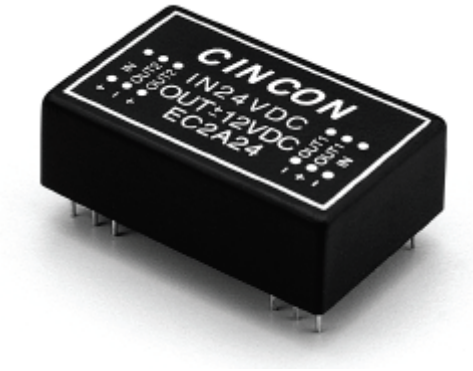
EC2A SERIES
1.5 WATT
DC-DC CONVERTERS

FEATURES

* 1.5W Output Power
* DIP-24/SMD Package
* Efficiency to 50%
* Regulated Outputs
* PI Input Filter
* Low Ripple and Noise



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		CASE
				NO LOAD	FULL LOAD	
EC2A01	5 VDC	5 VDC	300 mA	110 mA	620 mA	DIP-24
EC2A02	5 VDC	12 VDC	125 mA	110 mA	550 mA	DIP-24
EC2A03	5 VDC	15 VDC	100 mA	110 mA	550 mA	DIP-24
EC2A04	5 VDC	±12 VDC	±60 mA	110 mA	550 mA	DIP-24
EC2A05	5 VDC	±15 VDC	±50 mA	110 mA	550 mA	DIP-24
EC2A11	12 VDC	5 VDC	300 mA	40 mA	260 mA	DIP-24
EC2A12	12 VDC	12 VDC	125 mA	40 mA	215 mA	DIP-24
EC2A13	12 VDC	15 VDC	100 mA	40 mA	215 mA	DIP-24
EC2A14	12 VDC	±12 VDC	±60 mA	40 mA	215 mA	DIP-24
EC2A15	12 VDC	±15 VDC	±50 mA	40 mA	215 mA	DIP-24
EC2A21	24 VDC	5 VDC	300 mA	20 mA	130 mA	DIP-24
EC2A22	24 VDC	12 VDC	125 mA	20 mA	115 mA	DIP-24
EC2A23	24 VDC	15 VDC	100 mA	20 mA	115 mA	DIP-24
EC2A24	24 VDC	±12 VDC	±60 mA	20 mA	115 mA	DIP-24
EC2A25	24 VDC	±15 VDC	±50 mA	20 mA	115 mA	DIP-24
EC2A31	28 VDC	5 VDC	300 mA	20 mA	110 mA	DIP-24
EC2A32	28 VDC	12 VDC	125 mA	20 mA	100 mA	DIP-24
EC2A33	28 VDC	15 VDC	100 mA	20 mA	100 mA	DIP-24
EC2A34	28 VDC	±12 VDC	±60 mA	20 mA	100 mA	DIP-24
EC2A35	28 VDC	±15 VDC	±50 mA	20 mA	100 mA	DIP-24
EC2A41	48 VDC	5 VDC	300 mA	15 mA	65 mA	DIP-24
EC2A42	48 VDC	12 VDC	125 mA	15 mA	60 mA	DIP-24
EC2A43	48 VDC	15 VDC	100 mA	15 mA	60 mA	DIP-24
EC2A44	48 VDC	±12 VDC	±60 mA	15 mA	60 mA	DIP-24
EC2A45	48 VDC	±15 VDC	±50 mA	15 mA	60 mA	DIP-24

SPECIFICATIONS

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

INPUT SPECIFICATIONS:

Input Voltage Range ..... ±10%
Input Filter ..... PI Type

OUTPUT SPECIFICATIONS:

Voltage Accuracy ..... ±4.0% max.
Temperature coefficient ..... ±0.02%/℃
Ripple & Noise, 20MHz BW ..... 50mV pk-pk max.
Short Circuit Protection ..... Momentary
Line Regulation ..... ±0.3%
Load Regulation ..... ±0.5%

GENERAL SPECIFICATIONS:

Efficiency 50%
Isolation Capacitance 30pF
Isolation Resistance ..... 10^9 ohm
Switching Frequency ..... 20KHz 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 2) ..... 95℃ max.
(Copper case note 2) ..... 100℃ max.
Cooling ..... Natural Convection
Storage Temperature Range ..... -40℃ to +100℃
Dimensions ..... DIP ..... 1.25×0.80x0.40 inches (31.8x20.3×10.2mm)
SMD ..... 1.25×0.80x0.45 inches (31.8x20.3×11.4mm)
Weight 12.5g

ISOLATION VOLTAGE:

500 VDC min. ..... Standard Models
3KVDC min. ..... Suffix “H” Models
1.5KVDC min. ..... Suffix “HM” Models

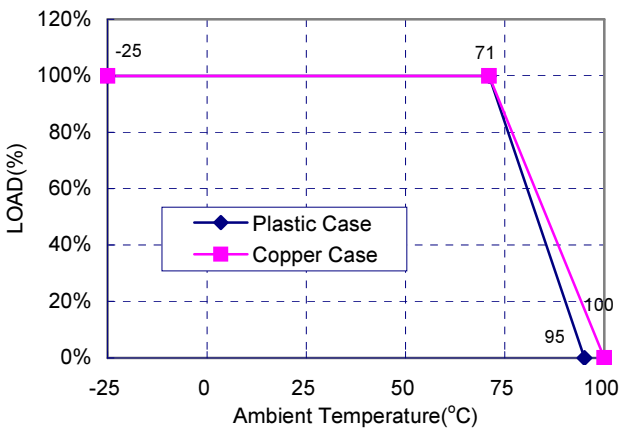
CASE MATERIAL:

Standard Models ..... Non-Conductive Black Plastic
Suffix “M” Models ..... Black Coated Copper with Non-conductive Base

NOTE:

1. Suffix “S” to the Model Number with SMD packages.
2. Maximum case temperature under any operating condition should not be exceeded 95℃(Plastic Case), 100℃(Copper Case).

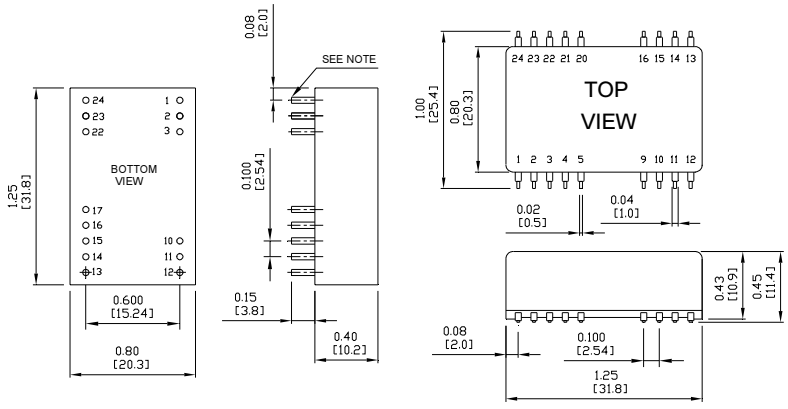
Typical Derating curve for Natural Convection



Case A Dimensions:

NOTE:Pin Size is 0.02" Inch (0.5mm) DIA ±0.05
All Dimensions In Inches (mm)
Tolerances Inches: X.XX= ±0.02 , X.XXX= ±0.010
Millimeters: X.X= ±0.5 , X.XX=±0.25

CASE AS



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		1,2,3	+V Input		+V Input	
2,23	NC		-V Output		22,23,24	-V Input		-V Input	
3,22	NC		Common		4	NP	NC	NP	NC
4,5	NP	NC	NP	NC	5	NP	NC	NP	NC
9	NP	NC	NP	NC	9	NP	NC	NP	NC
10	-V Output		Common		10,11	NP	NC	Common	
11	+V Output		+V Output		12	-V Output		-TP	
12,13	-V Input		-V Input		13	+V Output		-V Output	
14	+V Output		+V Output		14	NP	NC	NP	NC
15	-V Output		Common		15	NP	NC	+V Output	
16	NP	NC	NP	NC	16	NP	NC	+TP	
17	NP		NP		17	+TP	NP	NP	
20,21	NP	NC	NP	NC	20,21	NP	NC	NP	NC

* NP-NO PIN
* NC-NO CONNECTION WITH PIN
* TP-TEST POINT