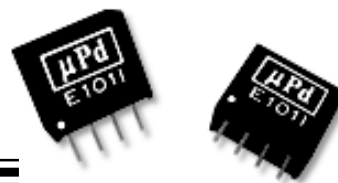




MicroPower Direct



1W, Ultra-Miniature SIP
High Isolation, Single Output
DC/DC Converters
E100I Series

Key Features

- 3,000 VDC Isolation
- 1W Output Power
- 5V, 12V, 24V Inputs
- Ultra-Miniature SIP Package
- High Efficiency
- Low Cost

Electrical Specifications

Specifications typical @ +25°C with nominal input voltage & rated output current, unless otherwise noted. Specifications subject to change without notice.

Input

Parameter	Conditions	Min.	Typ.	Max.	Units
Input Voltage Range	5 VDC Input	4.5	5.0	5.5	VDC
	12 VDC Input	10.8	12.0	13.2	
	24 VDC Input	21.6	24.0	26.4	
Input Filter	Internal Capacitor				

Output

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage Accuracy			±1.0	±5.0	%
Line Regulation	For Vin Change of 1%		±1.2		%
Load Regulation	For Iout = 20% to 100%		±8.0		%
Ripple & Noise (20 MHz)				50	mV P-P
Temperature Coefficient			±0.01	±0.02	%/°C
Output Short Circuit				0.5	Sec.

General

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage	60 Seconds	3,000			VDC
Isolation Resistance	1,000 VDC	1,000			MΩ
Isolation Capacitance	100 kHz, 1V		60		pF
Switching Frequency			80		kHz

Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range		-40	+25	+85	°C
Storage Temperature Range		-55		+125	°C
Cooling	Free Air Convection				
Humidity	RH, Non-condensing			95	%

Physical

Case Size	0.46 x 0.24 x 0.40 inches (11.7 x 6.1 x 10.2 mm)
Case Material	Non-Conductive Black Plastic
Weight (24V Input)	0.06 Oz (1.8g)

Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL HDBK 217F, 25°C, Gnd Benign		2.7		MHours

Absolute Maximum Ratings

Parameter	Conditions	Min.	Typ.	Max.	Units
Input Voltage Surge (1 sec)	5 VDC Input	-0.7		9.0	VDC
	12 VDC Input	-0.7		18.0	
	24 VDC Input	-0.7		30.0	
Internal Power Dissipation	All Models			450	mW

Caution: Exceeding these values can damage the unit. These are not continuous operating specifications.

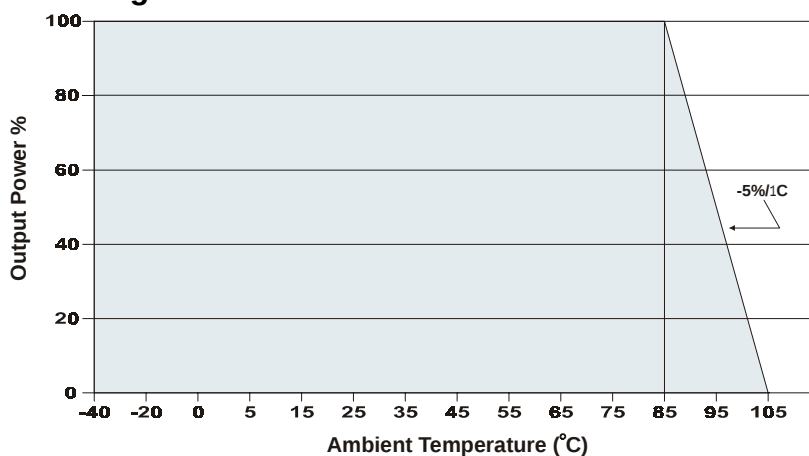
Model Selection Guide

Model Number	Input				Output			Load Regulation (% , Max)	Efficiency (% , Typ)	Fuse Rating Slow-Blow (mA)
	Voltage (VDC)		Current (mA)		Voltage (VDC)	Current (mA, Max)	Current (mA, Min)			
	Nominal	Range	Full-Load	No-Load						
E101I	5	4.5 - 5.5	257	20	5.0	200.0	20.0	11	78	500
E102I	5	4.5 - 5.5	257	20	9.0	110.0	11.0	8	78	500
E103I	5	4.5 - 5.5	308	20	12.0	100.0	10.0	7	79	500
E104I	5	4.5 - 5.5	250	20	15.0	66.0	7.0	6	80	500
E111I	12	10.8 - 13.2	107	16	5.0	200.0	20.0	9	78	200
E112I	12	10.8 - 13.2	107	16	9.0	110.0	11.0	5	80	200
E113I	12	10.8 - 13.2	125	16	12.0	100.0	10.0	5	80	200
E114I	12	10.8 - 13.2	105	16	15.0	66.0	7.0	4	80	200
E121I	24	21.6 - 26.4	55	16	5.0	200.0	20.0	8	76	100
E122I	24	21.6 - 26.4	55	16	9.0	110.0	11.0	5	74	100
E123I	24	21.6 - 26.4	67	16	12.0	100.0	10.0	4	75	100
E124I	24	21.6 - 26.4	57	16	15.0	66.0	7.0	4	76	100

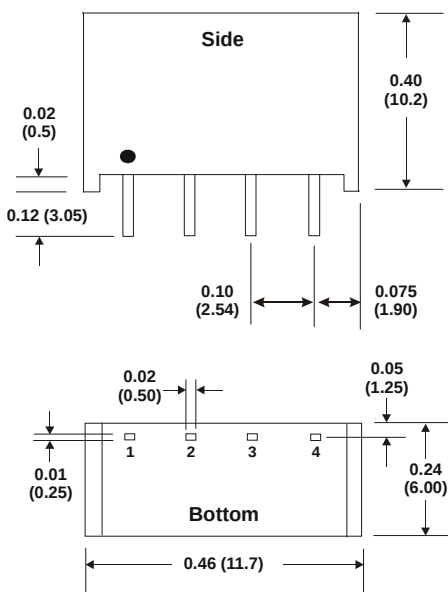
Notes:

- Load regulation is measured for an output load change of 20% to 100%.
- For applications requiring lower output ripple levels, the addition of a simple LC filter circuit externally will provide good results. Using component values of 4.7 μ H and 4.7 μ F will lower output ripple significantly.

Derating Curve



Mechanical Dimensions



Pin Connections

Pin	Description
1	-Vin
2	+Vin
3	-Vout
4	+Vout

Notes:

All dimensions are typical in inches (mm)

Tolerance x.xx = ± 0.01 (± 0.25)

Pin 1 is marked by a "dot" or indentation on the front of the unit

NC = No Connection



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