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10W Module DC to Dc power supply > EC2SB



FEATURES

- * 10W Isolated Output
- * Efficiency to 87%
- * 2:1 Input Range
- * Regulated Outputs
- * Fixed Switching Frequency
- * Input Under Voltage Protection
- * Over Current Protection
- * Remote On/Off
- * Continuous Short Circuit Protection
- * Conductive EMI Meets EN55032 Class A
- * Without Tantalum Capacitors Inside
- * 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		
EC2SB-05S33	4.7-9 VDC	3.3 VDC	0 mA	2500 mA	120 mA	1897 mA	87	2470uF
EC2SB-05S05	4.7-9 VDC	5 VDC	0 mA	2000 mA	120 mA	2299 mA	87	2000uF
EC2SB-05S12	4.7-9 VDC	12 VDC	0 mA	833 mA	50 mA	2298 mA	87	940uF
EC2SB-05S15	4.7-9 VDC	15 VDC	0 mA	666 mA	50 mA	2297 mA	87	690uF
EC2SB-05D05	4.7-9 VDC	±5 VDC	0 mA	±1000 mA	50 mA	2353 mA	85	1000uF
EC2SB-05D12	4.7-9 VDC	±12 VDC	0 mA	±416 mA	50 mA	2295 mA	87	440uF
EC2SB-05D15	4.7-9 VDC	±15 VDC	0 mA	±333 mA	50 mA	2297 mA	87	330uF
EC2SB-12S33	9-18 VDC	3.3 VDC	0 mA	2500 mA	30 mA	838 mA	82	2470uF
EC2SB-12S05	9-18 VDC	5 VDC	0 mA	2000 mA	30 mA	980 mA	85	2000uF
EC2SB-12S12	9-18 VDC	12 VDC	0 mA	833 mA	35 mA	957 mA	87	940uF
EC2SB-12S15	9-18 VDC	15 VDC	0 mA	666 mA	35 mA	956 mA	87	690uF
EC2SB-12D05	9-18 VDC	±5 VDC	0 mA	±1000 mA	45 mA	980 mA	85	1000uF
EC2SB-12D12	9-18 VDC	±12 VDC	0 mA	±416 mA	45 mA	957 mA	87	440uF
EC2SB-12D15	9-18 VDC	±15 VDC	0 mA	±333 mA	45 mA	957 mA	87	330uF
EC2SB-24S33	18-36 VDC	3.3 VDC	0 mA	2500 mA	25 mA	419 mA	82	2470uF
EC2SB-24S05	18-36 VDC	5 VDC	0 mA	2000 mA	25 mA	490 mA	85	2000uF
EC2SB-24S12	18-36 VDC	12 VDC	0 mA	833 mA	25 mA	478 mA	87	940uF
EC2SB-24S15	18-36 VDC	15 VDC	0 mA	666 mA	25 mA	478 mA	87	690uF
EC2SB-24D05	18-36 VDC	±5 VDC	0 mA	±1000 mA	25 mA	490 mA	85	1000uF
EC2SB-24D12	18-36 VDC	±12 VDC	0 mA	±416 mA	25 mA	478 mA	87	440uF
EC2SB-24D15	18-36 VDC	±15 VDC	0 mA	±333 mA	25 mA	478 mA	87	330uF
EC2SB-48S33	36-75 VDC	3.3 VDC	0 mA	2500 mA	20 mA	212 mA	81	2470uF
EC2SB-48S05	36-75 VDC	5 VDC	0 mA	2000 mA	20 mA	245 mA	85	2000uF
EC2SB-48S12	36-75 VDC	12 VDC	0 mA	833 mA	20 mA	239 mA	87	940uF
EC2SB-48S15	36-75 VDC	15 VDC	0 mA	666 mA	20 mA	239 mA	87	690uF
EC2SB-48D05	36-75 VDC	±5 VDC	0 mA	±1000 mA	20 mA	245 mA	85	1000uF
EC2SB-48D12	36-75 VDC	±12 VDC	0 mA	±416 mA	20 mA	239 mA	87	440uF
EC2SB-48D15	36-75 VDC	±15 VDC	0 mA	±333 mA	20 mA	239 mA	87	330uF

NOTE: 1. Nominal Input Voltage 5, 12, 24 or 48 VDC



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SPECIFICATIONS

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

INPUT SPECIFICATIONS:

Input Voltage Range 5V 4.7 - 9V
 12V 9 - 18V
 24V 18 - 36V
 48V 36 - 75V

Under Voltage Lockout 5Vin power up: 4.4V, power down: 4.2V
 12Vin 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.) EC2SB-05Sxx/05Dxx 12Vdc max.
 EC2SB-12Sxx/12Dxx ... 25Vdc max.
 EC2SB-24Sxx/24Dxx 50Vdc max.
 EC2SB-48Sxx/48Dxx .. 100Vdc max.

Input Filter Standard 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 Circuit
 Module Off 0 to <1.2VDC

OUTPUT SPECIFICATIONS:

Voltage Accuracy ±1.5% max.
 Voltage Balance (Dual) ±2.0% max.
 Transient Response: 25% Step Load Change <500us.
 Ripple and Noise, 20MHz BW (note3) 50mV pk-pk max.
 SMD 100mV pk-pk max.

Temperature Coefficient ±0.03%/°C max.
 Short Circuit Protection Continuous
 Line Regulation (note1) Single ±0.2% max.
 SMD ±0.3% max.
 Dual ±0.5% max.

Load Regulation (note2) Single ±0.2% max.
 SMD ±0.5% max.
 Dual ±1.0% max.

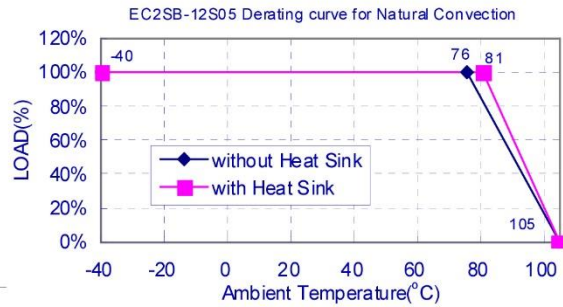
Cross Regulation (Dual Output) Load Cross Variation 10%/100% ±5% max.
 Over Voltage Protection Zener or TVS Clamp
 External Trim Adj. Range (Single Output Models Only) ±10%
 Current Limit 110% - 140% Nominal Output
 Start up Time 20ms max.

GENERAL SPECIFICATIONS:

Efficiency See Table
 Isolation Voltage 1500 VDC min.
 Isolation Resistance 10⁹ ohm min.
 Isolation Capacitance 1000pF typ.
 Switching Frequency 350KHz typ.
 EMI/RFI (Standard) Conductive EMI Meets EN55032 Class A
 Operating Ambient Temperature Range -40°C to +85°C
 Derating, Above 71°C (note7) Linearly to Zero Power at +105°C
 Case Temperature (note4) 105°C max.
 Cooling Natural Convection
 Storage Temperature Range -55°C to +125°C
 Humidity 95% RH max. Non Condensing
 MTBF MIL-HDBK-217-F, GB, 25°C, Full Load 1200Khrs typ.
 Dimensions Standard 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
 Weight 18g

NOTE:

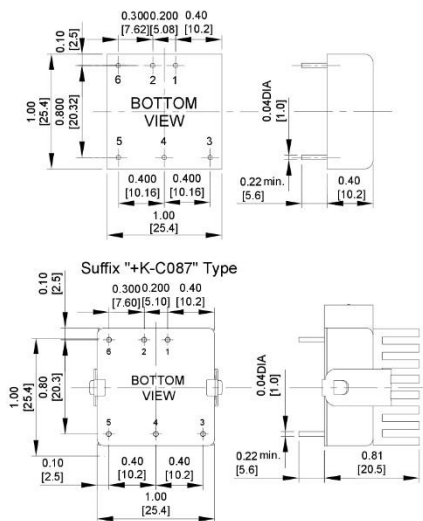
1. Measured from high line to low line.
2. Measured from full load to min. load.
3. The output ripple and noise is measured with 10uF tantalum and 1uF ceramic capacitor across output.
4. Maximum case temperature under any operating condition should not be exceeded 105°C.
5. Suffix "S" to the model number with SMD packages.
6. Suffix "+K-C087" type with heat sink.
7. Others Model refer to application note.



SIZE SB Dimensions:

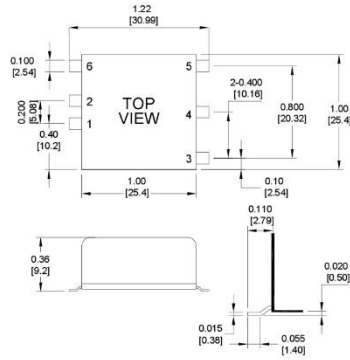
NOTE: Pin Size is 0.04±0.004 Inch (1.0±0.1 mm) DIA.
 All Dimensions In Inches (mm)
 Tolerances Inches: X.XX=±0.02, X.XXX=±0.010
 Millimeters: X.X=±0.5, X.XX=±0.25

THROUGH-HOLE PACKAGE



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

SMD- PACKAGE



EXTERNAL OUTPUT TRIM

