

P6DG-xxxxELF



PM4-SERIES

Rev.11-2008

- ✓ 1 Watt
- ✓ Regulated
- ✓ **Single** Output
- ✓ **DIP14** Case
- ✓ **1 kV** DC I/O Isolation
- ✓ Low Ripple and Noise

The PM4 series P6DG-xxxxELF is a family of cost effective 1 W regulated single output DC/DC converters. These converters are in an ultra miniature DIP14 case. Devices are encapsulated. High performance features: Regulated Output, 1000VDC input/output isolation, high efficiency operation, output voltage accuracy of $\pm 2\%$ maximum, input range of $\pm 10\%$ tolerance and low output ripple and noise.

All specifications typical at $T_a=25^\circ\text{C}$, nominal input voltage and full load unless otherwise specified

Input Specifications

Voltage Range	$\pm 10\%$
Input Filter	Capacitors
Input Reflected Ripple Current ¹	20 mA pk-pk

Output Specifications

Voltage Accuracy	$\pm 2\%$
Short Circuit Protection	Short Term
Line Regulation	$\pm 0.5\%$
Load Regulation (0% - 100%)	$\pm 0.5\%$ (3.3Vout Models: $\pm 1.0\%$)
Ripple and Noise (20Mhz bandwidth)	50 mV pk-pk
Temperature Coefficient	$\pm 0.02\% / ^\circ\text{C}$

General Specifications

Efficiency	See Table
I/O Isolation Voltage (3 sec.)	1000 VDC
I/O Isolation Capacity	60 pF, typ.
I/O Isolation Resistance	1000 M Ohm
Switching Frequency	50 kHz (Variable)
Humidity	95% rel H
Reliability Calculated MTBF (MIL-HDBK-217F)	> 4.261 Mhrs

Physical Specifications

Case Material	Non Conductive Black Plastic (UL94V-0 rated)
Potting Material	Epoxy (UL94V-0 rated)
Weight	~ 2.7g, typ.

Environment Specifications

Operating Temperature	-40 to +85 $^\circ\text{C}$ (ambient)
Maximum Case Temperature	100 $^\circ\text{C}$
Storage Temperature	-40 to +125 $^\circ\text{C}$
Cooling	Free Air Convection
RoHS Conform	Soldering 260 $^\circ\text{C}$, max. (1.5mm from case 10s.)

Selection Guide

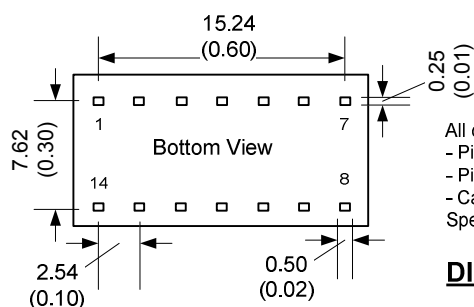
Single Output

Order #	Input Voltage (VDC)		Input Current No Load (mA)		Input Current Full Load (mA)		Output Voltage (VDC)		Output Current Full Load (mA)		Efficiency (%)	Capacitor Load (uF) ²
SINGLE OUTPUT												
P6DG-053R3ELF	5	30	350	3.3	333	57	220					
P6DG-0505ELF	5	35	317	5	200	63	220					
P6DG-057R2ELF	5	45	327	7.2	138.9	61	220					
P6DG-0509ELF	5	40	298	9	111.1	67	220					
P6DG-0512ELF	5	35	298	12	83.3	67	220					
P6DG-0515ELF	5	35	298	15	66.7	67	220					
P6DG-123R3ELF	12	20	146	3.3	333	57	220					
P6DG-1205ELF	12	20	132	5	200	63	220					
P6DG-127R2ELF	12	20	132	7.2	138.9	63	220					
P6DG-1209ELF	12	20	128	9	111.1	65	220					
P6DG-1212ELF	12	20	122	12	83.3	68	220					
P6DG-1215ELF	12	20	126	15	66.7	66	220					
P6DG-243R3ELF	24	10	73	3.3	333	57	220					
P6DG-2405ELF	24	10	76	5	200	60	220					
P6DG-247R2ELF	24	10	76	7.2	138.9	60	220					
P6DG-2409ELF	24	10	61	9	111.1	68	220					
P6DG-2412ELF	24	10	63	12	83.3	66	220					
P6DG-2415ELF	24	10	63	15	66.7	66	220					

If you need other specifications, please enquire.

Notes:

Package / Pinning / Derating



All dimensions are typical in millimeters (inches).

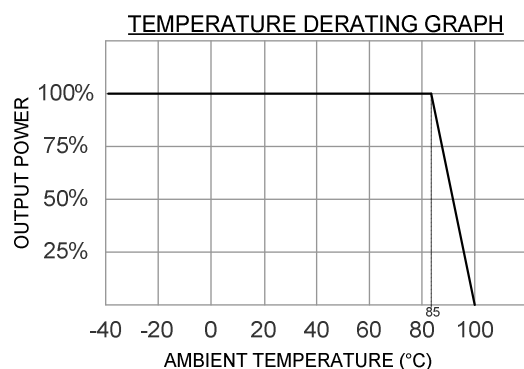
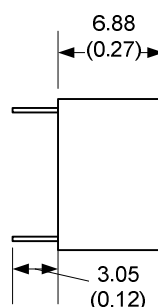
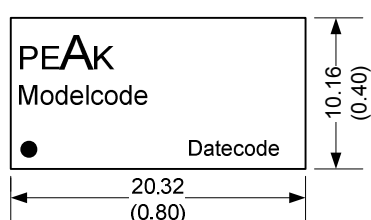
- Pin diameter: 1.0 $\pm$ 0.05 (0.04 $\pm$ 0.002)

- Pin pitch tolerance: $\pm$ 0.35 ($\pm$ 0.014)

- Case tolerance $\pm$ 0.5 ($\pm$ 0.02)

Specification may change without notice.

DIP14 – PLASTIC CASE



PIN CONNECTIONS	
#	SINGLE
1	- Vin
7	N.C.
8	Omitted
9	+Vout
10	Omitted
11	- Vout
14	+Vin
others	Omitted

App Notes:

¹ = Measured Input reflected ripple current with a simulated source inductance of 12uH.

² = Tested by minimal Vin and constant resistive load.

- Operation under no-load conditions will not damage these devices, but they will not observe the listed specifications.