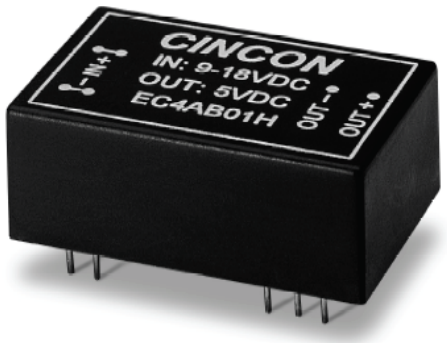
EC4AB SERIES

5-6 WATT 2:1 INPUT RANGE DC-DC CONVERTERS

E176177 H/HM Versions Only



FEATURES

* 5-6W Isolated Output
* DIP-24/SMD Package
* Efficiency to 84%
* 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(1)	INPUT VOLTAGE(2)	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		% EFF.(3)	CASE
				NO LOAD	FULL LOAD		
EC4AB01☐	9-18VDC	5VDC	1000 mA	7.5 mA	548 mA	76	DIP-24
EC4AB02☐	9-18VDC	12VDC	470 mA	7.5 mA	588 mA	80	DIP-24
EC4AB03☐	9-18VDC	15VDC	400 mA	7.5 mA	617 mA	81	DIP-24
EC4AB04☐	9-18VDC	±12VDC	±230 mA	12 mA	568 mA	81	DIP-24
EC4AB05☐	9-18VDC	±15VDC	±190 mA	12 mA	586 mA	81	DIP-24
EC4AB06☐	9-18VDC	±5VDC	±500 mA	12 mA	548 mA	76	DIP-24
EC4AB07☐	9-18VDC	3.3VDC	1000 mA	7.5 mA	382 mA	72	DIP-24
EC4AB11☐	18-36VDC	5VDC	1000 mA	5 mA	264 mA	79	DIP-24
EC4AB12☐	18-36VDC	12VDC	470 mA	5 mA	283 mA	83	DIP-24
EC4AB13☐	18-36VDC	15VDC	400 mA	5 mA	298 mA	84	DIP-24
EC4AB14☐	18-36VDC	±12VDC	±230 mA	7.5 mA	284 mA	81	DIP-24
EC4AB15☐	18-36VDC	±15VDC	±190 mA	7.5 mA	290 mA	82	DIP-24
EC4AB16☐	18-36VDC	±5VDC	±500 mA	7.5 mA	264 mA	79	DIP-24
EC4AB17☐	18-36VDC	3.3VDC	1000 mA	5 mA	188 mA	73	DIP-24
EC4AB21☐	36-72VDC	5VDC	1000 mA	2 mA	132 mA	79	DIP-24
EC4AB22☐	36-72VDC	12VDC	470 mA	2 mA	143 mA	82	DIP-24
EC4AB23☐	36-72VDC	15VDC	400 mA	2 mA	154 mA	81	DIP-24
EC4AB24☐	36-72VDC	±12VDC	±230 mA	3 mA	142 mA	81	DIP-24
EC4AB25☐	36-72VDC	±15VDC	±190 mA	3 mA	148 mA	80	DIP-24
EC4AB26☐	36-72VDC	±5VDC	±500 mA	3 mA	132 mA	79	DIP-24
EC4AB27☐	36-72VDC	3.3VDC	1000 mA	3 mA	94 mA	73	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℃ 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%/℃ 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 ..... 10^9 Ohm min.
Switching Frequency ..... 100KHz min.
Operating Ambient Temperature Range ..... -25℃ to +71℃
De-rating, Above 71℃ (Plastic Case) ..... Linearly to Zero Power at 95℃
De-rating, Above 71℃ (Copper Case) ..... Linearly to Zero Power at 100℃
Case Temperature (Plastic case note 8) ..... 95℃ max.
(Copper case note 8) ..... 100℃ max.
Cooling ..... Natural Convection
Storage Temperature Range ..... -40℃ to +100℃
EMI/RFI ..... Conductive EMI Meet EN55032 Class B
Dimensions ..... DIP ..... 1.25×0.80x0.50 inches (31.8x20.3×12.7 mm)
SMD ..... 1.25×0.80x0.55 inches (31.8x20.3×14.0 mm)
Weight 15g

ISOLATION VOLTAGE:

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

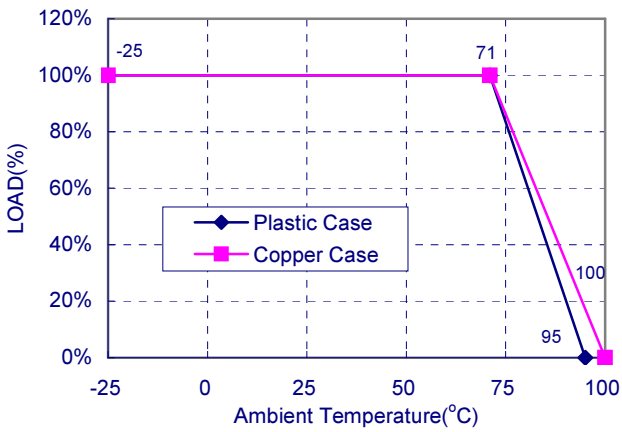
CASE MATERIAL:

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

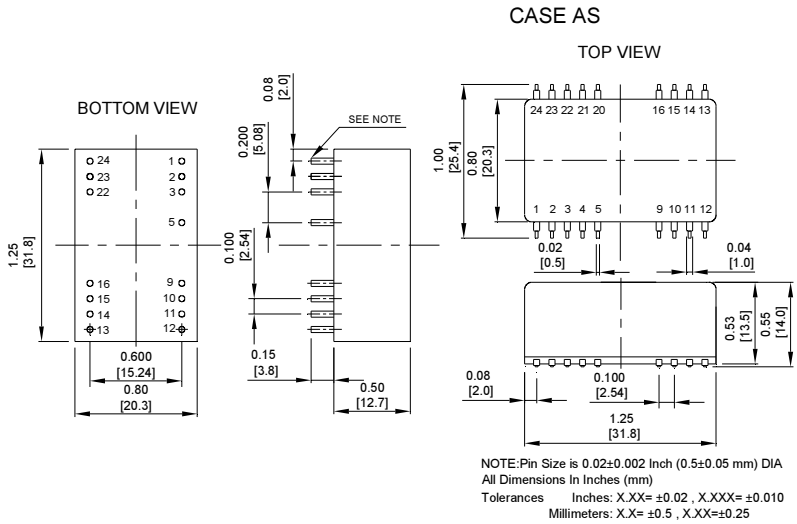
NOTE:

1. Measured from high line to low line.
2. Measured from full load to 10% load.
3. Measured from full load to 1/4 load.
4. Non-conductive black plastic only.
5. Suffix "T" to the model number with remote on/off for "H"/"HM" versions only.
6. 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
7. Suffix "S" to the model number with SMD packages.
8. Maximum case temperature under any operating condition should not be exceeded 95℃ (plastic case),100℃ (copper case).

Typical Derating curve for Natural Convection



Case A Dimensions:



PIN CONNECTION									
	500 VDC					1.5K & 3K VDC			
Pin	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)