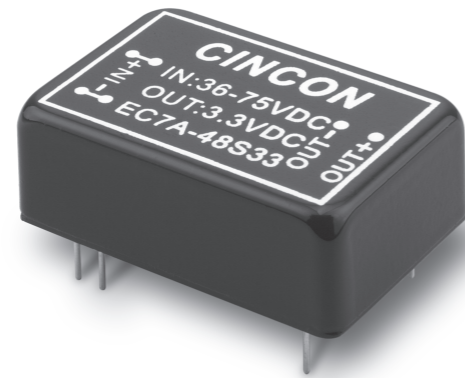


# EC7A

S E R I E S

## 10 WATT DC-DC CONVERTERS



### Features

- 10W Isolated Output
- Efficiency to 89%
- DIP-24 / SMD Package
- Pi Input Filter
- Regulated Outputs
- Continuous Short Circuit Protection

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	CASE
			MIN.	MAX.	NO LOAD	FULL LOAD		
EC7A-12S25	9-18 VDC	2.5 VDC	0 mA	3000 mA	40 mA	735 mA	85	DIP-24
EC7A-12S33		3.3 VDC	0 mA	3000 mA	50 mA	971 mA	85	
EC7A-12S05		5 VDC	0 mA	2000 mA	60 mA	947 mA	88	
EC7A-12S12		12 VDC	0 mA	835 mA	40 mA	949 mA	88	
EC7A-12S15		15 VDC	0 mA	666 mA	40 mA	946 mA	88	
EC7A-12D12		±12 VDC	42 mA	±416 mA	30 mA	956 mA	87	
EC7A-12D15		±15 VDC	33 mA	±333 mA	30 mA	968 mA	86	
EC7A-24S25	18-36 VDC	2.5 VDC	0 mA	3000 mA	30 mA	368 mA	85	DIP-24
EC7A-24S33		3.3 VDC	0 mA	3000 mA	30 mA	480 mA	86	
EC7A-24S05		5 VDC	0 mA	2000 mA	30 mA	473 mA	88	
EC7A-24S12		12 VDC	0 mA	835 mA	30 mA	469 mA	89	
EC7A-24S15		15 VDC	0 mA	666 mA	30 mA	473 mA	88	
EC7A-24D12		±12 VDC	42 mA	±416 mA	20 mA	467 mA	89	
EC7A-24D15		±15 VDC	33 mA	±333 mA	20 mA	478 mA	87	
EC7A-48S25	36-75 VDC	2.5 VDC	0 mA	3000 mA	15 mA	184 mA	85	DIP-24
EC7A-48S33		3.3 VDC	0 mA	3000 mA	15 mA	243 mA	85	
EC7A-48S05		5 VDC	0 mA	2000 mA	15 mA	237 mA	88	
EC7A-48S12		12 VDC	0 mA	835 mA	15 mA	235 mA	89	
EC7A-48S15		15 VDC	0 mA	666 mA	15 mA	237 mA	88	
EC7A-48D12		±12 VDC	42 mA	±416 mA	10 mA	236 mA	88	
EC7A-48D15		±15 VDC	33 mA	±333 mA	10 mA	242 mA	86	

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

### Specifications

#### INPUT SPECIFICATIONS:

Input Voltage Range.....	12V.....9-18V
	24V.....18-36V
	48V.....36-75V
Under Voltage lockout.....	12Vin Power Up.....8.8V
	12Vin Power Down.....8V
	24Vin Power Up.....17V
	24Vin Power Down.....16V
	48Vin Power Up.....34V
	48Vin Power Down.....32V
Input Filter.....	Pi Type

#### OUTPUT SPECIFICATIONS:

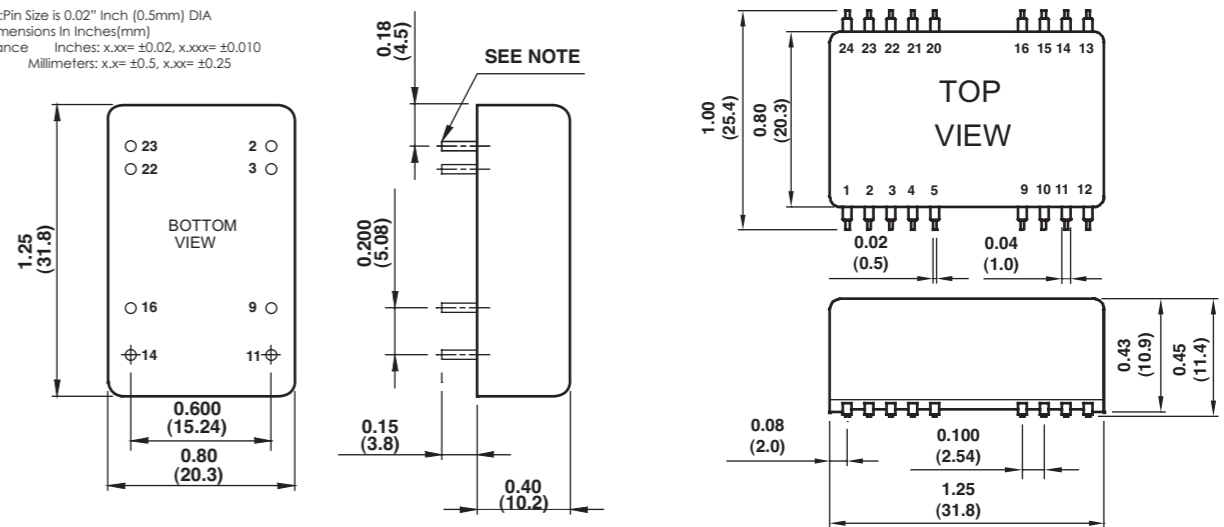
Voltage Accuracy.....	±1.5% max.
Voltage Balance (Dual).....	±2.0% max.
Transient Response:75%-100% Step Load Change	
Error Band.....	±5% Vout Nominal
Recovery Time.....	< 300us
Ripple and Noise, 20MHz BW.....	Single.....75mV pk-pk, max.
	Dual.....100mV pk-pk, max.
Temperature Coefficient.....	±0.05%/°C
Line Regulation <sup>1</sup> .....	Single.....± 0.2% max.
	Dual.....± 0.5% max.
Load Regulation <sup>2</sup> .....	Single.....DIP±0.5% max., SMD± 1.0% max.
	Dual.....± 1.0% max.
Output Short Circuit Protection.....	Continuous
Over Voltage Protection (Zener Diode Clamp, Single Output Only)	
2.5V, 3.3V.....	3.9VDC Typ.
5V.....	6.2VDC Typ., 12V.....15VDC Typ.
15V.....	18VDC Typ.

#### GENERAL SPECIFICATIONS:

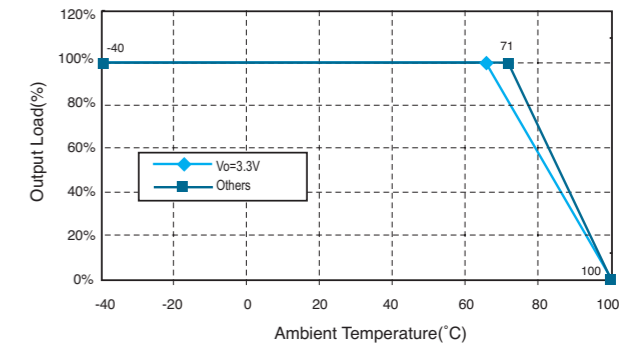
Efficiency.....	See Table
Isolation Voltage.....	Input/Output.....1500VDC min.
Isolation Resistance.....	10 <sup>9</sup> Ohm min.
Switching Frequency.....	380KHz, Typical
Operating Ambient Temperature.....	-40°C to + 85°C
De-rating, Above 71°C.....	Linearly to Zero Power at 100°C
Case Temperature <sup>4</sup> .....	100°C max
Cooling.....	Natural Convection
Storage Temperature.....	-40°C to + 125°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)
Case Material.....	Black Coated Copper with Non-Conductive Base
Weight.....	18.4g

### 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



### EC7A Series Derating Curve



#### NOTE:

1. Measured From High Line to Low Line
2. Measured From Full Load to 10% Load
3. Suffix "S" to the Model Number with SMD packages
4. Maximum case temperature under any operating condition should not exceed 100°C.

### PIN CONNECTION

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

\*NP-NO PIN

\*NC-NO CONNECTION WITH PIN

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