

Description

The DGP20 Series is a high performance, 20-watt triple output DC-DC converter designed for battery and telecom applications. Power densities of up to 11 watts per cubic inch provide system flexibility. The extended 2:1 input voltage range allows operation over a wide variety of sources from 9 to 72 volts.

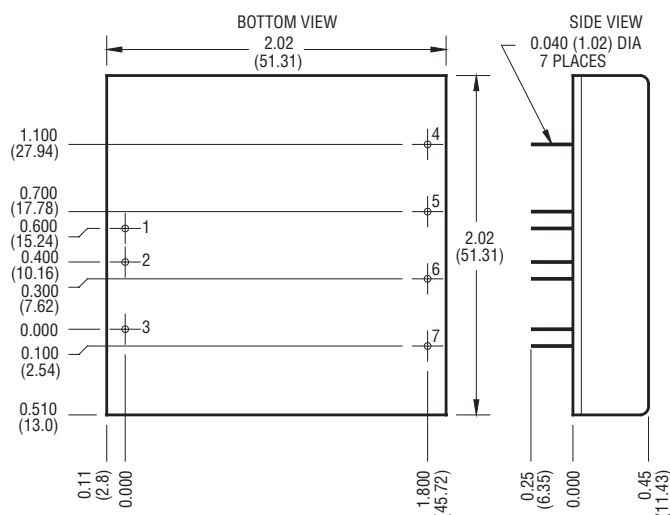
Selection Chart				
Model	Input Range VDC (6)		Output VDC	Output mA
	Min	Max		
DGP20E12T5/12	9	18	5, ± 12	2500, ± 310
DGP20E12T5/15	9	18	5, ± 15	2500, ± 250
DGP20E24T5/12	18	36	5, ± 12	2500, ± 310
DGP20E24T5/15	18	36	5, ± 15	2500, ± 250
DGP20E48T5/12	36	72	5, ± 12	2500, ± 310
DGP20E48T5/15	36	72	5, ± 15	2500, ± 250

Model numbers highlighted in yellow or shaded are not recommended for new designs.

General Specifications (1)				
All Models				Units
Isolation (4)				
Breakdown Voltage				
Input to Output 12V, 24V	MIN	700		VDC
Input to Output 48V	MIN	1544		
10 μ A Leakage				
Input to Output Capacitance	TYP	4000		pF
ON/OFF Function				
ON Logic Level or Leave Pin Open	MIN	>1.6		VDC
OFF Logic Level or Tie Pin to -Input	MAX	<0.7		VDC
Open Circuit Voltage	TYP	2.5		VDC
Input Resistance	TYP	20		Kohms
Converter Idle Current				
ON/OFF Pin Low				
12V Models	TYP	3		mA
4V and 48V Models	TYP	5		mA
Environmental				
Case Functional Range, Tc No Derating	MIN MAX	-40 85		$^{\circ}$ C
Case Functional Range (2)	MIN MAX	-55 100		$^{\circ}$ C
Storage Range	MIN MAX	-55 105		$^{\circ}$ C
Thermal Impedance (4)	TYP	9.5		$^{\circ}$ C/Watt
General				
MTBF (Calculated)	TYP	800,000		HRS
Unit Weight	TYP	<3/85		oz/gm
Chassis Mounting Kit 12V, 24V		CM2B3		
Chassis Mounting Kit 48V		CM2A3		

Features

- RoHS lead solder exemption compliant
- Triple outputs
- Five-sided shielded case
- Remote On/Off
- Efficiencies to 84%
- -40 $^{\circ}$ C to +85 $^{\circ}$ C operation
- 700 V isolation
- Extended range input (2:1)



Mechanical tolerances unless otherwise noted:

X.XX dimensions: ± 0.020 inches

X.XXX dimensions: ± 0.005 inches

Pin	Function
1	+INPUT
2	-INPUT
3	ON/OFF
4	+12/15V OUTPUT
5	+5V OUTPUT
6	COMMON
7	-12/15V OUTPUT

NOTES

- (1) All parameters measured at Tc = 25 $^{\circ}$ C, nominal input voltage and full rated load unless otherwise noted.
- (2) The functional temperature range is intended to give an additional data point for use in evaluating this power supply. At the low functional temperature the power supply will function with no side effects, however, sustained operation at the high functional temperature will reduce expected operational life. The data sheet specifications are not guaranteed beyond the case operating range.
- (3) The case thermal impedance is specified as the case temperature rise over ambient per package watt dissipated.
- (4) Case is tied to-Input, Pin 2.

Input Parameters (1)								
Model		DGP20E12T5/12	DGP20E12T5/15	DGP20E24T5/12	DGP20E24T5/15	DGP20E48T5/12	DGP20E48T5/15	Units
Voltage Range	MIN MAX	9.0 18.0		18.0 36.0		36.0 72.0		VDC
Reflected Ripple (2)	TYP	15		10		6		mA _{rms}
Input Current	Full Load	TYP	2160	995		510		mA
	No Load	TYP	16	10		8		
Efficiency	TYP	77		84		82		%
Switching Frequency	TYP	220						kHz
Maximum Input Overvoltage, 100ms No Damage	MAX	23		45		85		VDC
Turn-on Time	TYP	10						ms

Output Parameters (1)					
Model		DGP20EXXT5/XX	DGP20EXXT5/12	DGP20EXXT5/15	Units
Output Voltage		+5	±12	±15	VDC
Rated Load (3)	MIN MAX	600 2500	75 310	60 250	mA
Voltage Range 100% Load	MIN TYP MAX	4.925 5.000 5.075	11.700 12.000 12.300	14.700 15.000 15.300	VDC
Output Balance (Plus to Minus Ouput, Full Load)	TYP MAX	N/A	<50	<50	mV
Load Regulation MIN-MAX Load (4)	TYP MAX	<0.5 2.0	<1.0 2.0	<1.0 2.0	%
Cross Regulation (5)	TYP	1.0	5.0	5.0	%
Line Regulation Vin=Min to Max VDC	TYP	0.1 1.0	0.4 1.5	0.4 1.5	%
Short Term Stability (6)	TYP	<0.1	<0.02	<0.02	%
Noise, 0-20MHz bw (2)	TYP	50	120	150	mV _{pp}
Temperature Coefficient	TYP MAX	50 150	50 200	50 200	ppm/i C
Short Circuit Protection to Common for all Outputs		Continuous, Current Limit Protection			