

P(C)14NG-xxxxE/Z2:1LF



PMB-SERIES

Rev.11-2008

- ✓ 3 Watt
- ✓ 2:1 Wide Input
- ✓ **Single and Dual Reg. Output**
- ✓ **1.5 kV DC I/O Isolation**
- ✓ **SIP8 case**
- ✓ **On/Off Control (optional)**
- ✓ **Contin. Short Circuit Protection**

The PMB series is a family of cost effective 1, 2 and 3 W single and dual output DC/DC converters with an optional control Pin. These converters are in an ultra miniature SIP8 or DIP16 plastic or metal case. Devices are encapsulated using flame retardant resin. High performance features include continuous / long time short circuit protection with automatic restart and tight line / load regulation. High performance features include high efficiency operation and output voltage accuracy of $\pm 1-2\%$ maximum. PMB-Series is a good substitution of traditional DC/DC converters 3W in DIP24 package.

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	Capacitors
Input Reflected Ripple Current ¹	35 mA pk-pk
Start up time (Nominal Vin and constant resistive load)	20mS, typ.

Output Specifications

Voltage Accuracy	$\pm 1\%$
Short Circuit Protection	Indefinite (Automatic Recovery)
Line Regulation	$\pm 0.5\%$, max.
Load Regulation (25% - 100%)	$\pm 1\%$, max.
Cross Regulation (Dual Output)	$\pm 5\%$
Ripple and Noise (20Mhz bandwidth)	75 mV pk-pk
Temperature Coefficient	$\pm 0.02\%$ / °C
Transient Recovery Time ²	300us, typ.
Transient Response Deviation ²	$\pm 3\%$, max.

General Specifications

I/O Isolation Voltage (3 sec.)	1500 VDC
I/O Isolation Capacity	680 pF, max.
I/O Isolation Resistance	1000 MOhm
Switching Frequency	100 kHz, min.
Humidity	95% rel H
Reliability Calculated MTBF (MIL-HDBK-217F)	> 2.465 Mhrs

Physical Specifications

Case Material	Non Conductive Black Plastic
Potting Material	Epoxy (UL94V-0 rated)
Weight	~ 4.8g, typ.

Environment Specifications

Operating Temperature	-40 to +71 °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.)

PMB-Series – P(C)14NG-xxxxE/Z2:1LF – Single / Dual Output – SIP8 - Plastic Case

Specification can change without a notice – We accept no liability for any inaccuracy or printing errors.

Selection Guide

Single and Dual Output

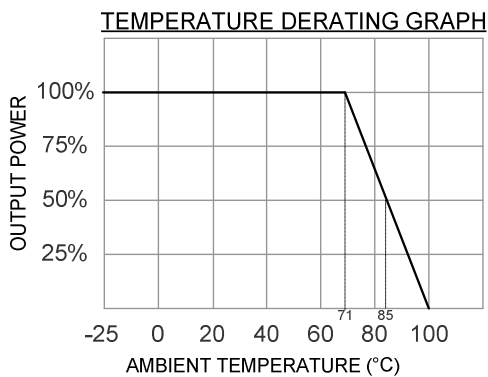
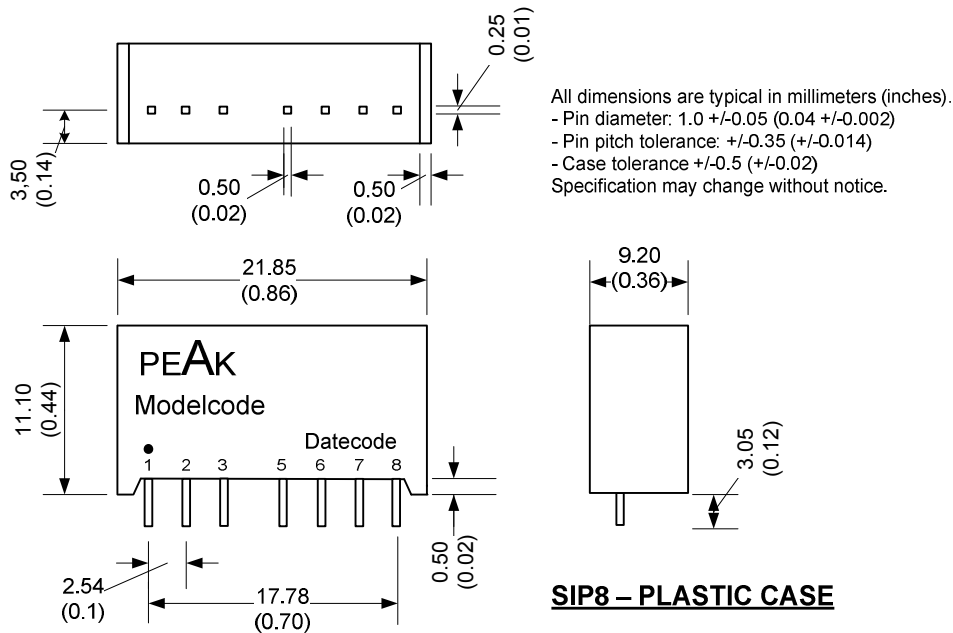
Order #	Input Voltage (VDC)	Input Current No Load (mA)	Input Current Full Load (mA)	Output Voltage (VDC)	Output Current Min. Load (mA)	Output Current Full Load (mA)	Efficiency (%)	Capacitor Load (uF) ²
SINGLE OUTPUT								
P14NG-053R3E2:1LF	4.5-9	65	640	3.3	175	700	74	2200
P14NG-0505E2:1LF	4.5-9	70	800	5	150	600	76	1000
P14NG-0512E2:1LF	4.5-9	75	750	12	62.5	250	82	470
P14NG-0515E2:1LF	4.5-9	75	750	15	50	200	82	220
P14NG-123R3E2:1LF	9-18	25	260	3.3	175	700	76	2200
P14NG-1205E2:1LF	9-18	15	320	5	150	600	81	1000
P14NG-1212E2:1LF	9-18	35	305	12	62.5	250	84	470
P14NG-1215E2:1LF	9-18	35	305	15	50	200	84	220
P14NG-2015E2:1LF	15 - 30	25	180	15	50	200	83	220
P14NG-243R3E2:1LF	18-36	15	133	3.3	175	700	74	2200
P14NG-2405E2:1LF	18-36	15	160	5	150	600	79	1000
P14NG-2412E2:1LF	18-36	20	156	12	62.5	250	82	470
P14NG-2415E2:1LF	18-36	20	152	15	50	200	84	220
P14NG-483R3E2:1LF	36-72	10	66	3.3	175	700	75	2200
P14NG-4805E2:1LF	36-72	10	82	5	150	600	78	1000
P14NG-4812E2:1LF	36-72	15	78	12	62.5	250	81	470
P14NG-4815E2:1LF	36-72	15	78	15	50	200	81	220

DUAL OUTPUT								
P14NG-0505Z2:1LF	4.5-9	90	800	± 5	± 75	± 300	77	± 470
P14NG-0512Z2:1LF	4.5-9	90	760	± 12	± 31.25	± 125	81	± 220
P14NG-0515Z2:1LF	4.5-9	90	750	± 15	± 25	± 100	82	± 100
P14NG-1205Z2:1LF	9-18	45	320	± 5	± 75	± 300	80	± 470
P14NG-1212Z2:1LF	9-18	45	308	± 12	± 31.25	± 125	83	± 220
P14NG-1215Z2:1LF	9-18	45	312	± 15	± 25	± 100	82	± 100
P14NG-2405Z2:1LF	18-36	20	160	± 5	± 75	± 300	80	± 470
P14NG-2412Z2:1LF	18-36	20	154	± 12	± 31.25	± 125	83	± 220
P14NG-2415Z2:1LF	18-36	20	154	± 15	± 25	± 100	83	± 100
P14NG-4805Z2:1LF	36-72	15	82	± 5	± 75	± 300	78	± 470
P14NG-4812Z2:1LF	36-72	20	80	± 12	± 31.25	± 125	80	± 220
P14NG-4815Z2:1LF	36-72	15	78	± 15	± 25	± 100	81	± 100

If you need other specifications, please enquire.

For optional Control Pin, please add “C” between P and 14
For example: PC14NG-2405Z2:1LF

Package / Pinning / Derating



PIN CONNECTIONS				
#	SINGLE	DUAL	SINGLE "C"	DUAL "C"
1	- Vin	- Vin	- Vin	- Vin
2	+Vin	+Vin	+Vin	+Vin
3	Omitted	Omitted	Ctrl.	Ctrl.
5	Omitted	N.C.	N.C.	N.C.
6	+Vout	+Vout	+Vout	+Vout
7	- Vout	Common	- Vout	Common
8	N.C.	- Vout	N.C.	- Vout

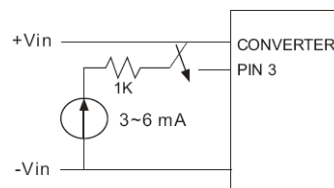
App Notes:

¹ = Measured Input reflected ripple current with a simulated source inductance of 12uH and source capacitor Cin (47uF, ESR<10hm at 100KHz)

² = Tested by nominal Vin and 100% - 25% load, 25% load step change.

³ = Tested by minimal Vin and constant resistive load.

Operation at no-load conditions will not damage these devices, however they may not meet all specifications.



The Remote on/off controll:

ON: open or high impedance

OFF: 3.0 – 6.0 mA input current (via 1k)

Off stand by input current (Nominal Vin): 3mA, max.