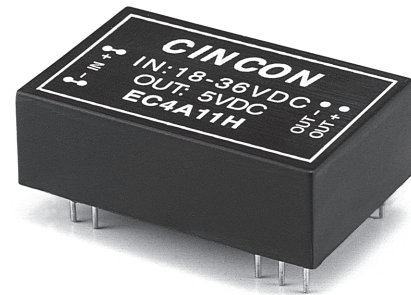


# EC4A

S E R I E S

## 5-6 WATT DC-DC CONVERTERS



### Features

- 5-6W Isolated Output
- DIP-24 / SMD Package
- Regulated Outputs
- Efficiency to 84%
- Pi Input Filter
- Continuous Short Circuit Protection

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		% EFF.	CASE
				NO LOAD	FULL LOAD		
EC4A01	9-18 VDC	5 VDC	1000 mA	7.5 mA	541 mA	77	DIP-24
EC4A02		12 VDC	470 mA	7.5 mA	573 mA	82	
EC4A03		15 VDC	400 mA	7.5 mA	625 mA	80	
EC4A04		±12 VDC	±230 mA	12 mA	554 mA	83	
EC4A05		±15 VDC	±190 mA	12 mA	556 mA	81	
EC4A06		±5 VDC	±500 mA	12 mA	541 mA	77	
EC4A07		3.3 VDC	1000 mA	7.5 mA	382 mA	72	
EC4A11	18-36 VDC	5 VDC	1000 mA	5 mA	260 mA	80	DIP-24
EC4A12		12 VDC	470 mA	5 mA	280 mA	84	
EC4A13		15 VDC	400 mA	5 mA	298 mA	84	
EC4A14		±12 VDC	±230 mA	7.5 mA	280 mA	82	
EC4A15		±15 VDC	±190 mA	7.5 mA	293 mA	81	
EC4A16		±5 VDC	±500 mA	7.5 mA	260 mA	80	
EC4A17		3.3 VDC	1000 mA	5 mA	186 mA	74	
EC4A21	36-72 VDC	5 VDC	1000 mA	2 mA	132 mA	79	DIP-24
EC4A22		12 VDC	470 mA	2 mA	142 mA	83	
EC4A23		15 VDC	400 mA	2 mA	154 mA	81	
EC4A24		±12 VDC	±230 mA	3 mA	142 mA	81	
EC4A25		±15 VDC	±190 mA	3 mA	147 mA	81	
EC4A26		±5 VDC	±500 mA	3 mA	130 mA	80	
EC4A27		3.3 VDC	1000 mA	2 mA	93 mA	74	

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

### Specifications

#### INPUT SPECIFICATIONS:

Input Voltage Range.....	12V.....	9-18V
	24V.....	18-36V
	48V.....	36-72V
Input Filter.....	Pi Type	

#### OUTPUT SPECIFICATIONS:

Voltage Accuracy.....	±2.0% max.	
Voltage Balance (Dual).....	±1.0% max.	
Temperature Coefficient.....	±0.05%/°C	
Ripple and Noise, 20MHz BW.....	3.3V/5V.....	100mV p-p max.
	12V/15V.....	1% p-p max.
Short Circuit Protection.....	Continuous	
Line Regulation, Single/Dual.....	± 0.5% max.	
Load Regulation, Single <sup>2</sup> .....	± 0.5% max.	
Dual <sup>3</sup> .....	± 1.0% max.	

#### GENERAL SPECIFICATIONS:

Efficiency.....	See Table	
Isolation Resistance.....	10 <sup>9</sup> Ohms	
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 <sup>4</sup> ) .....	95°C max	
(Copper case <sup>5</sup> ) .....	100°C max	
Cooling .....	Natural Convection	
Storage Temperature Range.....	-40°C to + 100°C	
Dimensions.....DIP.....	1.25 x 0.80 x 0.40 inches(31.8 x 20.3 x 10.2mm)	
	SMD.....1.25 x 0.80 x 0.45 inches(31.8 x 20.3 x 11.4mm)	
Weight.....	12.5g	

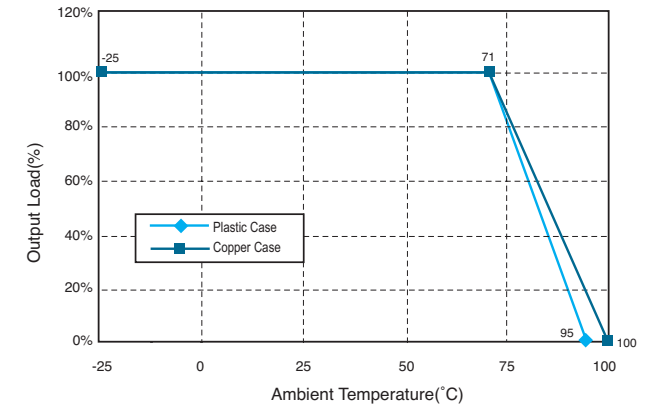
#### ISOLATION VOLTAGE:

500 VDC min.....	Standard Models	
3K VDC min <sup>6</sup> .....	Suffix "H" Models	
15K VDC min.....	Suffix "HM" Models	

#### CASE MATERIAL:

Standard Models.....	Non-Conductive Black Plastic	
Suffix "M" Models <sup>5</sup> .....	Black Coated Copper with Non-Conductive Base	

### EC4A Series Derating Curve



#### 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 "S" to the Model Number with SMD packages
6. Maximum case temperature under any operating condition should not exceed 95°C (Plastic Case), 100°C (Copper Case).

### PIN CONNECTION

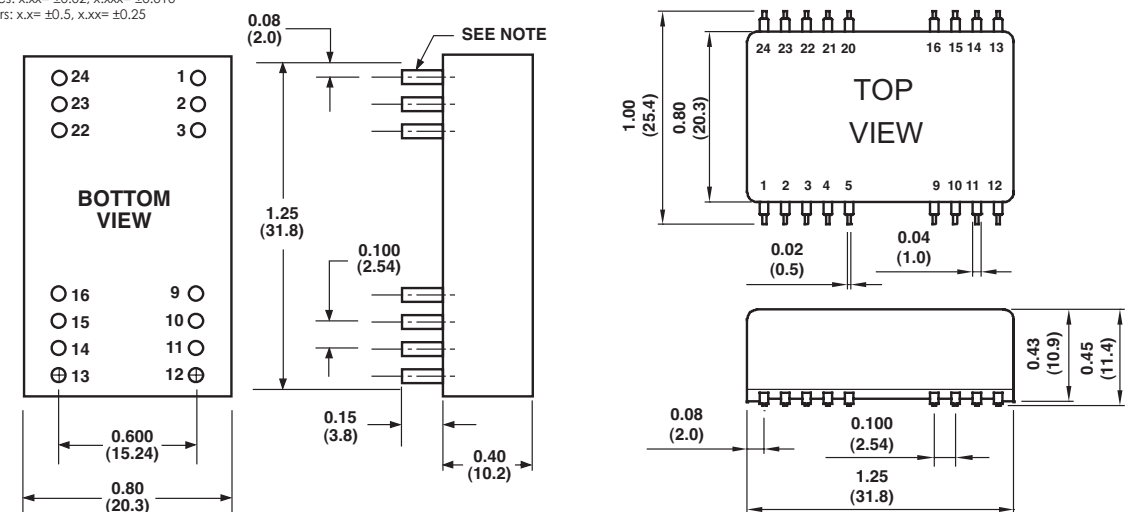
Pin	500 VDC				1.5K & 3K VDC				
	Single Output		Dual Output		Single Output		Dual Output		
	DIP	SMD	DIP	SMD	DIP	SMD	DIP	SMD	
1,24	+V Input	+V Input	+V Input	+V Input	1,24	NP	NC	NP	NC
2,23	NC	-V Output	-V Output	-V Output	2,3	-V Input	-V Input	-V Input	-V Input
3,22	NC	Common	Common	Common	4,5	NP	NC	NP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

\*NP-NO PIN

\*NC-NO CONNECTION WITH PIN

### CASE A

NOTE: Pin Size is 0.02" Inch (0.5mm) DIA  
All Dimensions In Inches(mm)  
Tolerance Inches: x.xx= ±0.02, x.xxx= ±0.010  
Millimeters: x.x= ±0.5, x.xx= ±0.25



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