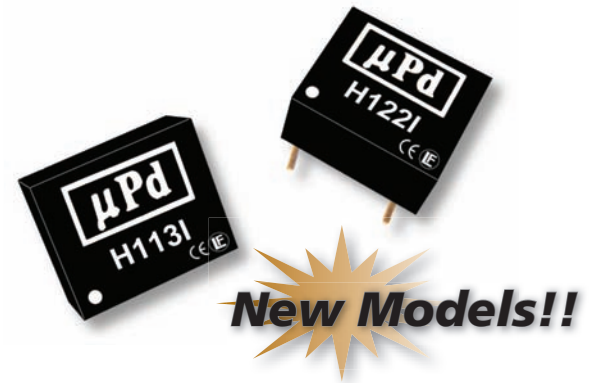


# H100I Series

## Ultra-Miniature MiniDIP 1W, High Isolation DC/DC Converters



### Electrical Specifications

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

### Key Features:

- 1W Output Power
- Miniature MiniDIP Case
- 3,000 VDC Isolation
- Complies to RFI Standards
- >2 MHour MTBF
- 18 Standard Models
- Industry Standard Pin-Out



RoHS Compliant



### MicroPower Direct

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### 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				
Reverse Polarity Input Current				0.3	A

### Output

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage Accuracy			±1.0	±3.0	%
Line Regulation	For Vin Change of 1%		±1.2	±1.5	%
Load Regulation	I <sub>out</sub> = 20% to 100%		±8.0		%
Ripple & Noise (20 MHz)				100	mV P - P
Output Power Protection		120			%
Temperature Coefficient			±0.01	±0.02	%/°C
Output Short Circuit	Momentary (0.5 Sec.)				

### General

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage	60 Seconds	3,000			VDC
Isolation Resistance	500 VDC	1,000			MΩ
Isolation Capacitance	100 kHz, 1V		60	100	pF
Switching Frequency			80		kHz
EMI/RFI	EN55022 A, EN55024 A, IEC 61000-4-2, IEC 61000-4-3, FCC 47 CFR Part 15 B				

### Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range		-40	+25	+85	°C
Operating Temperature Range	Case			+100	°C
Storage Temperature Range		-40		+125	°C
Cooling	Free Air Convection				
Humidity	RH, Non-condensing			95	%

### Physical

Case Size	0.50 x 0.40 x 0.27 Inches (12.70 x 10.16 x 6.85 mm)				
Case Material	Non-Conductive Black Plastic (UL94-V0)				
Weight	0.06 Oz (1.8g)				

### Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL HDBK 217F, 25°C, Gnd Benign	2.0			MHours

### Absolute Maximum Ratings

Parameter	Conditions	Min.	Typ.	Max.	Units
Input Voltage Surge (1 Sec)	5 VDC Input	-0.7		7.0	VDC
	12 VDC Input	-0.7		15.0	
	24 VDC Input	-0.7		28.0	
Lead Temperature	1.5 mm From Case For 10 Sec			260	°C
Internal Power Dissipation	All Models			450	mW

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

## Model Selection Guide

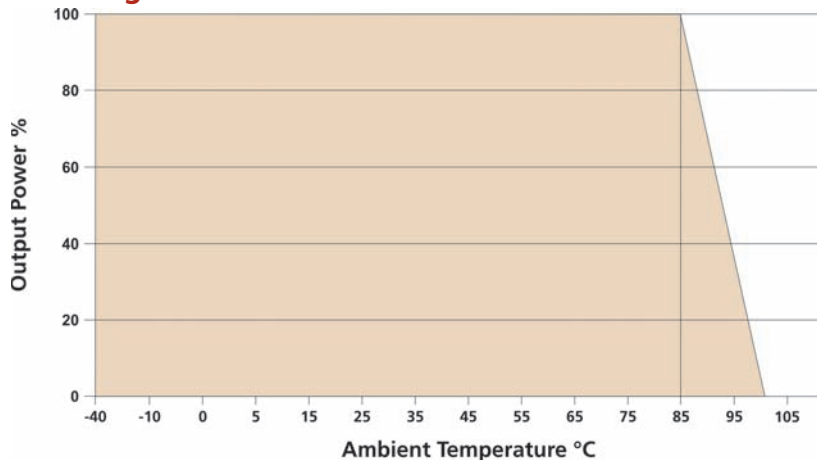
Model Number	Input				Output			Efficiency (% Typ)	Fuse Rating Slow-Blow (mA)
	Voltage (VDC)		Current (mA)		Voltage (VDC)	Current (mA, Max)	Current (mA, Min)		
	Nominal	Range	Full-Load	No-Load					
H101I	5	4.5 - 5.5	278	25	3.3	300.0	5.0	72	500
H102I	5	4.5 - 5.5	267	25	5.0	200.0	4.0	75	500
H103I	5	4.5 - 5.5	260	25	9.0	111.0	2.0	77	500
H104I	5	4.5 - 5.5	256	25	12.0	83.3	2.0	78	500
H105I	5	4.5 - 5.5	257	25	15.0	66.6	2.0	78	500
H106I	5	4.5 - 5.5	257	25	24.0	41.6	2.0	78	500
H111I	12	10.8 - 13.2	116	16	3.3	300.0	5.0	72	200
H112I	12	10.8 - 13.2	112	16	5.0	200.0	4.0	75	200
H113I	12	10.8 - 13.2	109	16	9.0	111.0	2.0	77	200
H114I	12	10.8 - 13.2	107	16	12.0	83.3	2.0	78	200
H115I	12	10.8 - 13.2	107	16	15.0	66.6	2.0	78	200
H116I	12	10.8 - 13.2	107	16	24.0	41.6	2.0	78	200
H121I	24	21.6 - 26.4	58	8	3.3	300.0	5.0	72	100
H122I	24	21.6 - 26.4	56	8	5.0	200.0	4.0	75	100
H123I	24	21.6 - 26.4	55	8	9.0	111.0	2.0	77	100
H124I	24	21.6 - 26.4	54	8	12.0	83.3	2.0	78	100
H125I	24	21.6 - 26.4	54	8	15.0	66.6	2.0	78	100
H126I	24	21.6 - 26.4	54	8	24.0	41.6	2.0	78	100

Other outputs are available.  
Contact the factory for details at:  
[sales@micropowerdirect.com](mailto:sales@micropowerdirect.com)

### Notes:

- Output load regulation is specified for a load change of 20% to 100%.
- When measuring output ripple, it is recommended that an external 0.33  $\mu\text{F}$  ceramic capacitor be placed from the +Vout pin to the -Vout pin.
- Operation at no-load will not damage these units. However, they may not meet all specifications.
- The 5V, 12V and 24V input units do not require external components to operate, but the use of a low ESR capacitor (approximately 10  $\mu\text{F}$ , ESR < 1.0  $\Omega$  at 100 kHz) mounted close to the converter input pins is recommended. For 48 VDC input units, an input capacitor should always be used. Dependent upon the application, a value between 4.7  $\mu\text{F}$  and 47  $\mu\text{F}$  should be sufficient.
- It is recommended that a fuse be used on the input of a power supply for protection. See the table above for the correct rating.

## Derating Curve



## Capacitive Load

( $\mu\text{F}$  Max)

220

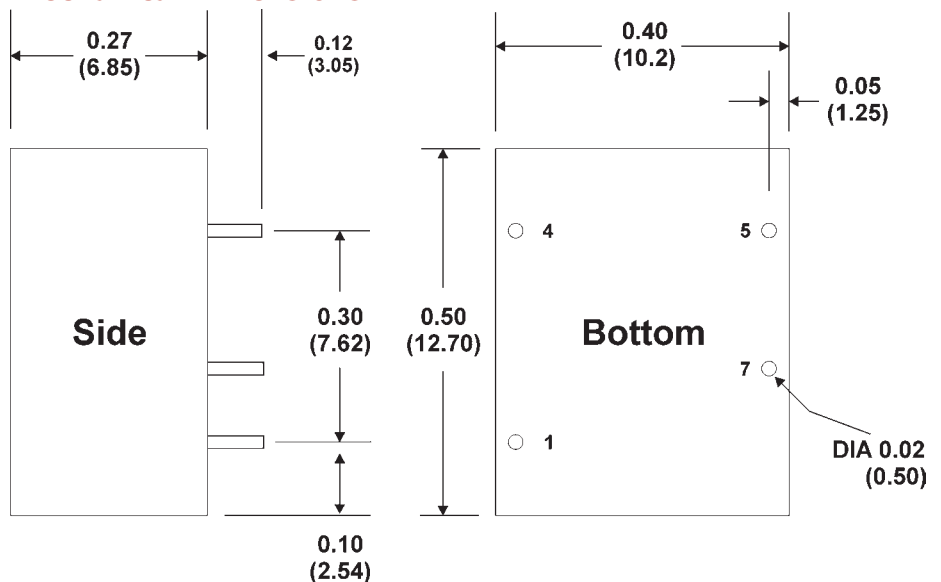
## Pin Connections

Pin	Function
1	-Vin
4	+Vin
5	+Vout
7	-Vout

### Notes:

- All dimensions are typical in inches (mm)
- Tolerance x.xx =  $\pm 0.01$  ( $\pm 0.25$ )
- Pin 1 is marked by a "dot" or indentation on the top of the unit

## Mechanical Dimensions



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