MicroPower Direct

Compact MiniDIP, 2W
High Isolation
DC/DC Converters
G200I Series

Key Features

- Miniature DIP Package
- 2W Output Power
- 3.6 MH MTBF
- 3.0 kVDC Isolation
- Single & Dual Outputs
- **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	
	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)			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	3,000			VDC
Isolation Resistance	500 VDC	1,000			MΩ
Isolation Capacitance	100 kHz, 1V		80	120	pF
Switching Frequency		50	80	100	kHz

Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range		-40	+25	+70	°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 0.27 Inches (20.32 x 10.16 x 6.85 mm)
Case Size, 48VDC Input 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	0.09 Oz (2.7g)

Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL HDBK 217F, 25°C, Gnd Benign		3.6		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			650	mW

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

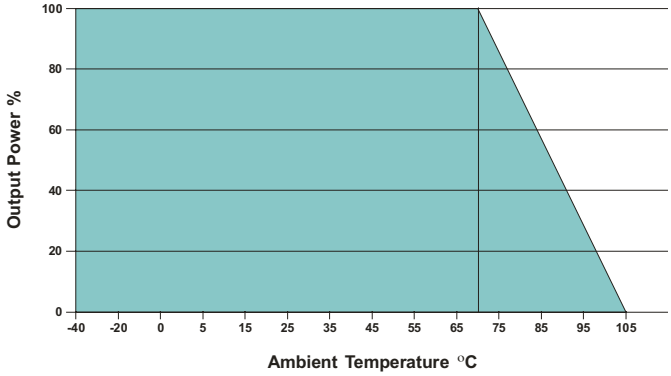
Model Selection Guide

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						
G201I	5	4.5 - 5.5	452	35	3.3	500.0	10.0	11	73	1,000
G202I	5	4.5 - 5.5	526	35	5.0	400.0	8.0	11	76	1,000
G203I	5	4.5 - 5.5	495	35	12.0	165.0	3.0	7	80	1,000
G204I	5	4.5 - 5.5	499	35	15.0	133.0	2.5	7	80	1,000
G205I	5	4.5 - 5.5	519	35	±5.0	±200.0	±4.0	10	77	1,000
G206I	5	4.5 - 5.5	504	35	±12.0	±83.0	±1.5	7	79	1,000
G207I	5	4.5 - 5.5	501	35	±15.0	±66.0	±1.0	7	79	1,000
G211I	12	10.8 - 13.2	185	25	3.3	500.0	10.0	8	74	500
G212I	12	10.8 - 13.2	212	25	5.0	400.0	8.0	8	78	500
G213I	12	10.8 - 13.2	200	25	12.0	165.0	3.0	5	82	500
G214I	12	10.8 - 13.2	200	25	15.0	133.0	2.5	5	83	500
G215I	12	10.8 - 13.2	222	25	±5.0	±200.0	±4.0	8	75	500
G216I	12	10.8 - 13.2	201	25	±12.0	±83.0	±1.5	5	82	500
G217I	12	10.8 - 13.2	200	25	±15.0	±66.0	±1.0	5	82	500
G221I	24	21.6 - 26.4	92	10	3.3	500.0	10.0	8	74	200
G222I	24	21.6 - 26.4	108	10	5.0	400.0	8.0	8	77	200
G223I	24	21.6 - 26.4	101	10	12.0	165.0	3.0	5	81	200
G224I	24	21.6 - 26.4	101	10	15.0	133.0	2.5	5	82	200
G225I	24	21.6 - 26.4	111	10	±5.0	±200.0	±4.0	8	75	200
G226I	24	21.6 - 26.4	102	10	±12.0	±83.0	±1.5	5	81	200
G227I	24	21.6 - 26.4	100	10	±15.0	±66.0	±1.0	5	82	200
G231I	48	43.2 - 54.8	28	6	3.3	500.0	10.0	8	74	100
G232I	48	43.2 - 54.8	27	6	5.0	400.0	8.0	8	77	100
G233I	48	43.2 - 54.8	26	6	12.0	165.0	3.0	5	81	100
G234I	48	43.2 - 54.8	25	6	15.0	133.0	2.5	5	82	100
G235I	48	43.2 - 54.8	28	6	±5.0	±200.0	±4.0	8	75	100
G236I	48	43.2 - 54.8	26	6	±12.0	±83.0	±1.5	5	81	100
G237I	48	43.2 - 54.8	25	6	±15.0	±66.0	±1.0	5	82	100

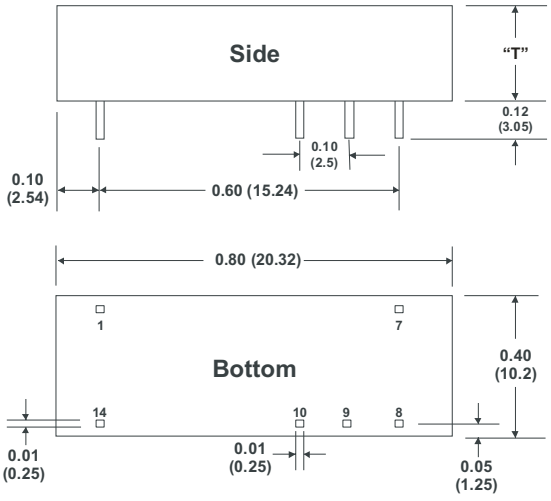
Notes:

1. Dual output units may be connected to provide a 10V, 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 components 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



Mechanical Dimensions



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

Pin Connections

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

NC = No Connection

Capacitive Load

Single Output µF Max	Dual Output µF Max
470	±390

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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