EC7A SERIES

10 WATT DC-DC CONVERTERS

E176177

RoHS

Features

- 10W Isolated Output
- DIP-24 / SMD Package
- Regulated Outputs
- Efficiency to 89%
- Pi Input Filter
- 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 VDC5	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

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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

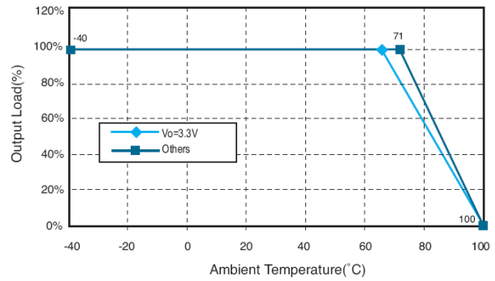
OUTPUT SPECIFICATIONS:

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[1].....Single.....± 0.2% max.
Dual.....± 0.5% max.
Load Regulation[2].....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.....10⁹ Ohm min.
Switching Frequency.....380KHz, Typical
Operating Ambient Temperature.....-40ºC to + 85ºC
De-rating, Above 71ºC.....Linearly to Zero Power at 100ºC
Case Temperature[4].....100°C max
Cooling.....Natural Convection
Storage Temperature.....-40ºC to + 125ºC
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

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.

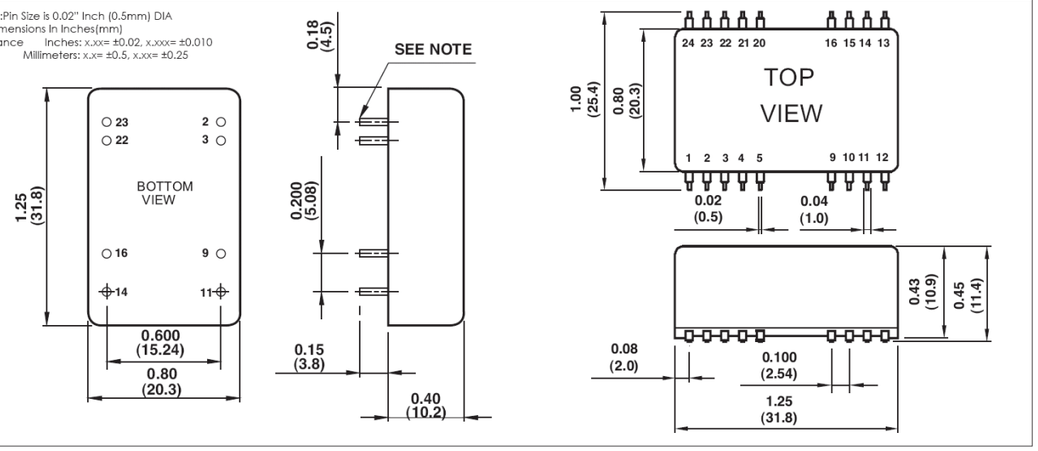
PIN CONNECTION

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*

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



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

EC7A