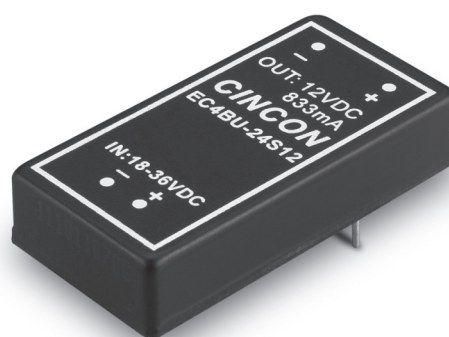


EC4BU

S E R I E S

10 WATT 2:1 INPUT DC-DC CONVERTERS



Features

- 10W Isolated Output
- Efficiency to 87%
- 2:1 Input Range
- Regulated Outputs
- Fixed Switching Frequency
- Input Under Voltage Protection
- Over Current Protection
- Continuous Short Circuit 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		
EC4BU-05S33	4.7-9 VDC	3.3 VDC	0 mA	2500 mA	150 mA	1964 mA	84	2470uF
EC4BU-05S05		5 VDC	0 mA	2000 mA	150 mA	2353 mA	85	2000uF
EC4BU-05S12		12 VDC	0 mA	833 mA	50 mA	2326 mA	87	940uF
EC4BU-05S15		15 VDC	0 mA	666 mA	50 mA	2326 mA	87	690uF
EC4BU-05D05		±5 VDC	0 mA	±1000 mA	50 mA	2353 mA	85	1000uF
EC4BU-05D12		±12 VDC	0 mA	±416 mA	50 mA	2326 mA	87	440uF
EC4BU-05D15		±15 VDC	0 mA	±333 mA	50 mA	2326 mA	87	330uF
EC4BU-12S33	9-18 VDC	3.3 VDC	0 mA	2500 mA	30 mA	838 mA	82	2470uF
EC4BU-12S05		5 VDC	0 mA	2000 mA	30 mA	980 mA	85	2000uF
EC4BU-12S12		12 VDC	0 mA	833 mA	30 mA	957 mA	87	940uF
EC4BU-12S15		15 VDC	0 mA	666 mA	35 mA	956 mA	87	690uF
EC4BU-12D05		±5 VDC	0 mA	±1000mA	45 mA	980mA	85	1000uF
EC4BU-12D12		±12 VDC	0 mA	±416mA	45 mA	957mA	87	440uF
EC4BU-12D15		±15 VDC	0 mA	±333mA	45 mA	957mA	87	330uF
EC4BU-24S33	18-36 VDC	3.3 VDC	0 mA	2500 mA	20 mA	419 mA	82	2470uF
EC4BU-24S05		5 VDC	0 mA	2000 mA	20 mA	490 mA	85	2000uF
EC4BU-24S12		12 VDC	0 mA	833 mA	20 mA	478 mA	87	940uF
EC4BU-24S15		15 VDC	0 mA	666 mA	20 mA	478 mA	87	690uF
EC4BU-24D05		±5 VDC	0 mA	±1000mA	30 mA	490 mA	85	1000uF
EC4BU-24D12		±12 VDC	0 mA	±416mA	25 mA	478 mA	87	440uF
EC4BU-24D15		±15 VDC	0 mA	±333mA	25 mA	478 mA	87	330uF
EC4BU-48S33	36-75 VDC	3.3 VDC	0 mA	2500 mA	20 mA	212 mA	81	2470uF
EC4BU-48S05		5 VDC	0 mA	2000 mA	20 mA	245 mA	85	2000uF
EC4BU-48S12		12 VDC	0 mA	833 mA	20 mA	239 mA	87	940uF
EC4BU-48S15		15 VDC	0 mA	666 mA	20 mA	239 mA	87	690uF
EC4BU-48D05		±5 VDC	0 mA	±1000mA	20 mA	245 mA	85	1000uF
EC4BU-48D12		±12 VDC	0 mA	±416mA	20 mA	239 mA	87	440uF
EC4BU-48D15		±15 VDC	0 mA	±333mA	20 mA	239 mA	87	330uF

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

Specifications

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: 8.4V, power down: 8V	
24Vin power up: 17V, power down: 16V	
48Vin power up: 34V, power down: 32V	
Input Surge Voltage (100ms max.)	5Vin 12Vdc max.
12Vin 25Vdc 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	<500u sec.
Ripple and Noise, 20MHz BW (Measured with 0.1uF MLCC)	100mV p-p max.
Temperature Coefficient	±0.03%/°C max.
Short Circuit Protection	Continuous
Line Regulation ¹	Single ±0.2% max.
Dual ±0.5% max.	
Load Regulation ²	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.

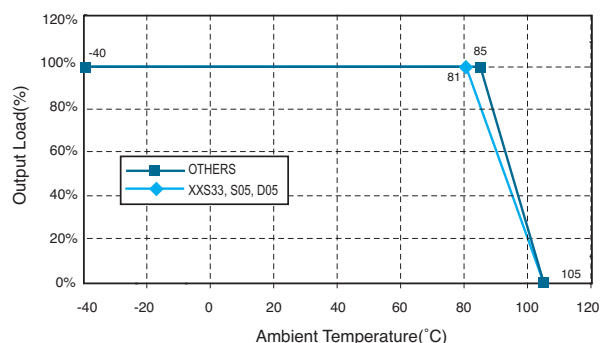
OPTION:

- 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 ≤±10%, Single Output Models Only

GENERAL SPECIFICATIONS:

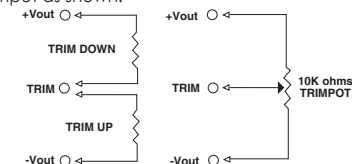
Efficiency	See Table
Isolation Voltage	1500 VDC min.
Isolation Resistance	10 ⁹ Ohms min.
Isolation Capacitance	1000pF typ.
Switching Frequency	350KHz typ.
EMI/RFI	Conductive EMI Meets EN55022 Class A
Case Grounding	Connect Case to -Vin with Decoupling Y Cap
Operating Ambient Temperature Range	-40°C to +85°C
Derating, Above 85°C	Linearly to Zero Power at +105°C
Case Temperature ⁴	105°C
Cooling	Natural Convection
Storage Temperature Range	-55°C to +125°C
Humidity	95% RH max. Non condensing
MTBF	MIL-STD-217-F, GB, 25°C, Full Load 1200k hrs
Dimensions	2.00x1.00x0.4 inches (50.8x25.4x10.2mm)
Case Material	Black Coated Copper with Non-Conductive Base
Weight	35g

EC4BU Series Derating Curve



External Output Trimming

Output may optionally be externally trimmed (±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.

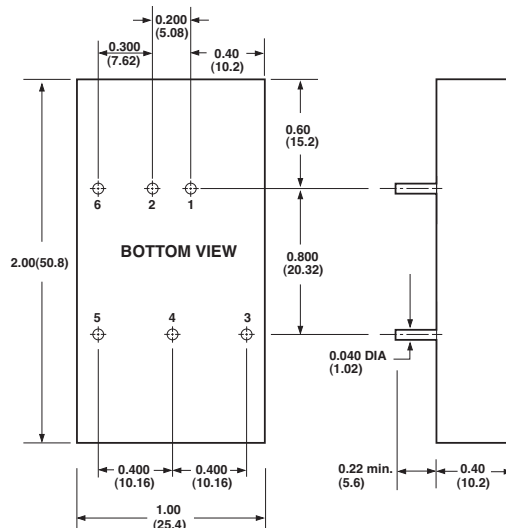
PIN CONNECTION

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)
Tolerance Inches: xx= ±.04, .xxx= ±.010
Millimeters: .x= ±1.0, .xx= ±0.25



Mouser Electronics

Authorized Distributor

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Cincon:

<u>EC4BU-05D05</u>	<u>EC4BU-05D12</u>	<u>EC4BU-05D15</u>	<u>EC4BU-05S05</u>	<u>EC4BU-05S12</u>	<u>EC4BU-05S15</u>	<u>EC4BU-05S33</u>
<u>EC4BU-12D05</u>	<u>EC4BU-12D12</u>	<u>EC4BU-12D15</u>	<u>EC4BU-12S05</u>	<u>EC4BU-12S12</u>	<u>EC4BU-12S15</u>	<u>EC4BU-12S33</u>
<u>EC4BU-24D05</u>	<u>EC4BU-24D12</u>	<u>EC4BU-24D15</u>	<u>EC4BU-24S05</u>	<u>EC4BU-24S12</u>	<u>EC4BU-24S15</u>	<u>EC4BU-24S33</u>
<u>EC4BU-48D05</u>	<u>EC4BU-48D12</u>	<u>EC4BU-48D15</u>	<u>EC4BU-48S05</u>	<u>EC4BU-48S12</u>	<u>EC4BU-48S15</u>	<u>EC4BU-48S33</u>