



# EC4AW-H6 SERIES

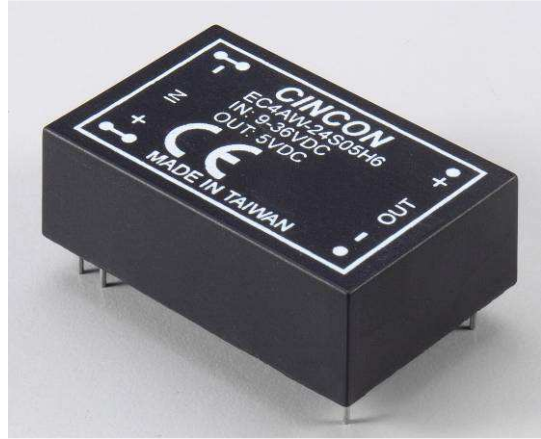
## 5-6 WATT

### DC-DC CONVERTERS



## FEATURES

- \* 5-6W Isolated Output
- \* DIP-24 Package
- \* Regulated Outputs
- \* Efficiency to 85%
- \* Continuous Short Circuit Protection
- \* I/O Isolation Voltage 6000VDC
- \* Reinforced Insulation Rated For Working Voltage 300VAC
- \* 5 uA Leakage Current
- \* EMI Meets EN55022 Class A
- \* Safety Meets UL60950-1 and UL60601-1
- \* CE Mark Meets 2004/108/EC



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.		CAPACITOR LOAD MAX.
			MIN.(4)	MAX.	NO LOAD	FULL LOAD	(2)	(3)	
EC4AW-24S05H6	9-36 VDC	5 VDC	100 mA	1000 mA	10 mA	260 mA	81	80	1000uF
EC4AW-24S12H6	9-36 VDC	12 VDC	50 mA	500 mA	10 mA	295 mA	85.5	85	500uF
EC4AW-24D12H6	9-36 VDC	±12 VDC	25 mA	±250 mA	15 mA	298 mA	84.5	84	250uF
EC4AW-24D15H6	9-36 VDC	±15 VDC	20 mA	±200 mA	15 mA	298 mA	84.5	84	200uF
EC4AW-48S05H6	18-72 VDC	5 VDC	100 mA	1000 mA	5 mA	130 mA	81	80	1000uF
EC4AW-48S12H6	18-72 VDC	12 VDC	50 mA	500 mA	5 mA	149 mA	85	84	500uF
EC4AW-48D12H6	18-72 VDC	±12 VDC	25 mA	±250 mA	8 mA	150 mA	84	83	250uF
EC4AW-48D15H6	18-72 VDC	±15 VDC	20 mA	±200 mA	8 mA	149 mA	85	84	200uF

NOTE: 1. Nominal Input Voltage 24 or 48VDC

2. Measured at 12VDC for 24Vin Models, 24VDC for 48Vin Models

3. Measured at Nominal Input Voltage

4. Operation Under Minimum Load Will not Damage The Converter, But It May not Meet All Specifications

# SPECIFICATIONS

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

## INPUT SPECIFICATIONS:

Input Voltage Range.....	24Vin .....	9-36V
	48Vin .....	18-72V
Under Voltage Protection .....	24Vin power up .....	8.8V typ.
	24Vin power down .....	8V typ.
	48Vin power up .....	17V typ.
	48Vin power down .....	16V typ.
Leakage Current .....		5uA max.
Input Filter .....		Pi Type
Input Surge (100ms max.) .....	24Vin .....	50V max.
	48Vin .....	100V max.

## OUTPUT SPECIFICATIONS:

Voltage Accuracy .....		±1.5% max.
Voltage Balance (Dual) .....		±2.0% max.
Transient Response: 75% - 100% Step Load Change		
Error Band .....		±6% Vout nominal
Recovery Time .....		< 500us
Ripple & Noise, 20MHz BW (with 0.1uF MLCC) ....	5V .....	100mV pk-pk max.
	12V/15V ...	1% pk-pk max.
Temperature Coefficient .....		±0.05%/°C
Line Regulation (note1) .....		±0.5% max.
Load Regulation .....	Single (note2) .....	±0.5% max.
	Dual (note3) .....	±1.0% max.
Cross Regulation(Dual output) Load cross variation 25%/100% ....		±5% max.
Output Short Circuit Protection .....		Continuous
Start up time .....		1.5ms typ.

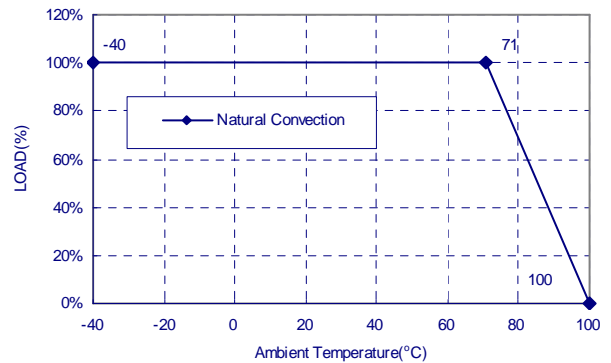
## GENERAL SPECIFICATIONS:

Efficiency .....	See Table
Isolation Voltage .....	6000VDC min.
Isolation Resistance .....	10 <sup>9</sup> ohm min.
Isolation Capacitance .....	40pF typ.
Reinforced Insulation .....	Creepage Distances .....
	Air Clearances .....
Switching Frequency .....	100KHz min.
Operating Ambient Temperature .....	-40°C to +71°C
De-rating, Above 71°C .....	Linearly to Zero power at 100°C
Case Temperature (note4) .....	100°C max.
Storage Temperature .....	-40°C to +100°C
EMI .....	Conductive EMI Meet EN55022 Class A
Humidity .....	95% RH max. Non condensing
MTBF .....	MIL-STD-217-F, GB, 25°C, Full Load .....
	T.B.D hrs
Dimensions .....	1.25x0.80x0.40 inches (31.8x20.3x10.2 mm)
Case Material .....	Non-Conductive Black Plastic
Weight .....	T.B.D g

## NOTE:

1. Measured from high line to low line.
2. Measured from full load to 10% load.
3. Measured from full load to 25% load.
4. Maximum case temperature under any operating condition should not be exceeded 100°C.

Typical Derating curve for Natural Convection



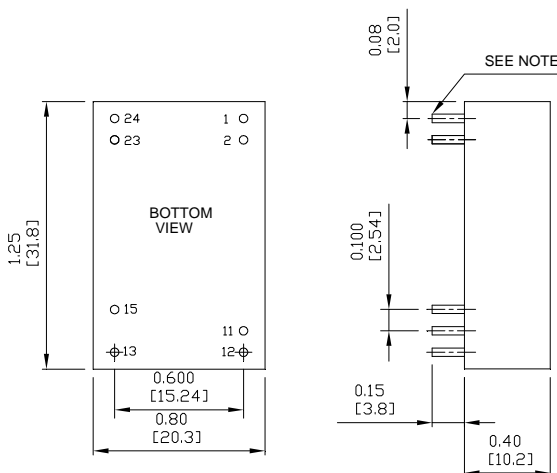
## Case A Dimensions:

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	Single Output	Dual Output
1	+V Input	+V Input
2	+V Input	+V Input
11	NP	Common
12	-V Output	NP
13	+V Output	-V Output
15	NP	+V Output
23	-V Input	-V Input
24	-V Input	-V Input

\* NC-NO CONNECTION WITH PIN  
\* NP-NO PIN