P6FG-xxxxE/Z2:1(H30)LF

Mainzer Straße 151–153
D-55299 Nackenheim
Tel. +49 6135 7026-0
Fax: +49 6135 931070
www.peak-electronics.de
peak@peak-electronics.de

PMB-SERIES Rev.04-2009

- ✓ 1 Watt
- ✓ **2:1** Wide Input
- ✓ **Reg. Single and Dual** Output
- ✓ **1 - 3 kV** DC I/O Isolation
- ✓ **DIP16** case
- ✓ Contin. Short Circuit Protection

The PMB 1 Watt series is a family of cost effective 1 W single and dual output DC/DC converters with an optional control Pin (SIP). These converters are encapsulated in an ultra miniature SIP8 or DIP16 plastic or metal case. High performance features: continuous / long time short circuit protection with automatic restart and tight line / load regulation, high efficiency operation and output voltage accuracy of ±2% maximum.

All specifications typical at Ta=25°C, nominal input voltage and full load unless otherwise specified

Input Specifications	
Voltage Range	2:1 Wide Input (see table)
Input Filter	Capacitor
Input Reflected Ripple Current[1]	35 mA pk-pk
Output Specifications	
Voltage Accuracy	± 2%
Short Circuit Protection	Indefinite (Automatic Recovery)
Line Regulation	± 0.5%
Load Regulation (25% - 100%)	± 1%
Ripple and Noise (20Mhz bandwidth)	80 mV pk-pk
Temperature Coefficient	± 0.02% / °C
General Specifications	
I/O Isolation Voltage (3 sec.)	1000 VDC (3000 VDC optional)*
I/O Isolation Capacity	60 pF
I/O Isolation Resistance	1000 M Ohm
Switching Frequency	100 - 650 kHz
Humidity	95% rel H
Reliability Calculated MTBF (MIL-HDBK-217F)	> 2.732 Mhrs
Physical Specifications	
Case Material	Non Conductive Black Plastic (UL94V-0 rated)
Potting Material	Epoxy (UL94V-0 rated)
Weight	~ 6 g, typ.
Environment Specifications	
Operating Temperature	-40 to +85°C (ambient)
Maximum Case Temperature	100°C
Storage Temperature	-40 to +125°C
Cooling	Free Air Convection
RoHS Conform	Soldering 260°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 Min. Load (mA)	Output Current Full Load (mA)	Efficiency (%)	Capacitor Load (uF)[2]
SINGLE OUTPUT								
P6FG-053R3E2:1LF	4.5-9	15	298	3.3	76	303	67	3300
P6FG-0505E2:1LF	4.5-9	15	298	5	50	200	67	3300
P6FG-0509E2:1LF	4.5-9	40	285	9	28	111	70	470
P6FG-0512E2:1LF	4.5-9	55	285	12	21	83	70	470
P6FG-0515E2:1LF	4.5-9	55	285	15	17	67	70	470
P6FG-0524E2:1LF	4.5-9	70	294	24	10	42	68	220
P6FG-123R3E2:1LF	9-18	15	119	3.3	76	303	70	3300
P6FG-1205E2:1LF	9-18	15	115	5	50	200	72	3300
P6FG-1209E2:1LF	9-18	15	108	9	28	111	77	470
P6FG-1212E2:1LF	9-18	15	108	12	21	83	77	470
P6FG-1215E2:1LF	9-18	15	108	15	17	67	77	470
P6FG-1224E2:1LF	9-18	15	114	24	10	42	73	220
P6FG-243R3E2:1LF	18-36	8	59	3.3	76	303	70	3300
P6FG-2405E2:1LF	18-36	8	57	5	50	200	72	3300
P6FG-2409E2:1LF	18-36	8	55	9	28	111	75	470
P6FG-2412E2:1LF	18-36	8	55	12	21	83	75	470
P6FG-2415E2:1LF	18-36	8	55	15	17	67	75	470
P6FG-2424E2:1LF	18-36	8	55	24	10	42	75	220
P6FG-483R3E2:1LF	36-72	6	31	3.3	76	303	66	3300
P6FG-4805E2:1LF	36-72	6	30	5	50	200	68	3300
P6FG-4809E2:1LF	36-72	6	29	9	28	111	70	470
P6FG-4812E2:1LF	36-72	6	29	12	21	83	70	470
P6FG-4815E2:1LF	36-72	6	29	15	17	67	70	470
P6FG-4824E2:1LF	36-72	6	30	24	10	42	68	220

If you need other specifications, please enquire.

***OPTIONS:**

3 kV I/O Isolation	For optional 3kV DC I/O Isolation, please add “H30” before LF! (P6FG-2424E2:1**H30**LF for 3kV)

Selection Guide
Dual Output

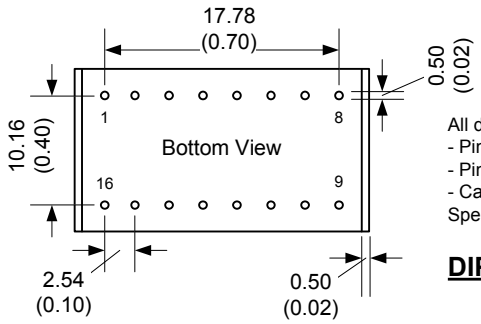
Order #	Input Voltage (VDC)	Input Current No Load (mA)	Input Current Full Load (mA)	Output Voltage (VDC)	Output Current Min. Load (mA)	Output Current Full Load (mA)	Efficiency (%)	Capacitor Load (uF)[2]
DUAL OUTPUT								
P6FG-053R3Z2:1LF	4.5-9	15	285	±3.3	±38	±152	70	±1000
P6FG-0505Z2:1LF	4.5-9	15	270	±5.0	±25	±100	74	±1000
P6FG-0509Z2:1LF	4.5-9	20	270	±9.0	±14	±56	74	±220
P6FG-0512Z2:1LF	4.5-9	20	266	±12.0	±10	±42	75	±220
P6FG-0515Z2:1LF	4.5-9	40	285	±15.0	±8	±33	70	±220
P6FG-0524Z2:1LF	4.5-9	70	298	±24.0	±5	±21	67	±100
P6FG-123R3Z2:1LF	9-18	15	119	±3.3	±38	±152	70	±1000
P6FG-1205Z2:1LF	9-18	15	115	±5.0	±25	±100	72	±1000
P6FG-1209Z2:1LF	9-18	15	109	±9.0	±14	±56	76	±220
P6FG-1212Z2:1LF	9-18	15	109	±12.0	±10	±42	76	±220
P6FG-1215Z2:1LF	9-18	15	112	±15.0	±8	±33	74	±220
P6FG-1224Z2:1LF	9-18	40	124	±24.0	±5	±21	67	±100
P6FG-243R3Z2:1LF	18-36	8	59	±3.3	±38	±152	70	±1000
P6FG-2405Z2:1LF	18-36	8	59	±5.0	±25	±100	70	±1000
P6FG-2409Z2:1LF	18-36	8	54	±9.0	±14	±56	76	±220
P6FG-2412Z2:1LF	18-36	8	54	±12.0	±10	±42	77	±220
P6FG-2415Z2:1LF	18-36	8	55	±15.0	±8	±33	75	±220
P6FG-2424Z2:1LF	18-36	20	59	±24.0	±5	±21	70	±100
P6FG-483R3Z2:1LF	36-72	6	30	±3.3	±38	±152	70	±1000
P6FG-4805Z2:1LF	36-72	6	30	±5.0	±25	±100	70	±1000
P6FG-4809Z2:1LF	36-72	6	28	±9.0	±14	±56	74	±220
P6FG-4812Z2:1LF	36-72	6	27	±12.0	±10	±42	76	±220
P6FG-4815Z2:1LF	36-72	6	29	±15.0	±8	±33	72	±220
P6FG-4824Z2:1LF	36-72	12	30	±24.0	±5	±21	70	±100

If you need other specifications, please enquire.

***OPTIONS:**

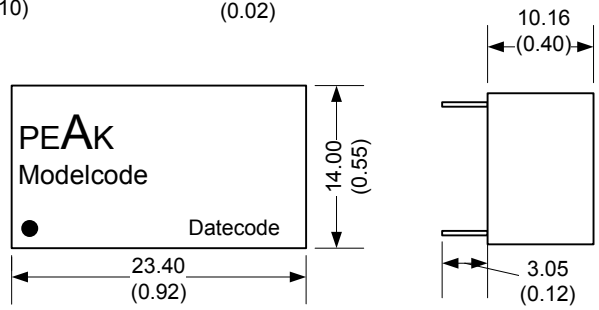
3 kV I/O Isolation	For optional 3kV DC I/O Isolation, please add “H30” before LF! (P6FG-2424Z2:1**H30**LF for 3kV)

Package / Pinning / Derating

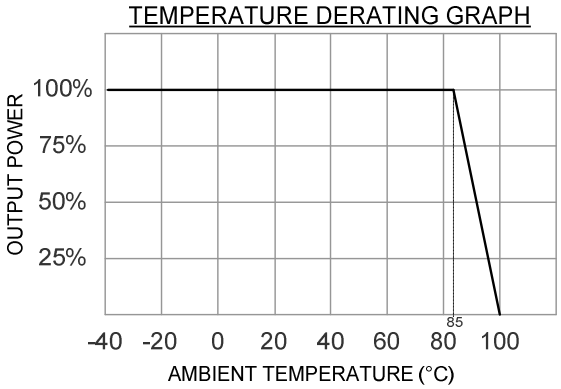


All dimensions are typical in millimeters (inches).
- Pin diameter: 1.0 +/-0.05 (0.04 +/-0.002)
- Pin pitch tolerance: +/-0.35 (+/-0.014)
- Case tolerance +/-0.5 (+/-0.02)
Specification may change without notice.

DIP16 – PLASTIC CASE



TEMPERATURE DERATING GRAPH



PIN CONNECTIONS		
#	SINGLE	DUAL
1	- Vin	- Vin
2	- Vin	- Vin
6	N.C.	Common
8	N.C.	- Vout
9	+Vout	+Vout
11	- Vout	Common
15	+Vin	+Vin
16	+Vin	+Vin

(same pinning for 3kV)

App Notes:

[1] = Measured Input reflected ripple current with a simulated source inductance of 12uH
[2] = Tested by nominal Vin and constant resistive load.

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