... 3.3VDC typ.
3.3V.....	3.9VDC typ., 5V..... 6.2VDC typ.
12V.....	15VDC typ., 15V..... 18VDC typ.
Output Current Limit, % Nominal Output.....	110% - 150%
Output Short Circuit Protection.....	Continuous (Hiccup Mode)
Start up time	7.5ms typ.

GENERAL SPECIFICATIONS:

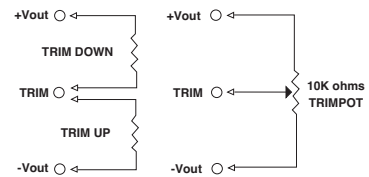
Efficiency.....	See Table
Isolation Voltage.....	Input/Output..... 1500VDC min.
Isolation Resistance.....	10 ⁹ ohm min.
Isolation Capacitance.....	1000pF typ.
Switching Frequency.....	300KHz typ.
Operating Ambient Temperature	-40°C to + 85°C
De-Rating:	
Metal Case: Above 71°C.....	Linearly to Zero Power at 100°C
Open Frame: Above 60°C.....	Linearly to Zero Power at 100°C
Case Temperature ³	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
Thermal Shutdown, Case Temperature.....	110°C typ.
Dimensions:	
Metal Case.....	2.00x1.60x0.45 inches (50.8x40.6x1.4 mm)
Open Frame.....	1.95x1.55x0.40 inches (49.5x39.4x1.02 mm)
Metal Case Material.....	Black Coated Copper with Non-Conductive Base
Weight.....	Metal Case: 55g , Open Frame: 25g

EC2SC 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.....<1.8VDC
4. Suffix "N" to the Model Number with Negative Logic Remote ON/OFF Module ON.....<1.8VDC Module OFF.....>3.5VDC to 75VDC or Open Circuit
5. Suffix "O" to the Model Number with Open Frame Type.
6. Maximum case temperature under any operating condition should not be exceeded 100°C.

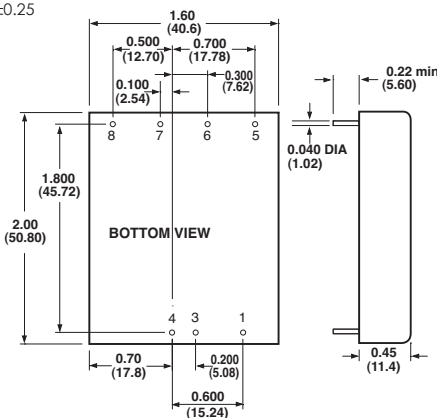
PIN CONNECTION

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

CASE SC

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

Standard (Metal Case)



Open Frame (Suffix "O")

