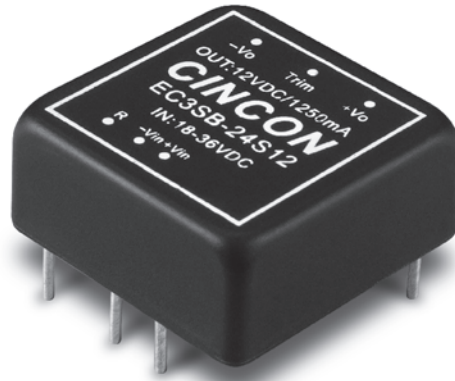


EC3SB

S E R I E S

15 WATT 2 : 1 INPUT DC-DC CONVERTERS



Features

- 15W Isolated Output
- Efficiency to 90%
- 2 : 1 Input Range
- Regulated Outputs
- Fixed Switching Frequency
- Input Under Voltage Protection
- Over Current Protection
- Remote ON/OFF
- Continuous Short Circuit Protection
- Without Tantalum Capacitors Inside
- 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		
EC3SB -12S33	9-18 VDC	3.3 VDC	0 mA	4000 mA	90 mA	1280 mA	85	4000uF
EC3SB -12S05		5 VDC	0 mA	3000 mA	85 mA	1453 mA	88	3000uF
EC3SB -12S12		12 VDC	0 mA	1250 mA	70 mA	1420 mA	88	1330uF
EC3SB -12S15		15 VDC	0 mA	1000 mA	70 mA	1420 mA	88	1000uF
EC3SB -12D05		±5 VDC	0 mA	±1500 mA	45 mA	1470 mA	85	1470uF
EC3SB -12D12		±12 VDC	0 mA	±625 mA	45 mA	1436 mA	87	660uF
EC3SB -12D15		±15 VDC	0 mA	±500 mA	45 mA	1420 mA	88	550uF
EC3SB -24S33	18-36 VDC	3.3 VDC	0 mA	4000 mA	50 mA	640 mA	86	4000uF
EC3SB -24S05		5 VDC	0 mA	3000 mA	50 mA	718 mA	89	3000uF
EC3SB -24S12		12 VDC	0 mA	1250 mA	20 mA	695 mA	90	1330uF
EC3SB -24S15		15 VDC	0 mA	1000 mA	20 mA	695 mA	90	1000uF
EC3SB -24D05		±5 VDC	0 mA	±1500 mA	25 mA	726 mA	86	1470uF
EC3SB -24D12		±12 VDC	0 mA	±625 mA	25 mA	710 mA	88	660uF
EC3SB -24D15		±15 VDC	0 mA	±500 mA	25 mA	702 mA	89	550uF
EC3SB -48S33	36-75 VDC	3.3 VDC	0 mA	4000 mA	25 mA	320 mA	86	4000uF
EC3SB -48S05		5 VDC	0 mA	3000 mA	30 mA	359 mA	88	3000uF
EC3SB -48S12		12 VDC	0 mA	1250 mA	20 mA	347 mA	90	1330uF
EC3SB -48S15		15 VDC	0 mA	1000 mA	20 mA	351 mA	90	1000uF
EC3SB -48D05		±5 VDC	0 mA	±1500 mA	20 mA	363 mA	86	1470uF
EC3SB -48D12		±12 VDC	0 mA	±625 mA	20 mA	355 mA	88	660uF
EC3SB -48D15		±15 VDC	0 mA	±500 mA	20 mA	351 mA	89	550uF

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
 Under voltage lockout12Vin power up: 8.8V, power down: 8V
 24Vin power up: 17V, power down: 16V
 48Vin power up: 34V, power down: 32V
 Input Surge Voltage (100ms max.).....EC3SB-12Sxx/12Dxx 25Vdc max.
 EC3SB-24Sxx/24Dxx 50Vdc max.
 EC3SB-48Sxx/48Dxx .. 100Vdc max.
 Input FilterStandard..... PI Type
 SMD.....LC Type
 Positive Logic Remote on/off Control:
 Logic Compatibility CMOS or Open Collector TTL
 Module ON>+5.5V to 75VDC or Open Collector
 Module OFF<1.2VDC

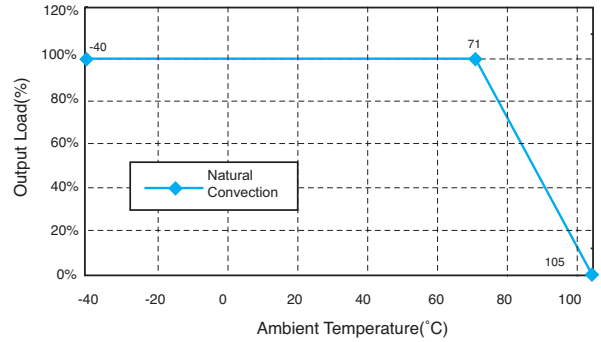
OUTPUT SPECIFICATIONS:

Voltage Accuracy ±1.5% max.
 Voltage Balance (Dual) ±2.0% max.
 Transient Response: 25% Step Load Change < 500µs
 Ripple and Noise, 20MHz BW³..... 50mV pk-pk max.
 SMD 120mV pk-pk max.
 Temperature Coefficient ±0.03%/°C max.
 Short Circuit Protection Continuous
 Line Regulation¹.....Single....DIP±0.2% max. ,SMD± 0.3% max.
 Dual.....± 0.5% max.
 Load Regulation².....Single....DIP±0.2% max. ,SMD± 0.5% max.
 Dual.....± 1.0% max.
 Cross Regulation (Dual output) Load cross variation 10%/100% ±5% max.
 Over Voltage Protection Zener or TVS Clamp
 External Trim Adj. Range (single output models only) ±10%
 Current Limit 110% - 140% Nominal Output
 Start up time 20ms max.

GENERAL SPECIFICATIONS:

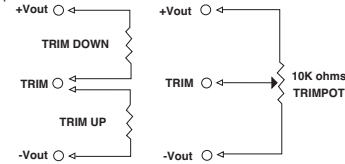
Efficiency See Table
 Isolation Voltage 1500 VDC min.
 Isolation Resistance 10⁹ ohm min.
 Isolation Capacitance 1000pF typ.
 Switching Frequency 350KHz typ.
 Operating Ambient Temperature Range -40°C to +85°C
 Derating, Above 71°C Linearly to Zero Power at +105°C
 Case Temperature⁴..... 105°C max.
 Cooling Natural Convection
 Storage Temperature Range -55°C to +125°C
 Humidity 95% RH max. Non condensing
 MTBFMIL-STD-217-F, GB, 25°C, Full Load1200 Khrs typ.
 DimensionsDIP.....1.00x1.00x0.4 inches (25.4x25.4x10.2 mm)
 SMD.....1.00x1.00x0.36 inches (25.4x25.4x9.2 mm)
 Case Material.....Black Coated Copper with Non-Conductive Base
 Weight18.4g

EC3SB 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 min. Load.
3. The output ripple and noise is measured with 10µF tantalum and 1µF Ceramic capacitor across output.
4. Maximum case temperature under any operating condition should not be exceeded 105°C.
5. Suffix "S" to the Model Number with SMD package.

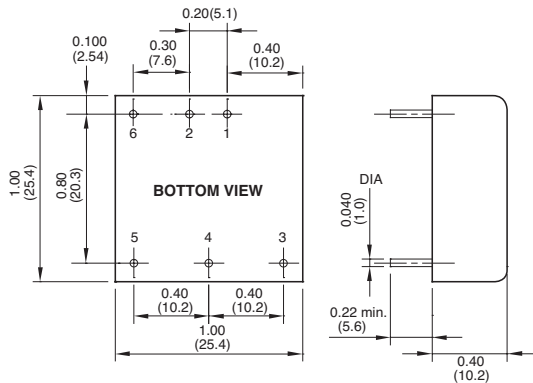
PIN CONNECTION

Pin	Function	
	Single	Dual
1	+Input	+Input
2	- Input	- Input
3	+V Output	+V Output
4	Trim	Common
5	-V Output	-V Output
6	Remote	Remote

SIZE SB

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

THROUGH-HOLE PACKAGE



SMD PACKAGE

