



# EC2SANH SERIES

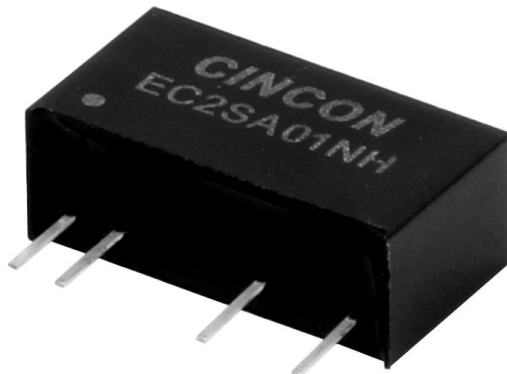
## 2WATT, UNREGULATED OUTPUT

### DC-DC CONVERTERS



### FEATURES

- \* Industry Standard SIP-7 Packages
- \* Efficiency up to 88%
- \* 3000VDC Isolation
- \* Unregulated Outputs
- \* Industry Standard Pinout
- \* No Tantalum Capacitors inside



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		% EFF.	CAPACITOR LOAD MAX.
				NO LOAD	FULL LOAD		
EC2SA01NH	5 VDC	5 VDC	400 mA	40 mA	488 mA	82	220uF
EC2SA02NH	5 VDC	12 VDC	167 mA	50 mA	477 mA	84	220uF
EC2SA03NH	5 VDC	15 VDC	134 mA	55 mA	473 mA	85	220uF
EC2SA04NH	5 VDC	±12 VDC	±83 mA	50 mA	469 mA	85	100uF
EC2SA05NH	5 VDC	±15 VDC	±67 mA	45 mA	462 mA	87	100uF
EC2SA06NH	5 VDC	±5 VDC	±200 mA	40 mA	482 mA	83	100uF
EC2SA11NH	12 VDC	5 VDC	400 mA	20 mA	203 mA	82	220uF
EC2SA12NH	12 VDC	12 VDC	167 mA	20 mA	192 mA	87	220uF
EC2SA13NH	12 VDC	15 VDC	134 mA	20 mA	193 mA	87	220uF
EC2SA14NH	12 VDC	±12 VDC	±83 mA	20 mA	193 mA	86	100uF
EC2SA15NH	12 VDC	±15 VDC	±67 mA	20 mA	193 mA	87	100uF
EC2SA16NH	12 VDC	±5 VDC	±200 mA	20 mA	198 mA	84	100uF
EC2SA21NH	24 VDC	5 VDC	400 mA	10 mA	102 mA	82	220uF
EC2SA22NH	24 VDC	12 VDC	167 mA	10 mA	96 mA	87	220uF
EC2SA23NH	24 VDC	15 VDC	134 mA	10 mA	95 mA	88	220uF
EC2SA24NH	24 VDC	±12 VDC	±83 mA	10 mA	96 mA	87	100uF
EC2SA25NH	24 VDC	±15 VDC	±67 mA	10 mA	95 mA	88	100uF
EC2SA26NH	24 VDC	±5 VDC	±200 mA	10 mA	100 mA	83	100uF

NOTE:

1. Nominal Input Voltage 5, 12 or 24 VDC
2. An External Input Capacitor 1uF tantalum for 24Vin Models are recommended to Reduce Input Ripple Voltage.

# SPECIFICATIONS

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

## INPUT SPECIFICATIONS :

Input Voltage Range .....	±10%
Input Surge Voltage (100ms max.) .....	5V ..... 9Vdc max.
	12V ..... 18Vdc max.
	24V ..... 30Vdc max.
Input Filter (note 5) .....	Capacitive

## OUTPUT SPECIFICATIONS :

Voltage Accuracy .....	±3.0% max.
Voltage Balance (Dual) .....	±1.0% max.
Ripple and Noise, 20MHz BW (note 3) .....	200mV pk-pk max.
Temperature Coefficient .....	±0.05%/°C max.
Short Circuit Protection.....	Continuous, Self-Recovery
Line Regulation (note 1) .....	±1.2% max.
Load Regulation (note 2) .....	±10% max.

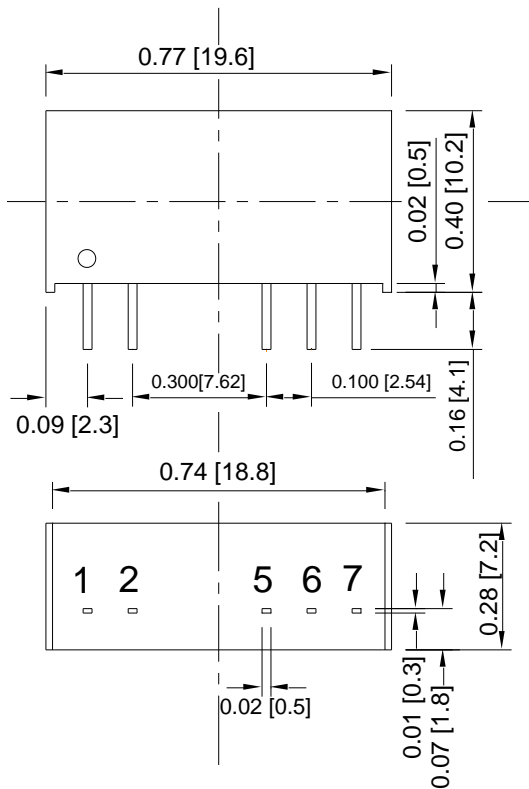
## NOTE:

1. Line regulation is per 1.0% change in input voltage.
2. Load regulation is for load change from 100% to 20%.
3. The output noise is measured with 0.33uF ceramic capacitor.
4. Maximum case temperature under any operating condition should not be exceeded 120°C.
5. The EC2SA2XNH input terminal need to parallel with 1uF tantalum capacitor.

## CASE SIP-7 Dimensions:

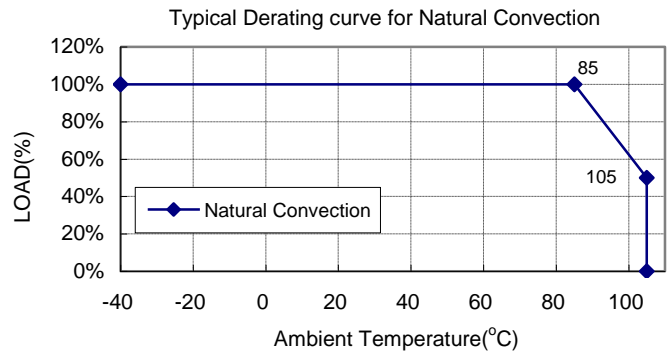
All Dimensions In Inches(mm)

Tolerance	Inches	Millimeters
	X.XX±0.01	X.X±0.25
	X.XXX±0.005	X.XX±0.13
Pin	±0.002	±0.05



## GENERAL SPECIFICATIONS :

Efficiency .....	See Table
Isolation Voltage .....	3000 VDC min.
Isolation Resistance .....	10 <sup>9</sup> ohm min.
Isolation Capacitance .....	18 pF typ.
Switching Frequency .....	60KHz typ.
Operating Ambient Temperature Range .....	-40°C to +105°C
De-rating, Above 85°C .....	See Derating Curve
Case temperature (note 4) .....	+120°C max.
Cooling .....	Natural Convection
Storage Temperature Range .....	-55°C to +125°C
Humidity .....	95% RH max. Non condensing
MTBF ..... MIL-HDBK-217F, GB .....	3.3Mhrs min.
Dimensions .....	0.77x0.28x0.40 inches(19.6x7.2x10.2 mm)
Case Material .....	Non-conductive black plastic
Weight .....	2.7g



PIN CONNECTION		
Pin	Single Output	Dual Output
1	+V Input	+V Input
2	-V Input	-V Input
5	-V Output	-V Output
6	No Pin	Common
7	+V Output	+V Output

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