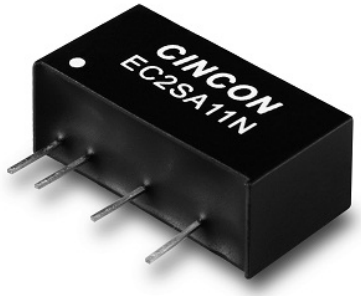
EC2SAN SERIES

2WATT, UNREGULATED OUTPUT DC-DC CONVERTERS



FEATURES

* Industry Standard SIP Packages
* Efficiency up to 86%
* 1000VDC Isolation
* Low Cost
* 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		
EC2SA01N	5 VDC	5 VDC	400 mA	60 mA	488 mA	82	470uF
EC2SA02N	5 VDC	12 VDC	167 mA	60 mA	466 mA	86	470uF
EC2SA03N	5 VDC	15 VDC	134 mA	60 mA	473 mA	85	470uF
EC2SA04N	5 VDC	±12 VDC	±83 mA	60 mA	463 mA	86	470uF
EC2SA05N	5 VDC	±15 VDC	±67 mA	60 mA	467 mA	86	470uF
EC2SA06N	5 VDC	±5 VDC	±200 mA	60 mA	482 mA	83	470uF
EC2SA11N	12 VDC	5 VDC	400 mA	40 mA	203 mA	82	470uF
EC2SA12N	12 VDC	12 VDC	167 mA	40 mA	201 mA	83	470uF
EC2SA13N	12 VDC	15 VDC	134 mA	40 mA	199 mA	84	470uF
EC2SA14N	12 VDC	±12 VDC	±83 mA	40 mA	202 mA	82	470uF
EC2SA15N	12 VDC	±15 VDC	±67 mA	40 mA	199 mA	84	470uF
EC2SA16N	12 VDC	±5 VDC	±200 mA	40 mA	203 mA	82	470uF
EC2SA21N	24 VDC	5 VDC	400 mA	20 mA	105 mA	79	470uF
EC2SA22N	24 VDC	12 VDC	167 mA	20 mA	103 mA	81	470uF
EC2SA23N	24 VDC	15 VDC	134 mA	20 mA	102 mA	82	470uF
EC2SA24N	24 VDC	±12 VDC	±83 mA	20 mA	102 mA	81	470uF
EC2SA25N	24 VDC	±15 VDC	±67 mA	20 mA	102 mA	82	470uF
EC2SA26N	24 VDC	±5 VDC	±200 mA	20 mA	105 mA	79	470uF

NOTE: 1. Nominal Input Voltage 5, 12 or 24 VDC

SPECIFICATIONS

All Specifications Typical At Nominal Line, Full Load, and 25℃ 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 ..... Capacitive

OUTPUT SPECIFICATIONS :

Voltage Accuracy ..... ±3.0% max.
Voltage Balance (Dual) ..... ±1.0% max.
Ripple and Noise, 20MHz BW ..... 150mV pk-pk max.
Single output, 5V ..... 100mVpk-pk max.
Temperature Coefficient ..... ±0.05%/℃ max.
Short Circuit Protection..... Momentary 1sec. max.
Line Regulation (note1) ..... ±1.2% max.
Load Regulation (note2) ..... ±10% max.

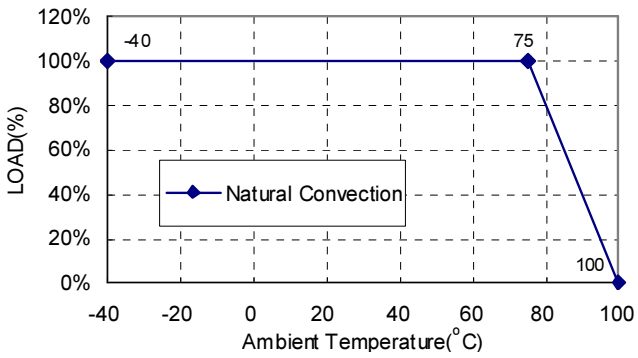
GENERAL SPECIFICATIONS :

Efficiency ..... See Table
Isolation Voltage ..... 1000 VDC min.
Isolation Resistance ..... 10^9 ohm min.
Isolation Capacitance ..... 15 pF typ.
Switching Frequency ..... 80KHz typ.
Operating Ambient Temperature Range ..... -40℃ to +85℃
De-rating, Above 75℃ ..... Linearly to Zero power at 100℃
Case temperature (note4) ..... +100℃ max.
Cooling ..... Natural Convection
Storage Temperature Range ..... -55℃ to +125℃
Humidity ..... 95% RH max. Non condensing
MTBF ..... MIL-STD-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

NOTE:

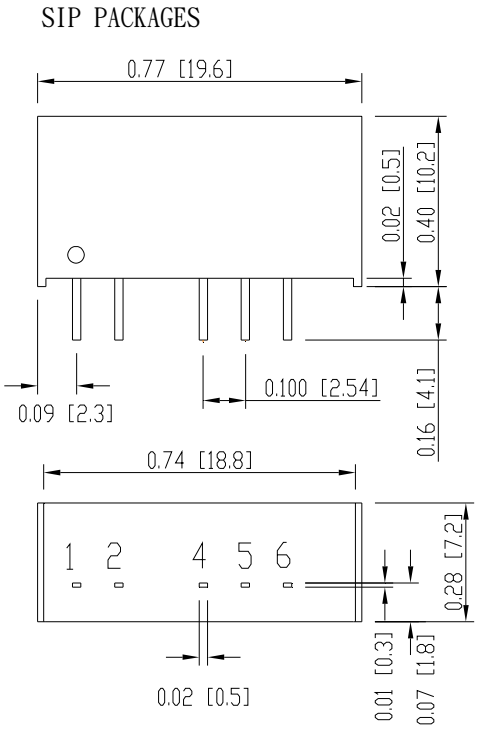
1. Line regulation is per 1.0% change in input voltage.
2. Load regulation is for load change from 100% to 20%.
3. The output noise is measured with 0.33uF ceramic capacitor.
4. Maximum case temperature under any operating condition should not be exceeded 100℃.
5. The EC2SA2XN input terminal need to parallel with 10uF ceramic capacitor.

Typical Derating curve for Natural Convection



Dimensions:

CASE SIP-7



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

PIN CONNECTION		
Pin	Single Output	Dual Output
1	+Vin	+Vin
2	-Vin	-Vin
4	-Vout	-Vout
5	No Pin	Common
6	+Vout	+Vout