



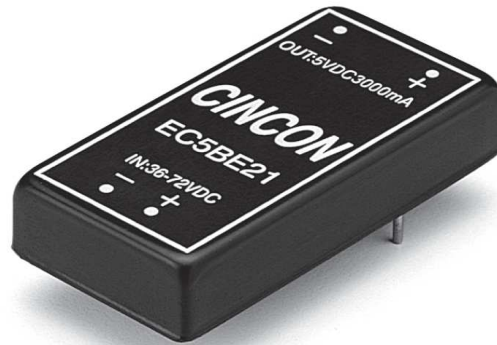
# EC5BE SERIES

## 15 WATT 2:1 INPUT RANGE DC-DC CONVERTERS



### FEATURES

- \* 15W Isolated Output
- \* 2" X 1" Six-Sided Shield Metal Case
- \* Efficiency to 83%
- \* 2:1 Input Range
- \* Pi Input Filter
- \* Continuous Short Circuit Protection
- \* Meets EN55032 Class A, Conducted
- \* Remote On/Off Control (Option)
- \* UL60950-1 Approval
- \* 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		
EC5BE01	9-18 VDC	5 VDC	0 mA	3000 mA	20 mA	1602 mA	78	3000uF
EC5BE02	9-18 VDC	12 VDC	0 mA	1250 mA	20 mA	1524 mA	82	1250uF
EC5BE03	9-18 VDC	15 VDC	0 mA	1000 mA	20 mA	1524 mA	82	1000uF
EC5BE04	9-18 VDC	±12 VDC	0 mA	±625 mA	30 mA	1506 mA	83	625uF
EC5BE05	9-18 VDC	±15 VDC	0 mA	±500 mA	30 mA	1506 mA	83	500uF
EC5BE06	9-18 VDC	±5 VDC	0 mA	±1500 mA	30 mA	1563 mA	80	1500uF
EC5BE07	9-18 VDC	3.3 VDC	0 mA	3000 mA	20 mA	1086 mA	76	3000uF
EC5BE11	18-36 VDC	5 VDC	0 mA	3000 mA	20 mA	780 mA	80	3000uF
EC5BE12	18-36 VDC	12 VDC	0 mA	1250 mA	20 mA	762 mA	82	1250uF
EC5BE13	18-36 VDC	15 VDC	0 mA	1000 mA	20 mA	762 mA	82	1000uF
EC5BE14	18-36 VDC	±12 VDC	0 mA	±625 mA	25 mA	755 mA	83	625uF
EC5BE15	18-36 VDC	±15 VDC	0 mA	±500 mA	25 mA	755 mA	83	500uF
EC5BE16	18-36 VDC	±5 VDC	0 mA	±1500 mA	25 mA	772 mA	81	1500uF
EC5BE17	18-36 VDC	3.3 VDC	0 mA	3000 mA	20 mA	543 mA	76	3000uF
EC5BE21	36-72 VDC	5 VDC	0 mA	3000 mA	15 mA	391 mA	80	3000uF
EC5BE22	36-72 VDC	12 VDC	0 mA	1250 mA	15 mA	377 mA	83	1250uF
EC5BE23	36-72 VDC	15 VDC	0 mA	1000 mA	15 mA	377 mA	83	1000uF
EC5BE24	36-72 VDC	±12 VDC	0 mA	±625 mA	20 mA	377 mA	83	625uF
EC5BE25	36-72 VDC	±15 VDC	0 mA	±500 mA	20 mA	377 mA	83	500uF
EC5BE26	36-72 VDC	±5 VDC	0 mA	±1500 mA	20 mA	381 mA	82	1500uF
EC5BE27	36-72 VDC	3.3 VDC	0 mA	3000 mA	15 mA	271 mA	76	3000uF

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

# SPECIFICATIONS

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

## INPUT SPECIFICATIONS:

Input Voltage Range	12V	9-18V
	24V	18-36V
	48V	36-72V
Input Surge Voltage (100ms max.)	12V	25Vdc max.
	24V	50Vdc max.
	48V	100Vdc max.
Input Filter	Pi Type	

## OUTPUT SPECIFICATIONS:

Voltage Accuracy	±1.0% max.
Voltage Balance (Dual)	±1.0% max.
Transient Response	
Single 25% Step Load Change	<500u sec.
Dual FL-1/2L±1% Error Band	<500u sec.
Ripple and Noise, 20MHz BW	75mV p-p max.
Temperature Coefficient	±0.02%/°C max.
Short Circuit Protection	Continuous
Line Regulation (note1)	±0.2% max.
Load Regulation (note2)	±1.0% max.
Start up time	20ms typ. (for EC5BE21, EC5BE27)

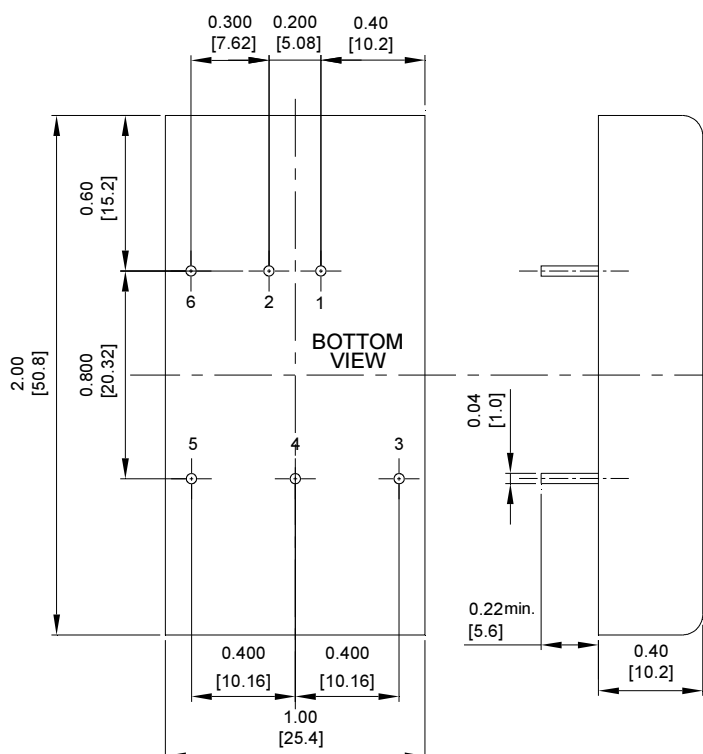
## OPTION:

- Suffix "T" to the Model Number with Remote On/Off Remote On/Off Control:
  - Logic Compatibility ..... COMS or Open Collector TTL
  - EC-On ..... >+5.5VDC or Open Circuit
  - EC-Off ..... 0 to <1.8VDC
  - Control Common ..... Referenced to Input Minus
- Suffix "A" to the Model Number with Output Voltage Adjustable External Trim Adj. Range ≥±10%, Single Output Only

## NOTE:

- Measured from high line to low line.
- Measured from full load to 1/4 load.
- Maximum case temperature under any operating condition should not be exceeded 100°C.

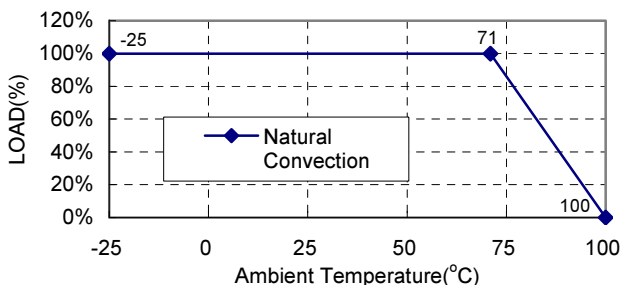
## Case B Dimensions:



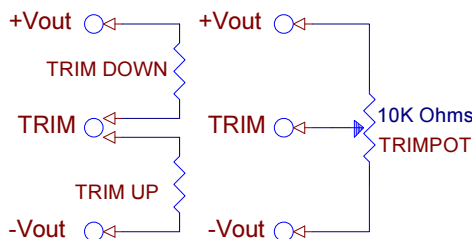
## GENERAL SPECIFICATIONS:

Efficiency	See Table
Isolation Voltage	500 VDC min
Isolation Resistance	10 <sup>8</sup> Ohms min.
Isolation Capacitance	500pF typ.
Switching Frequency	300KHz typ.
Operating Ambient Temperature Range	-25°C to +71°C
De-rating, Above 71°C	Linearly to Zero Power at 100°C
Case Temperature (note 3)	100°C max.
Storage Temperature Range	-40°C to +100°C
Humidity	95% RH max. Non Condensing
MTBF	MIL-HDBK-217F, GB, 25°C, Full Load ..... 1500Khrs typ.
EMI/RFI	Six Sided Continuous Shield
Dimensions	2.00x1.00x0.40 inches (50.8x25.4x10.2 mm)
Case Material	Black Coated Copper with Non-Conductive Base
Weight	32g

Typical Derating curve for Natural Convection



## EXTERNAL OUTPUT TRIM



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

\*NP-NO PIN ON SINGLE OUTPUT  
 NOTE: Pin Size is 0.04±0.004 Inch (1.0±0.1 mm)DIA  
 All Dimensions in Inches (mm)  
 Tolerances Inches: XXX±0.04, XXXX±0.010  
 Millimeters: XX±1.0, XXX±0.25