

# PC14NG-xxxxE/Z4:1LF



## PMRBW-SERIES Rev.05-2010

- ✓ 3 Watt
- ✓ 4:1 Wide Input
- ✓ **Single and Dual Reg. Output**
- ✓ **1.5 kV DC I/O Isolation**
- ✓ **SIP8 case**
- ✓ **On/Off Control**
- ✓ **Contin. Short Circuit Protection**

The PMRBW series is a family of cost effective 3 W single and dual output DC/DC converters with an control Pin. These converters are in an ultra miniature SIP8 plastic 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  $\pm 1\%$  maximum. PMRBW-Series is a good substitution of traditional DC/DC converters 3W in DIP24 package.

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

### Input Specifications

Voltage Range	4:1 Wide Input (see table)
Input Filter	Capacitors
Input Reflected Ripple Current <sup>1</sup>	20 mA pk-pk
Start up time (Nominal $V_{in}$ and constant resistive load)	30mS, typ.

### Output Specifications

Voltage Accuracy	$\pm 1\%$
Short Circuit Protection	Indefinite (Automatic Recovery)
Line Regulation	$\pm 0.2\%$ , max.
Load Regulation	$\pm 1\%$ , max.
Cross Regulation (Dual Output)	$\pm 5\%$
Ripple and Noise (20Mhz bandwidth)	30 mV pk-pk
Temperature Coefficient	$\pm 0.02\%$ / $^\circ\text{C}$
Transient Recovery Time <sup>2</sup>	250us, typ.
Transient Response Deviation <sup>2</sup>	$\pm 3\%$ , max.

### General Specifications

I/O Isolation Voltage (3 sec.)	1500 VDC
I/O Isolation Capacity	200 pF, max.
I/O Isolation Resistance	1000 MOhm
Switching Frequency	100 kHz, min.
Humidity	95% rel H
Reliability Calculated MTBF (MIL-HDBK-217F)	> 1.7 Mhrs

### Physical Specifications

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

### Environment Specifications

Operating Temperature	-40 to +71 $^\circ\text{C}$ (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.)

PMRBW-Series – PC14NG-xxxxE/Z4:1LF – Single / Dual Output – SIP8 - Plastic Case

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

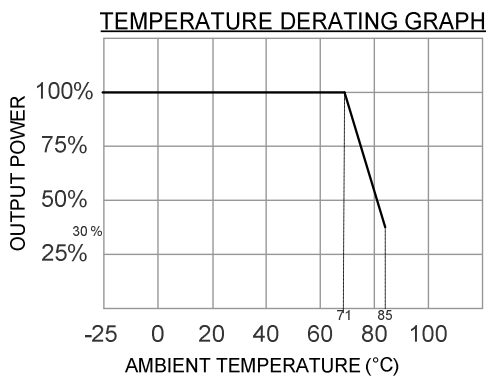
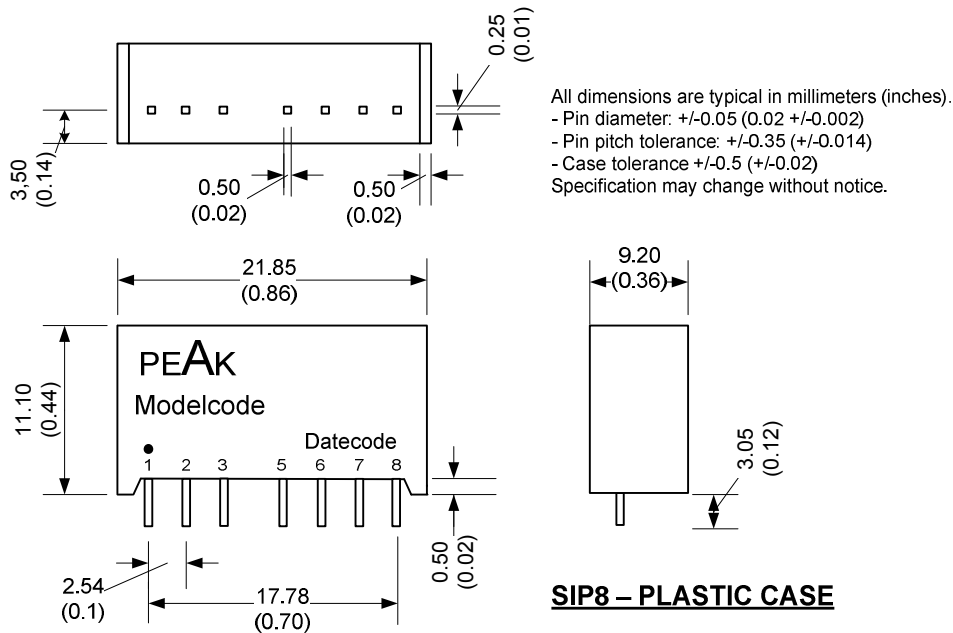
# Selection Guide

## 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) <sup>3</sup>
<b><u>SINGLE OUTPUT</u></b>								
PC14NG-123R3E4:1LF	4.5- 18	40	267	3.3	0	700	73	1760
PC14NG-1205E4:1LF	4.5- 18	40	324	5	0	600	78	1000
PC14NG-1212E4:1LF	4.5- 18	40	312	12	0	250	81	170
PC14NG-1215E4:1LF	4.5- 18	40	312	15	0	200	81	110
PC14NG-243R3E4:1LF	9- 36	25	128	3.3	0	700	76	1760
PC14NG-2405E4:1LF	9- 36	25	158	5	0	600	80	1000
PC14NG-2412E4:1LF	9- 36	30	154	12	0	250	82	170
PC14NG-2415E4:1LF	9- 36	30	154	15	0	200	82	110
PC14NG-483R3E4:1LF	18- 75	15	66	3.3	0	700	74	1760
PC14NG-4805E4:1LF	18- 75	15	80	5	0	600	79	1000
PC14NG-4812E4:1LF	18- 75	15	78	12	0	250	81	170
PC14NG-4815E4:1LF	18- 75	15	77	15	0	200	82	110
<b><u>DUAL OUTPUT</u></b>								
PC14NG-1205Z4:1LF	4.5- 18	40	324	± 5	0	± 300	78	±470
PC14NG-1212Z4:1LF	4.5- 18	40	316	± 12	0	± 125	80	±100
PC14NG-1215Z4:1LF	4.5- 18	40	312	± 15	0	± 100	81	±47
PC14NG-2405Z4:1LF	9- 36	30	160	± 5	0	± 300	79	± 470
PC14NG-2412Z4:1LF	9- 36	35	158	± 12	0	± 125	80	±100
PC14NG-2415Z4:1LF	9- 36	35	156	± 15	0	± 100	81	±47
PC14NG-4805Z4:1LF	18- 75	15	80	± 5	0	± 300	79	± 470
PC14NG-4812Z4:1LF	18- 75	20	79	± 12	0	± 125	80	±100
PC14NG-4815Z4:1LF	18- 75	20	79	± 15	0	± 100	80	±47

If you need other specifications, please enquire.

# Package / Pinning / Derating



PIN CONNECTIONS		
#	SINGLE	DUAL
1	- Vin	- Vin
2	+Vin	+Vin
3	Remote On/Off	Remote On/Off
5	N.C.	N.C.
6	+Vout	+Vout
7	- Vout	Common
8	N.C.	- Vout

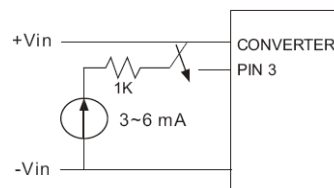
## App Notes:

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

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

<sup>3</sup> = 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: 2-4 mA input current (via 1k)

Off stand by input current (Nominal Vin): 2.5mA, max.