MicroPower Direct

Compact MiniDIP, 1W
Single & Dual Output
DC/DC Converters
G100 Series

Key Features

- Miniature DIP Package
- 1W Output Power
- 5V, 12V, 24V & 48V Inputs
- 1.0 kVDC Isolation
- Single & Dual Outputs
- **Low Cost**

Electrical Specifications

Specifications typical @ +251C 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	
	48 VDC Input	43.2	48.0	52.8	
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	See Model Selection Guide				
Ripple & Noise (20 MHz)			50	75	mV P - P
Ripple & Noise (20 MHz)	Over Line, Load & Temp.			150	mV P - P
Ripple & Noise (20 MHz)				5	mV rms
Output Power Protection		120			%
Temperature Coefficient			±0.01	±0.02	%/1C
Output Short Circuit	Momentary (0.5 Sec.)				

General

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage	60 Seconds	1,000			VDC
Isolation Resistance	500 VDC	1,000			MΩ
Isolation Capacitance	100 kHz, 1V		60	100	pF
Switching Frequency		70	100	120	kHz

Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range		-40	+25	+85	1C
Storage Temperature Range		-40		+125	1C
Cooling	Free Air Convection				
Humidity	RH, Non-condensing			95	%

Physical

Case Size (5V, 12V & 24V Models)	0.80 x 0.40 x 0.27 Inches (20.32 x 10.16 x 6.85 mm)
Case Size (48V Models)	0.80 x 0.40 x 0.30 Inches (20.32 x 10.16 x 7.50 mm)
Case Material	Non-Conductive Black Plastic
Weight (5V, 12V & 24V Input Models)	0.07 Oz (2.1g)
Weight (48V Input Models)	0.10 Oz (3.0g)

Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL HDBK 217F, 251C, Gnd Benign		3.9		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	
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			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						
G101	5	4.5 - 5.5	235	30	3.3	303.0	5.0	10	73	500
G102	5	4.5 - 5.5	281	30	5.0	200.0	4.0	10	71	500
G103	5	4.5 - 5.5	260	30	9.0	110.0	2.0	8	76	500
G104	5	4.5 - 5.5	258	30	12.0	84.0	1.5	7	78	500
G105	5	4.5 - 5.5	258	30	15.0	67.0	1.0	7	78	500
G106	5	4.5 - 5.5	286	30	±5.0	±100.0	±2.0	10	70	500
G107	5	4.5 - 5.5	262	30	±9.0	±56.0	±1.0	8	77	500
G108	5	4.5 - 5.5	258	30	±12.0	±42.0	±0.8	7	78	500
G109	5	4.5 - 5.5	258	30	±15.0	±34.0	±0.7	7	79	500
G111	12	10.8 - 13.2	96	12	3.3	303.0	5.0	8	74	200
G112	12	10.8 - 13.2	114	12	5.0	200.0	4.0	8	73	200
G113	12	10.8 - 13.2	106	12	9.0	110.0	2.0	5	78	200
G114	12	10.8 - 13.2	105	12	12.0	84.0	1.5	5	80	200
G115	12	10.8 - 13.2	104	12	15.0	67.0	1.0	5	80	200
G116	12	10.8 - 13.2	114	12	±5.0	±100.0	±2.0	8	70	200
G117	12	10.8 - 13.2	106	12	±9.0	±56.0	±1.0	5	79	200
G118	12	10.8 - 13.2	104	12	±12.0	±42.0	±0.8	5	81	200
G119	12	10.8 - 13.2	105	12	±15.0	±34.0	±0.7	5	81	200
G121	24	21.6 - 26.4	49	7	3.3	303.0	5.0	8	73	100
G122	24	21.6 - 26.4	59	7	5.0	200.0	4.0	8	71	100
G123	24	21.6 - 26.4	54	7	9.0	110.0	2.0	5	76	100
G124	24	21.6 - 26.4	54	7	12.0	84.0	1.5	5	78	100
G125	24	21.6 - 26.4	53	7	15.0	67.0	1.0	5	79	100
G126	24	21.6 - 26.4	60	7	±5.0	±100.0	±2.0	8	70	100
G127	24	21.6 - 26.4	55	7	±9.0	±56.0	±1.0	5	76	100
G128	24	21.6 - 26.4	53	7	±12.0	±42.0	±0.8	5	79	100
G129	24	21.6 - 26.4	53	7	±15.0	±34.0	±0.7	5	80	100
G131	48	43.2 - 52.8	30	6	3.3	303.0	5.0	8	70	50
G132	48	43.2 - 52.8	31	6	5.0	200.0	4.0	8	71	50
G133	48	43.2 - 52.8	28	6	9.0	110.0	2.0	5	74	50
G134	48	43.2 - 52.8	28	6	12.0	84.0	1.5	5	74	50
G135	48	43.2 - 52.8	28	6	15.0	67.0	1.0	5	74	50
G136	48	43.2 - 52.8	20	6	±5.0	±100.0	±2.0	8	70	50
G137	48	43.2 - 52.8	27	6	±9.0	±56.0	±1.0	5	76	50
G138	48	43.2 - 52.8	27	6	±12.0	±42.0	±0.8	5	77	50
G139	48	43.2 - 52.8	26	6	±15.0	±34.0	±0.7	5	78	50

Notes:

1. 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.
2. These units do not require external comonents to operate, but the use of an input capacitor (10 µF) may enhance performance in some applications. An output capacitor (4.7 µF to 10 µF) may be used to reduce ripple.

Capacitive Load

Single Output	Dual Output
220 µF Max	±100 µF Max

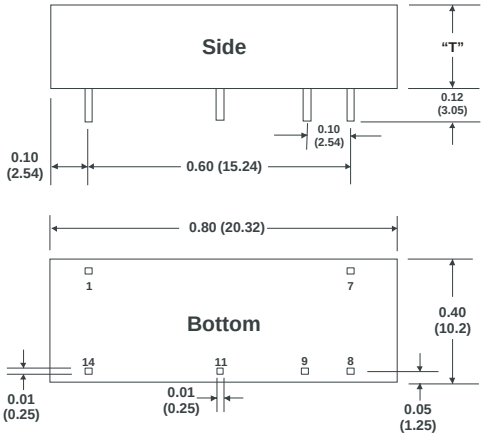
Pin Connections

Pin	Single	Dual
1	-Vin	-Vin
7	NC	NC
8	No Pin	Common

Pin	Single	Dual
9	+Vout	+Vout
11	-Vout	-Vout
14	+Vin	+Vin

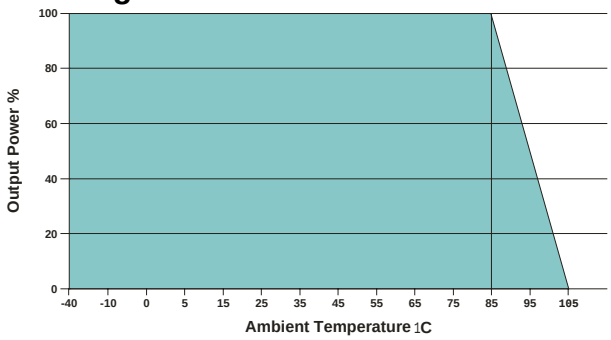
NC: No Connection

Mechanical Dimensions



Note: "T" = 0.27 (6.85) For 5, 12 & 24 VDC Input Models
0.30 (7.50) For 48 VDC Input Models

Derating Curve



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 top of the unit

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