



# EC3AB SERIES

## 3 WATT 2:1 INPUT RANGE

### DC-DC CONVERTERS



H/HM Versions Only

## FEATURES

- \* 3W Isolated Output
- \* DIP-24/SMD Package
- \* Efficiency to 80%
- \* Regulated Outputs
- \* Pi Input Filter
- \* Continuous Short Circuit Protection
- \* Meets EN55032 Class B Conducted
- \* Remote On/Off (Option)
- \* Safety Meets IEC/EN/UL 62368-1



MODEL NUMBER <sup>(1)</sup>	INPUT VOLTAGE <sup>(2)</sup>	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		% EFF. <sup>(3)</sup>	CASE
				NO LOAD	FULL LOAD		
EC3AB11□	9-18 VDC	5 VDC	600 mA	7.5 mA	329 mA	76	DIP-24
EC3AB12□	9-18 VDC	12 VDC	250 mA	7.5 mA	316 mA	79	DIP-24
EC3AB13□	9-18 VDC	15 VDC	200 mA	7.5 mA	321 mA	78	DIP-24
EC3AB14□	9-18 VDC	±5 VDC	±300 mA	12 mA	329 mA	76	DIP-24
EC3AB15□	9-18 VDC	±12 VDC	±125 mA	12 mA	325 mA	77	DIP-24
EC3AB16□	9-18 VDC	±15 VDC	±100 mA	12 mA	329 mA	76	DIP-24
EC3AB17□	9-18 VDC	3.3 VDC	600 mA	7.5 mA	229 mA	72	DIP-24
EC3AB21□	18-36 VDC	5 VDC	600 mA	5 mA	162 mA	77	DIP-24
EC3AB22□	18-36 VDC	12 VDC	250 mA	5 mA	156 mA	80	DIP-24
EC3AB23□	18-36 VDC	15 VDC	200 mA	5 mA	156 mA	80	DIP-24
EC3AB24□	18-36 VDC	±5 VDC	±300 mA	7.5 mA	164 mA	76	DIP-24
EC3AB25□	18-36 VDC	±12 VDC	±125 mA	7.5 mA	156 mA	80	DIP-24
EC3AB26□	18-36 VDC	±15 VDC	±100 mA	7.5 mA	162 mA	77	DIP-24
EC3AB27□	18-36 VDC	3.3 VDC	600 mA	5 mA	111 mA	74	DIP-24
EC3AB31□	36-72 VDC	5 VDC	600 mA	2 mA	81 mA	77	DIP-24
EC3AB32□	36-72 VDC	12 VDC	250 mA	2 mA	81 mA	77	DIP-24
EC3AB33□	36-72 VDC	15 VDC	200 mA	2 mA	81 mA	77	DIP-24
EC3AB34□	36-72 VDC	±5 VDC	±300 mA	3 mA	80 mA	78	DIP-24
EC3AB35□	36-72 VDC	±12 VDC	±125 mA	3 mA	82 mA	76	DIP-24
EC3AB36□	36-72 VDC	±15 VDC	±100 mA	3 mA	82 mA	76	DIP-24
EC3AB37□	36-72 VDC	3.3 VDC	600 mA	3 mA	58 mA	71	DIP-24

### NOTE:

1. □ Can be None, M, H, HM, MS, HMS, HT, HMT or HMTS.
2. Nominal Input Voltage 12, 24 or 48 VDC
3. Typical Value at Nominal Input Voltage and Full Load

# 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

Positive Logic Remote On/Off (See note6)

Input Filter ..... Pi Type

## OUTPUT SPECIFICATIONS:

Voltage Accuracy	±2.0% max.
Voltage Balance (Dual)	±1.0% max.
Temperature Coefficient	±0.05%/°C max.
Ripple & Noise, 20MHz BW	3.3V/5V ..... 100mV pk-pk max.
	12V/15V ..... 1% pk-pk max.
Short Circuit Protection	Continuous
Line Regulation Single/Dual (note1)	±0.5% max.
Load Regulation (note2) Single	±0.5% max.
	Dual (note3) ..... ±1.0% max.

## GENERAL SPECIFICATIONS:

Efficiency	See Table
Isolation Resistance	10 <sup>9</sup> Ohm min.
Switching Frequency	100KHz min.
Operating Ambient Temperature Range	-25°C to +71°C
De-rating, Above 71°C (Plastic Case)	Linearly to Zero Power at 95°C
De-rating, Above 71°C (Copper Case)	Linearly to Zero Power at 100°C
Case Temperature (Plastic Case note8)	95°C max.
	(Copper Case note8) ..... 100°C max.
Cooling	Natural Convection
Storage Temperature Range	-40°C to +100°C
EMI/RFI	Conductive EMI Meet EN55032 Class B
Dimensions	DIP ..... 1.25x0.80x0.50 inches (31.8x20.3x12.7 mm)
	SMD ..... 1.25x0.80x0.55 inches (31.8x20.3x14.0 mm)

## ISOLATION VOLTAGE:

500 VDC min.	Standard Models
3K VDC min. (note4)	Suffix "H" Models
1.5K VDC min.	Suffix "HM" Models

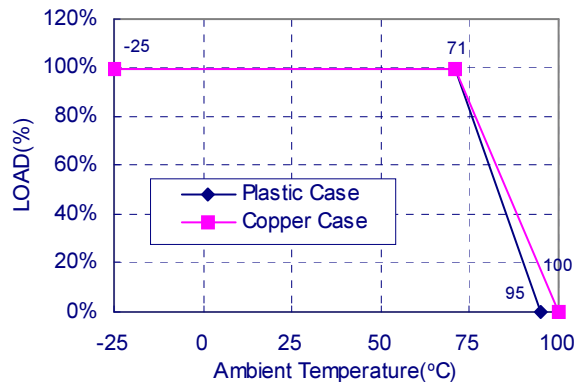
## CASE MATERIAL:

Standard Models	Non-Conductive Black Plastic
Suffix "M" Models	Black Coated Copper with Non-Conductive Base

## NOTE:

- Measured from high line to low line.
- Measured from full load to 10% load.
- Measured from full load to 1/4 load.
- Non-conductive black plastic only.
- Suffix "T" to the model number with remote on/off for "H"/"HM" versions only.
- Logic Compatibility ..... CMOS or open collector TTL, ref. to -Vin  
Module on ..... >5.5VDC or open circuit  
Module off ..... 0 to <1.8Vdc  
Shutdown idle ..... 10mA  
Control common ..... referenced to input minus
- Suffix "S" to the model number with SMD packages.
- Maximum case temperature under any operating condition should not be exceeded 95°C (plastic case), 100°C (copper case).

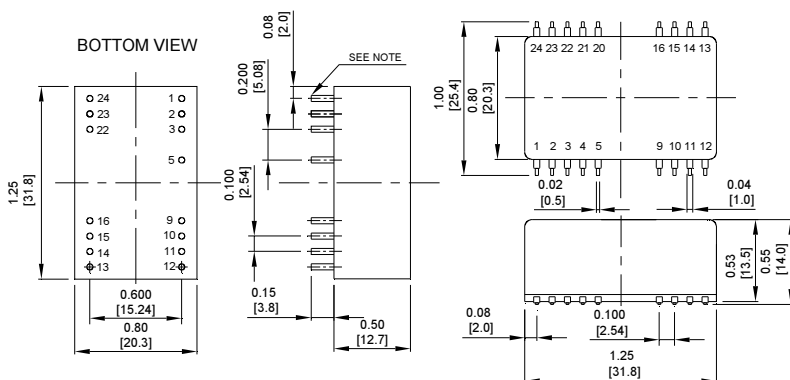
Typical Derating curve for Natural Convection



## Case A Dimensions:

### CASE AS

#### TOP VIEW



NOTE: Pin Size is 0.02±0.002 Inch (0.5±0.05 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

#### PIN CONNECTION

Pin	500 VDC				1.5K & 3K VDC				
	Single Output		Dual Output		Pin	Single Output		Dual Output	
	DIP	SMD	DIP	SMD		DIP	SMD	DIP	SMD
1,24	+V Input		+V Input		1,24	NP	NC	NP	NC
2,23	NC		-V Output		2,3	-V Input		-V Input	
3,22	NC		Common		4	NP	NC	NP	NC
4	NP	NC	NP	NC	5	NP/ Remote On/Off	NC/ Remote On/Off	NP/ Remote On/Off	NC/ Remote On/Off
5	NP	NC	NP	NC	9	NC		Common	
9	NP	NC	NP	NC	10,15	NC		NC	
10,15	-V Output		Common		11	NC		-V Output	
11,14	+V Output		+V Output		12,13	NP	NC	NP	NC
12,13	-V Input		-V Input		14	+V Output		+V Output	
16	NP	NC	NP	NC	16	-V Output		Common	
20	NP	NC	NP	NC	20,21	NP	NC	NP	NC
21	NP	NC	NP	NC	22,23	+V Input		+V Input	

\* NC-NO CONNECTION WITH PIN  
\* NP-NO PIN  
\* Remote On/Off (Option)