PC14NG-xxxxE/Z4:1LF

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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 ±1% maximum. PMRBW-Series is a good substitution of traditional DC/DC converters 3W in DIP24 package.

All specifications typical at Ta=25℃, 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[1]	20 mA pk-pk
Start up time (Nominal Vin and constant resistive load)	30mS, typ.
Output Specifications	
Voltage Accuracy	± 1%
Short Circuit Protection	Indefinite (Automatic Recovery)
Line Regulation	± 0.2%, max.
Load Regulation	± 1%, max.
Cross Regulation (Dual Output)	± 5%
Ripple and Noise (20Mhz bandwidth)	30 mV pk-pk
Temperature Coefficient	± 0.02% / ℃
Transient Recovery Time[2]	250us, typ.
Transient Response Deviation[2]	± 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℃ (ambient)
Maximum Case Temperature	100℃
Storage Temperature	-40 to +125℃
Cooling	Free Air Convection
RoHS Conform	Soldering 260℃, max. (1.5mm from case 10s.)

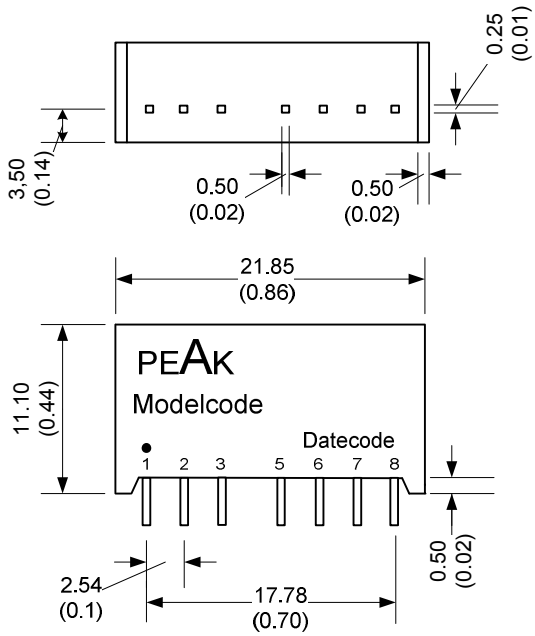
Specification can change without a notice – We accept no liability for any inaccuracy or printing errors.

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)[3]
SINGLE OUTPUT								
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
DUAL OUTPUT								
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.

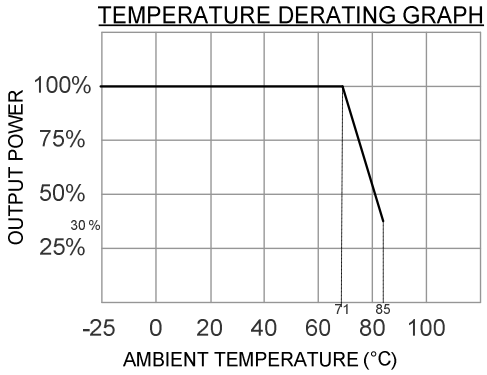
Package / Pinning / Derating



All dimensions are typical in millimeters (inches).
- Pin diameter: +/-0.05 (0.02 +/-0.002)
- Pin pitch tolerance: +/-0.35 (+/-0.014)
- Case tolerance +/-0.5 (+/-0.02)

Specification may change without notice.

SIP8 – PLASTIC CASE

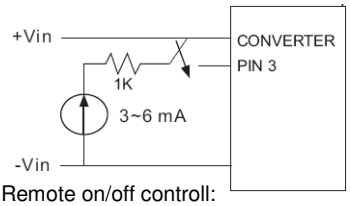


PIN CONNECTIONS		
#	SINGLE	DUAL
1	- Vin	- Vin
2	+Vin	+Vin
3	Remote On/Off	Remote On/Off
5	N.C.	N.C.
6	+Vout	+Vout
7	- Vout	Common
8	N.C.	- Vout

App Notes:

[1] = Measured Input reflected ripple current with a simulated source inductance of 12uH and source capacitor Cin (47uF, ESR<1Ohm 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: 2-4 mA input current (via 1k)
Off stand by input current (Nominal Vin): 2.5mA, max.