

EC5BU

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
- Conductive EMI Meets EN55022 Class A
- 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		
EC5BU-12S33	9-18 VDC	3.3 VDC	0 mA	4000 mA	90 mA	1280 mA	85	4000uF
EC5BU-12S05		5 VDC	0 mA	3000 mA	85 mA	1453 mA	88	3000uF
EC5BU-12S12		12 VDC	0 mA	1250 mA	70 mA	1420 mA	88	1330uF
EC5BU-12S15		15 VDC	0 mA	1000 mA	70 mA	1420 mA	88	1000uF
EC5BU-12D05		±5 VDC	0 mA	±1500mA	45 mA	1470mA	85	1470uF
EC5BU-12D12		±12 VDC	0 mA	±625mA	45 mA	1436mA	87	660uF
EC5BU-12D15		±15 VDC	0 mA	±500mA	45 mA	1420mA	88	550uF
EC5BU-24S33	18-36 VDC	3.3 VDC	0 mA	4000 mA	50 mA	640 mA	86	4000uF
EC5BU-24S05		5 VDC	0 mA	3000 mA	50 mA	718 mA	89	3000uF
EC5BU-24S12		12 VDC	0 mA	1250 mA	20 mA	695 mA	90	1330uF
EC5BU-24S15		15 VDC	0 mA	1000 mA	20 mA	695 mA	90	1000uF
EC5BU-24D05		±5 VDC	0 mA	±1500mA	25 mA	726 mA	86	1470uF
EC5BU-24D12		±12 VDC	0 mA	±625mA	25 mA	710 mA	88	660uF
EC5BU-24D15		±15 VDC	0 mA	±500mA	25 mA	702 mA	89	550uF
EC5BU-48S33	36-75 VDC	3.3 VDC	0 mA	4000 mA	25 mA	320 mA	86	4000uF
EC5BU-48S05		5 VDC	0 mA	3000 mA	30 mA	359 mA	88	3000uF
EC5BU-48S12		12 VDC	0 mA	1250 mA	20 mA	347 mA	90	1330uF
EC5BU-48S15		15 VDC	0 mA	1000 mA	20 mA	351 mA	90	1000uF
EC5BU-48D05		±5 VDC	0 mA	±1500mA	20 mA	363 mA	86	1470uF
EC5BU-48D12		±12 VDC	0 mA	±625mA	20 mA	355 mA	88	660uF
EC5BU-48D15		±15 VDC	0 mA	±500mA	20 mA	351 mA	89	550uF

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

Specifications

INPUT SPECIFICATIONS:

Input Voltage Range12V.....9-18V
 24V.....18-36V
 48V.....36-75V
 Under voltage lockout12Vin power up: 8.4V, power down: 8V
 24Vin power up: 17V, power down: 16V
 48Vin power up: 34V, power down: 32V
 Input Surge Voltage (100mS max.).....12Vin25Vdc max.
 24Vin 50Vdc max.
 48Vin 100Vdc max.
 Input Filter PI Type

OUTPUT SPECIFICATIONS:

Voltage Accuracy ±1.5% max.
 Voltage Balance (Dual) ±2.0% max.
 Transient Response: 25% Step Load Change <500µ sec.
 Ripple and Noise, 20MHz BW (Measured with 0.1µF MLCC) ... 100mV p-p max.
 Temperature Coefficient ±0.03%/°C max.
 Short Circuit Protection Continuous
 Line Regulation¹..... Single ±0.2% max.
 Dual ±0.5% max.
 Load Regulation² Single ±0.2% max.
 Dual ±1.0% max.
 Cross Regulation (Dual output) Load cross variation 10%/100% ±5% max.
 Over Voltage Protection Zener or TVS Clamp
 Current Limit 110% - 140% Nominal Output
 Start up time 20ms. max.

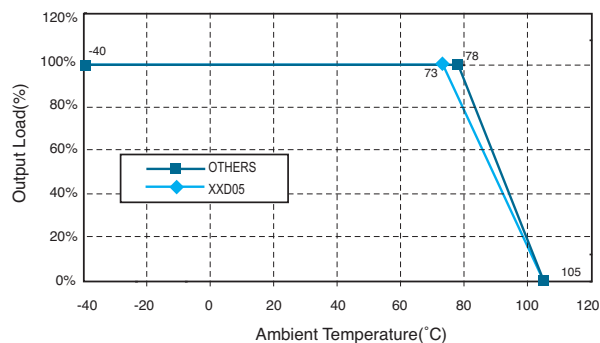
OPTION:

- Suffix "T" to the Model Number With Remote Positive On/Off Control:
 Logic Compatibility ...CMOS or Open Collector TTL, Referenced to -Vin
 Module On >5.5VDC to 75VDC or Open Circuit
 Module Off <1.2VDC
- Suffix "A" to the Model Number with Output Voltage Adjustable
 External Trim Adj. Range $\pm 10\%$. Single Output Models Only

GENERAL SPECIFICATIONS:

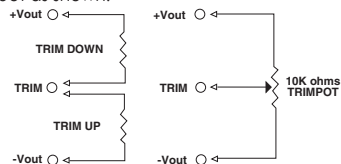
Efficiency See Table
 Isolation Voltage1500 VDC min.
 Isolation Resistance10⁹ Ohms min.
 Isolation Capacitance 1000pF typ.
 Switching Frequency 350KHz typ.
 EMI/RFI Conductive EMI Meets EN55022 Class A
 Case GroundingConnect Case to -Vin with Decoupling Y Cap
 Operating Ambient Temperature Range -40°C to +85°C
 Derating, Above 78°C Linearly to Zero Power at +105°C
 Case Temperature⁴ 105°C
 Cooling Natural Convection
 Storage Temperature Range -55°C to +125°C
 Humidity 95% RH max. Non condensing
 MTBFML-STD-217-F, GB, 25°C, Full Load1200K hrs typ.
 Dimensions 2.00x1.00x0.4 inches (50.8x25.4x10.2mm)
 Case Material Black Coated Copper with Non-Conductive Base
 Weight 35g

EC5BU Series Derating Curve



External Output Trimming

Output may optionally be externally trimmed ($\pm 10\%$) with a fixed resistor or an external trimpot as shown.



NOTE:

- Measured From High Line to Low Line
- Measured From Full Load to min. Load
- Maximum case temperature under any operating condition should Not be exceeded 105°C.

PIN CONNECTION	
Pin	Function
1	+Input
2	-Input
3	+Output
4	Common/NP/Trim(Optional)
5	-V Output
6	NP/Remote(Optional)

*NP-NO PIN ON SINGLE OUTPUT

CASE B

All Dimensions In Inches(mm)
 Tolerances Inches: x.xx= ±0.04, x.xxx= ±0.010
 Millimeters: x.x= ±1, x.xx= ±0.25

