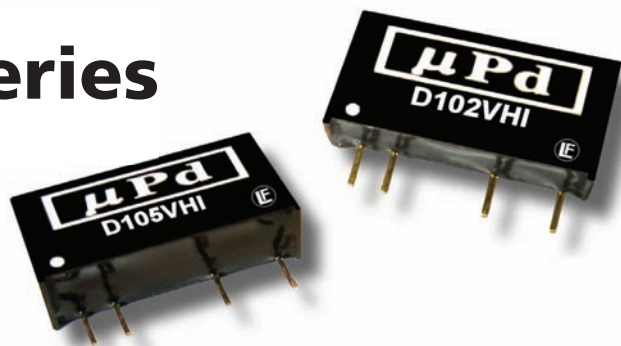


# D100VHI Series

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



### Key Features:

- 1W Output Power
- 6.0 kVDC Isolation
- Miniature SIP Case
- Single & Dual Outputs
- Miniature SIP Case
- 12 Standard Models
- 2.0 MH MTBF
- Industry Standard Pin-Out



**RoHS Compliant**

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### 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				
Reverse Polarity Input Current				0.3	A

#### Output

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage Accuracy			±1.0	±3.0	%
Output Voltage Balance	Dual Output , Balanced Loads		±0.1	±1.0	%
Line Regulation	For Vin Change of 1%		±1.2	±1.5	%
Load Regulation (Note 1)	See Model Selection Guide				
Ripple & Noise (20 MHz) (Note 2)			100	150	mV P - P
Ripple & Noise (20 MHz)	Over Line, Load & Temp.			200	mV P - P
Ripple & Noise (20 MHz)				5	mV rms
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	6,000			VDC
Isolation Test Voltage	Flash Tested For 1 Sec	6,600			VDC
Isolation Resistance	500 VDC	10			GΩ
Isolation Capacitance	100 kHz, 1V		15	20	pF
Switching Frequency		50	80	100	kHz

#### Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range	Ambient	-40	+25	+70	°C
Operating Temperature Range	Case	-40		+90	°C
Storage Temperature Range		-40		+125	°C
Cooling	Free Air Convection				
Humidity	RH, Non-condensing			95	%

#### Physical

Case Size	0.87 x 0.49 x 0.30 Inches (22.0 x 12.5 x 7.5 mm)				
Case Material	Non-Conductive Black Plastic (UL94-V0)				
Weight	0.13 Oz (3.9g)				

#### 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		9.0	VDC
	12 VDC Input	-0.7		18.0	
Lead Temperature	1.5 mm From Case For 10 Sec			260	°C
Internal Power Dissipation	All Models			650	mW

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

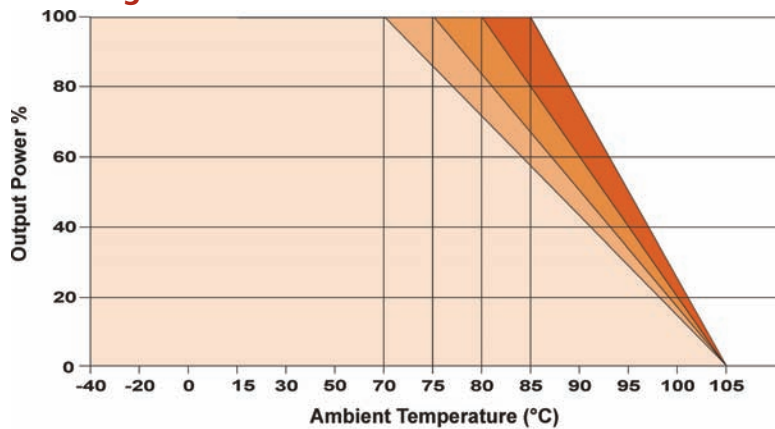
## Model Selection Guide

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						
D101VHI	5	4.5 - 5.5	303	55	5.0	200.0	4.0	10	66	500
D102VHI	5	4.5 - 5.5	291	55	12.0	80.0	2.0	8	66	500
D103VHI	5	4.5 - 5.5	295	55	15.0	65.0	1.0	8	66	500
D104VHI	5	4.5 - 5.5	303	55	±5.0	±100.0	±2.0	10	66	500
D105VHI	5	4.5 - 5.5	267	55	±12.0	±40.0	±1.0	8	72	500
D106VHI	5	4.5 - 5.5	287	55	±15.0	±35.0	±1.0	8	73	500
D111VHI	12	10.8 - 13.2	126	30	5.0	200.0	4.0	10	66	200
D112VHI	12	10.8 - 13.2	121	30	12.0	80.0	2.0	8	66	200
D113VHI	12	10.8 - 13.2	123	30	15.0	65.0	1.0	8	66	200
D114VHI	12	10.8 - 13.2	126	30	±5.0	±100.0	±2.0	10	66	200
D115VHI	12	10.8 - 13.2	108	30	±12.0	±40.0	±1.0	8	74	200
D116VHI	12	10.8 - 13.2	117	30	±15.0	±35.0	±1.0	8	75	200

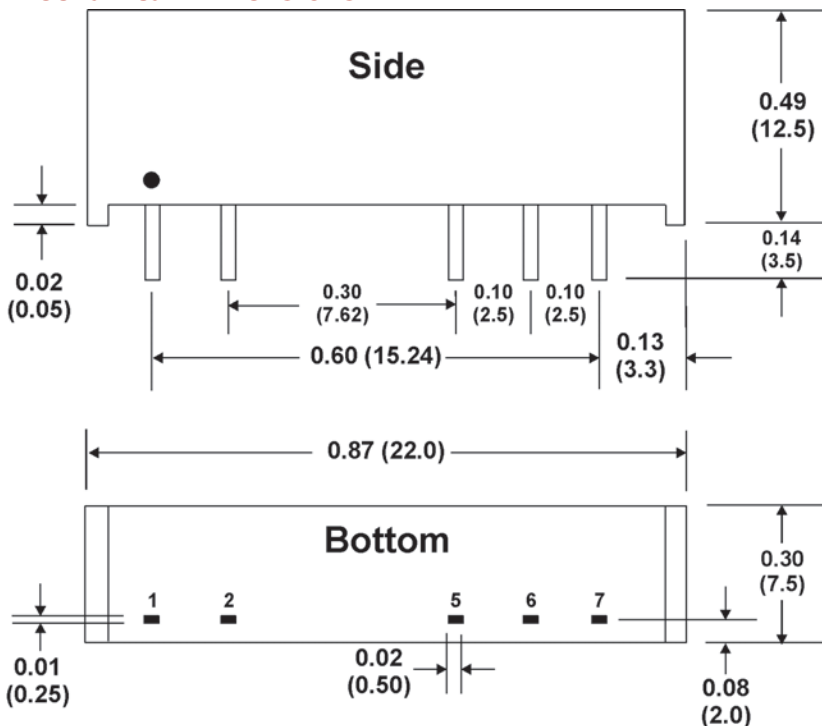
### Notes:

- 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 for single output units and from each output to common for dual output units.
- Operation at no-load will not damage these units. However, they may not meet all specifications.
- Dual output units may be connected to provide a 10 VDC, 24 VDC 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 table above for the correct rating.

### Derating Curve



## Mechanical Dimensions



### Pin Connections

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

NC: No Connection

### Capacitive Load

Single Output $\mu\text{F}$ Max	Dual Output $\mu\text{F}$ Max
680	±220

### Mechanical Notes:

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



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