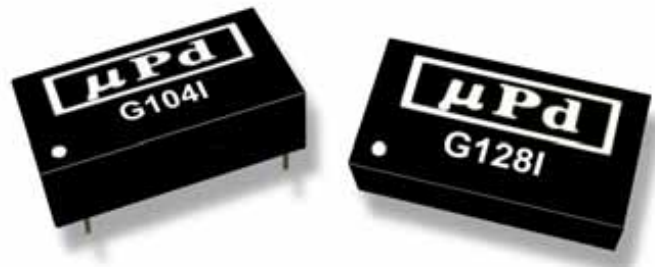


# G1001 Series



## 1W “MiniDIP” High Isolation DC/DC Converters

### Key Features:

- 1W Output Power
- 3,000 VDC Isolation
- Low Profile MiniDIP Case
- Single & Dual Outputs
- >2 MHour MTBF
- 36 Standard Models
- Industry Standard Pin-Out

### 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	
	24 VDC Input	21.6	24.0	26.4	
	48 VDC Input	44.0	48.0	52.0	
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		%
Load Regulation	See Model Selection Guide				
Ripple & Noise (20 MHz)			50	75	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		pF
Switching Frequency			125		kHz

#### Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range	Ambient	-40	+25	+85	°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 (5V 12V & 24V Input Models)	0.80 x 0.40 x 0.25 Inches (20.32 x 10.16 x 6.45 mm)
Case Size (48V Input Models)	0.80 x 0.40 x 0.27 Inches (20.32 x 10.16 x 6.88 mm)
Case Material	Non-Conductive Black Plastic (UL94-V0)
Weight	0.09 Oz (2.7g)

#### 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	
	24 VDC Input	-0.7		30.0	
	48 VDC Input	-0.7		55.0	
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.

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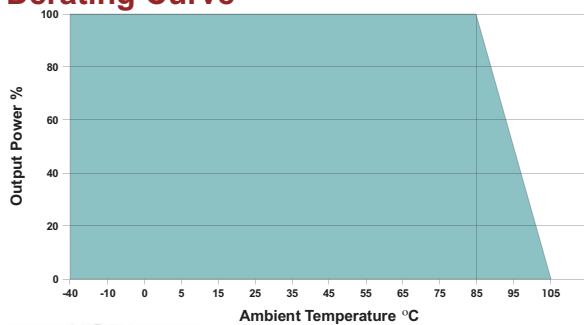
## Model Selection Guide

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						
G101I	5	4.5 - 5.5	235	30	3.3	260.0	5.0	10	73	500
G102I	5	4.5 - 5.5	264	30	5.0	200.0	4.0	10	75	500
G103I	5	4.5 - 5.5	258	30	9.0	110.0	2.0	8	78	500
G104I	5	4.5 - 5.5	258	30	12.0	84.0	1.5	7	78	500
G105I	5	4.5 - 5.5	258	30	15.0	67.0	1.0	7	78	500
G106I	5	4.5 - 5.5	278	30	±5.0	±100.0	±2.0	10	72	500
G107I	5	4.5 - 5.5	258	30	±9.0	±56.0	±1.0	8	78	500
G108I	5	4.5 - 5.5	258	30	±12.0	±42.0	±0.8	7	78	500
G109I	5	4.5 - 5.5	258	30	±15.0	±34.0	±0.7	7	79	500
G111I	12	10.8 - 13.2	113	15	3.3	260.0	5.0	8	74	200
G112I	12	10.8 - 13.2	108	15	5.0	200.0	4.0	8	77	200
G113I	12	10.8 - 13.2	106	15	9.0	110.0	2.0	5	78	200
G114I	12	10.8 - 13.2	105	15	12.0	84.0	1.5	5	80	200
G115I	12	10.8 - 13.2	104	15	15.0	67.0	1.0	5	80	200
G116I	12	10.8 - 13.2	113	15	±5.0	±100.0	±2.0	8	74	200
G117I	12	10.8 - 13.2	106	15	±9.0	±56.0	±1.0	5	79	200
G118I	12	10.8 - 13.2	104	15	±12.0	±42.0	±0.8	5	81	200
G119I	12	10.8 - 13.2	105	15	±15.0	±34.0	±0.7	5	81	200
G121I	24	21.6 - 26.4	49	8	3.3	260.0	5.0	8	73	100
G122I	24	21.6 - 26.4	54	8	5.0	200.0	4.0	8	76	100
G123I	24	21.6 - 26.4	54	8	9.0	110.0	2.0	5	76	100
G124I	24	21.6 - 26.4	54	8	12.0	84.0	1.5	5	78	100
G125I	24	21.6 - 26.4	53	8	15.0	67.0	1.0	5	79	100
G126I	24	21.6 - 26.4	58	8	±5.0	±100.0	±2.0	8	72	100
G127I	24	21.6 - 26.4	55	8	±9.0	±56.0	±1.0	5	76	100
G128I	24	21.6 - 26.4	53	8	±12.0	±42.0	±0.8	5	79	100
G129I	24	21.6 - 26.4	53	8	±15.0	±34.0	±0.7	5	80	100
G131I	48	44.0 - 52.0	29	6	3.3	260.0	5.0	8	71	100
G132I	48	44.0 - 52.0	30	6	5.0	200.0	4.0	8	70	100
G133I	48	44.0 - 52.0	28	6	9.0	110.0	2.0	5	75	100
G134I	48	44.0 - 52.0	27	6	12.0	84.0	1.5	5	77	100
G135I	48	44.0 - 52.0	27	6	15.0	67.0	1.0	5	78	100
G136I	48	44.0 - 52.0	30	6	±5.0	±100.0	±2.0	8	70	100
G137I	48	44.0 - 52.0	28	6	±9.0	±56.0	±1.0	5	75	100
G138I	48	44.0 - 52.0	28	6	±12.0	±42.0	±0.8	5	75	100
G139I	48	44.0 - 52.0	27	6	±15.0	±34.0	±0.7	5	78	100

### Notes:

- Output load regulation is specified for a load change of 20% to 100%.
- When measuring output ripple, it is recommended that an external ceramic capacitor (approx 10 µF) be placed from the +Vout pin to the -Vout pin for single output units and from each output to common for dual output units.
- All 3.3, 5 and ±5 VDC output models may be operated to +85°C ambient with an unobstructed airflow of 3.6 ft/S (1.1 m/S).
- The 5V, 12V and 24V input units do not require external components to operate, but the use of an input capacitor (10 µF) may enhance performance in some applications. An output capacitor (1.0 µF to 10 µF) may be used to reduce ripple. The 48V input models require an input capacitor of 4.7 µF to 47 µF (dependent upon the application).
- 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 table above for the correct rating.

### Derating Curve



### Capacitive Load

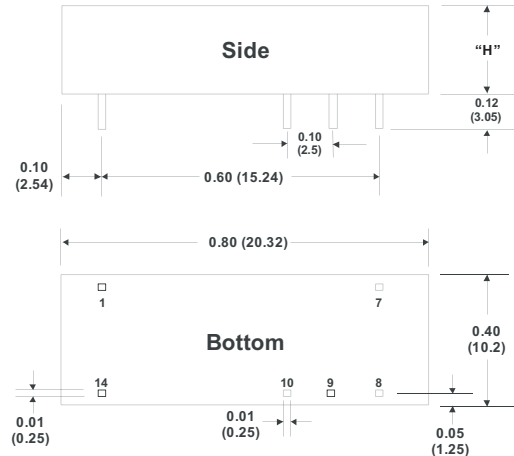
Single Output (µF Max)	220
Dual Output (µF Max)	±100

### Pin Connections

Pin	Single	Dual	Pin	Single	Dual
1	-Vin	-Vin	9	No Pin	Common
7	NC	NC	10	-Vout	-Vout
8	+Vout	+Vout	14	+Vin	+Vin

NC : No Connection

### Mechanical Dimensions



Notes: All dimensions are typical in inches (mm)

Tolerance x.xx = ±0.01 (±0.25)

"H" = 0.25 (6.45) For 5, 12 & 24V Input Models

0.27 (6.88) For 48 VDC Input Models

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



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