MicroPower Direct



Tightly Regulated, 1W
Ultra-Miniature DIP
DC/DC Converters
G100R Series

Key Features

- Miniature DIP Package
- ±0.5% Line/Load Regulation
- 2.7 MH MTBF
- 1.0 kVDC Isolation
- 1W Output Power
- **Low Cost**

Electrical Specifications

Specifications typical @ +25°C 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	
Input Filter	Internal Capacitor				

Output

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage Accuracy			±1.0	±5.0	%
Line Regulation	For Vin Change of Min to Max			±0.5	%
Load Regulation	For Iout = 20% to 100%			±0.5	%
Ripple & Noise (20 MHz)				50	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	1,000			VDC
Isolation Resistance	500 VDC	1,000			MΩ
Isolation Capacitance	100 kHz, 1V		60		pF
Switching Frequency			80		kHz

Environmental

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

Physical

Case Size	0.80 x 0.40 x 0.27 Inches (20.32 x 10.16 x 6.85 mm)
Case Material	Non-Conductive Black Plastic
Weight	0.09 Oz (2.7g)

Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL HDBK 217F, 25°C, Gnd Benign		2.7		MHours

Absolute Maximum Ratings

Parameter	Conditions	Min.	Typ.	Max.	Units
Input Voltage Surge (1 Sec)	5 VDC Input	-0.7		6.0	VDC
	12 VDC Input	-0.7		14.0	
	24 VDC Input	-0.7		28.0	
Internal Power Dissipation	All Models			450	mW

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

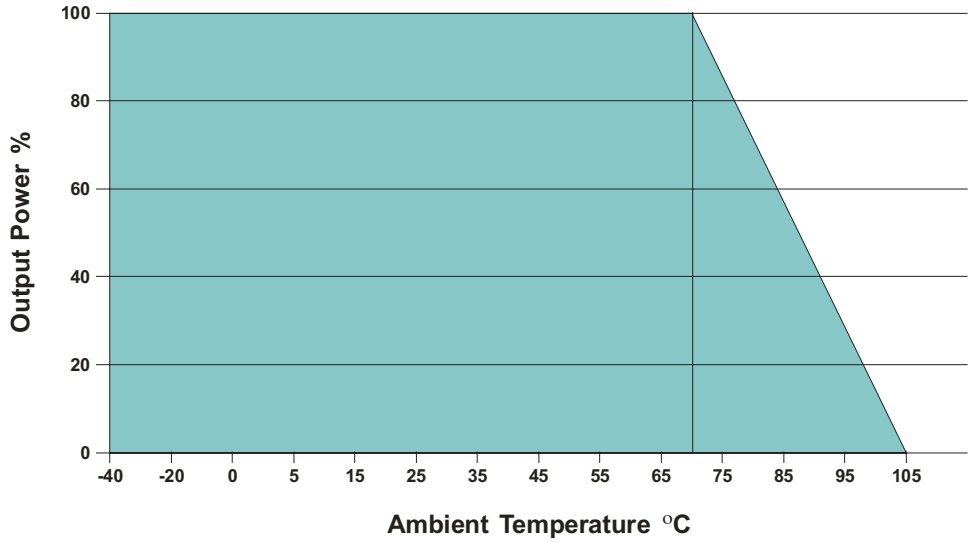
Model Selection Guide

Model Number	Input				Output			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					
G101R	5	4.5 - 5.5	213	28	3.3	200.0	20.0	62	500
G102R	5	4.5 - 5.5	317	28	5.0	200.0	20.0	63	500
G103R	5	4.5 - 5.5	312	26	9.0	111.0	11.0	64	500
G104R	5	4.5 - 5.5	312	26	12.0	83.0	9.0	64	500
G105R	5	4.5 - 5.5	312	38	15.0	66.0	7.0	66	500
G111R	12	10.8 - 13.2	91	16	3.3	200.0	20.0	61	200
G112R	12	10.8 - 13.2	130	16	5.0	200.0	20.0	64	200
G113R	12	10.8 - 13.2	130	16	9.0	111.0	11.0	64	200
G114R	12	10.8 - 13.2	130	16	12.0	83.0	9.0	64	200
G115R	12	10.8 - 13.2	130	16	15.0	66.0	7.0	64	200
G121R	24	21.6 - 26.4	43	7	3.3	200.0	20.0	63	100
G122R	24	21.6 - 26.4	64	7	5.0	200.0	20.0	65	100
G123R	24	21.6 - 26.4	65	9	9.0	111.0	11.0	64	100
G124R	24	21.6 - 26.4	65	9	12.0	83.0	9.0	64	100
G125R	24	21.6 - 26.4	65	9	15.0	66.0	7.0	64	100

Notes:

1. 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.

Derating Curve



Capacitive Load

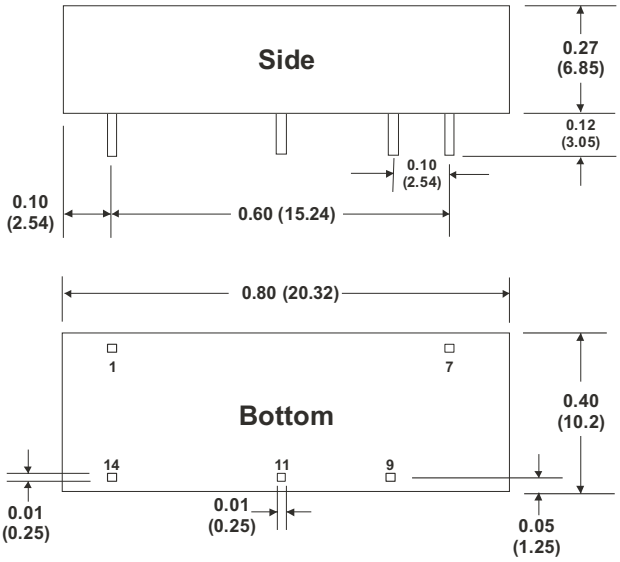
µF Max
33

Pin Connections

Pin	Single
1	-Vin
7	NC
9	+Vout
11	-Vout
14	+Vin

NC = No Connection

Mechanical Dimensions



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 side of the unit

MicroPower Direct

232 Tosca Drive, Stoughton, MA 02072
www.micropowerdirect.com
sales@micropowerdirect.com
phone: (781) 344 - 8226 • fax: (781) 344 - 8481