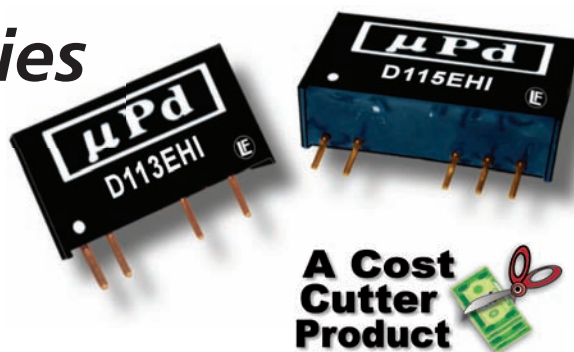


D100EHI Series

Low Cost, Miniature SIP 1W, Very High Isolation DC/DC Converters



Key Features:

- 1W Output Power
- 6,000 VDC Isolation
- 7 Pin SIP Case
- 5V and 12V Inputs
- Single & Dual Outputs
- 16 Standard Models
- 3.5 MH MTBF
- **LOWEST COST!!**



RoHS Compliant

MicroPower Direct

292 Page Street
Suite D
Stoughton, MA 02072
USA

T: (781) 344-8226
F: (781) 344-8481
E: sales@micropowerdirect.com
W: www.micropowerdirect.com



Electrical Specifications

Specifications typical @ +25°C, 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	
Input Filter	Internal Capacitor				
Short Circuit Input Power				1,500	mW

Output

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage Accuracy			±2.0	±4.0	%
Output Voltage Balance	Dual Output , Balanced Loads		±1.0	±3.0	%
Line Regulation	For Vin Change of 1%			±1.2	%/%
Load Regulation, 5V Input	I _{out} = 10% to 100%			±15	%
Load Regulation, 12V & 24V Input	I _{out} = 10% to 100%			±10	%
Ripple & Noise (20 MHz) (Note 1)			250	300	mV P - P
Output Power Protection		120			%
Temperature Coefficient			±0.01	±0.03	%/°C
Output Short Circuit	Momentary (1.0 Seconds)				

General

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage	60 Seconds	6,000			VDC
Isolation Resistance	500 VDC	1,000			MΩ
Isolation Capacitance	100 kHz, 1V			20	pF
Switching Frequency	5 VDC Input		250		kHz
	12 VDC Input		50		

Environmental

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

Physical

Case Size	0.77 x 0.38 x 0.50 Inches (19.5 x 9.8 x 12.5 mm)				
Case Material	Non-Conductive Black Plastic (UL94-V0)				
Weight	0.42 Oz (12g)				

Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL HDBK 217F, 25°C, Gnd Benign	3.5			MHours

Absolute Maximum Ratings

Parameter	Conditions	Min.	Typ.	Max.	Units
Input Voltage Surge (1 Sec)	5 VDC Input	-0.7		7.5	VDC
	12 VDC Input	-0.7		15.0	
Lead Temperature	1.5 mm From Case For 10 Sec.			300	°C
Internal Power Dissipation	All Models			1,500	mW

Caution: Exceeding Absolute Maximum Ratings may damage the module. These are not continuous operating ratings.

Model Selection Guide

Model Number	Input				Output			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					
D101EHI	5	4.5 - 5.5	286	60	5.0	200	20.0	72	1,000
D102EHI	5	4.5 - 5.5	286	60	9.0	111	12.0	72	1,000
D103EHI	5	4.5 - 5.5	278	60	12.0	84	9.0	75	1,000
D104EHI	5	4.5 - 5.5	278	60	15.0	67	7.0	75	1,000
D105EHI	5	4.5 - 5.5	277	60	±5.0	±100	±10.0	72	1,000
D106EHI	5	4.5 - 5.5	277	60	±9.0	±56	±6.0	72	1,000
D107EHI	5	4.5 - 5.5	267	60	±12.0	±42	±5.0	75	1,000
D108EHI	5	4.5 - 5.5	267	60	±15.0	±33	±4.0	75	1,000
D111EHI	12	10.8 - 13.2	113	40	5.0	200	20.0	74	250
D112EHI	12	10.8 - 13.2	113	40	9.0	111	12.0	74	250
D113EHI	12	10.8 - 13.2	110	40	12.0	84	9.0	76	250
D114EHI	12	10.8 - 13.2	110	40	15.0	67	7.0	76	250
D115EHI	12	10.8 - 13.2	111	40	±5.0	±100	±10.0	75	250
D116EHI	12	10.8 - 13.2	111	40	±9.0	±56	±6.0	75	250
D117EHI	12	10.8 - 13.2	107	40	±12.0	±42	±5.0	78	250
D118EHI	12	10.8 - 13.2	107	40	±15.0	±33	±4.0	78	250

Notes:

- Output load regulation is specified for a load change of 10% to 100%.
- These units should not be operated with a load under 10% of full load. Operation at no-load may cause damage to the unit.
- These converters will operate without external components. However, when measuring output ripple, it is recommended that an external ceramic capacitor be placed from the +Vout pin to the -Vout pin for single output units and from each output to common for dual output units. An input capacitor will enhance stability over temperature and input line variations. Recommended capacitor values are given in the table above.

Vin	Input Capacitor	Vout	Output Capacitor
5 VDC	4.7 μ F	5 VDC	4.7 μ F
12 VDC	2.2 μ F	9 VDC	2.2 μ F
		12 VDC	1.0 μ F
		15 VDC	0.47 μ F

For applications requiring very low output noise levels, a simple Pi filter should be effective. Component values would depend upon the application, but capacitor values of 4.7 μ F and inductor values of 10 μ H are often sufficient.
- Dual output units may be connected to provide a 10V, 18V, 24V or 30 VDC output. To do this, connect the load across the positive (+Vout) and negative (-Vout) outputs and float the output common.
- It is recommended that a fuse be used on the input of a power supply for protection. See the Model Selection table above for the correct rating.

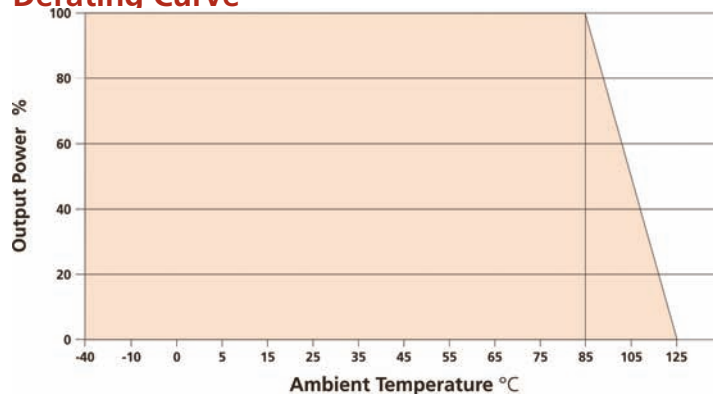
Pin Connections

Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
5	-Vout	-Vout
6	No Pin	Common
7	+Vout	+Vout

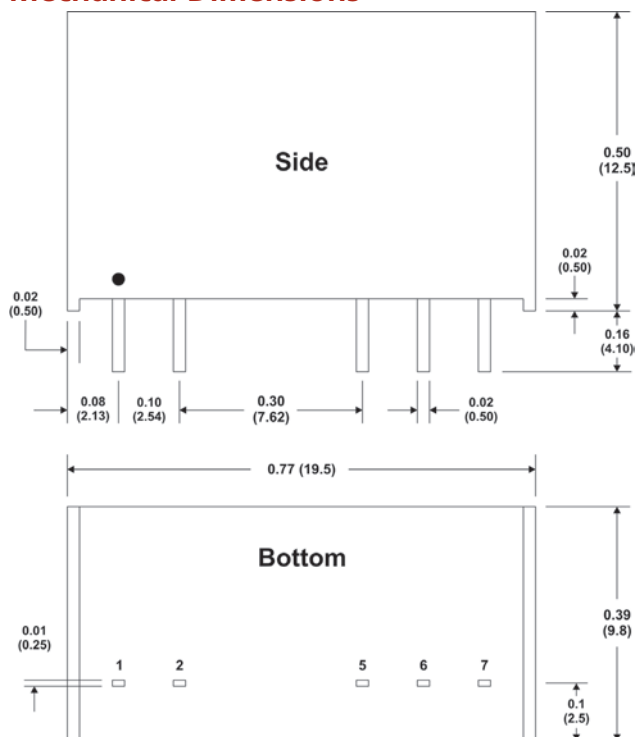
Mechanical Notes:

- All dimensions are typical in inches (mm)
- Tolerance x.xx = ± 0.01 (± 0.25)

Derating Curve



Mechanical Dimensions



MicroPower Direct
www.micropowerdirect.com