

PC10NG-xxxxE/Z4:1LF



PMRBW-SERIES Rev.02-2013

- ✓ 2 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 2 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 ¹	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	$\pm 0.5\%$, (9 Vout Models: $\pm 0.2\%$) max.
Load Regulation	$\pm 1.0\%$, max.
Cross Regulation (Dual Output)	$\pm 5\%$
Ripple and Noise (20Mhz bandwidth)	50mV pk-pk (9 Vout Models: 30mV pk-pk)
Temperature Coefficient	$\pm 0.02\% / ^\circ\text{C}$
Transient Recovery Time ²	250us, typ.
Transient Response Deviation ²	$\pm 3\%$, 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 – PC10NG-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.

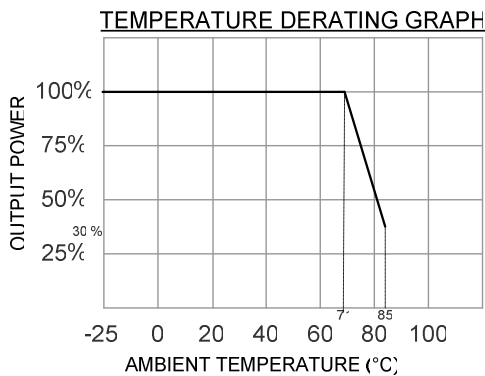
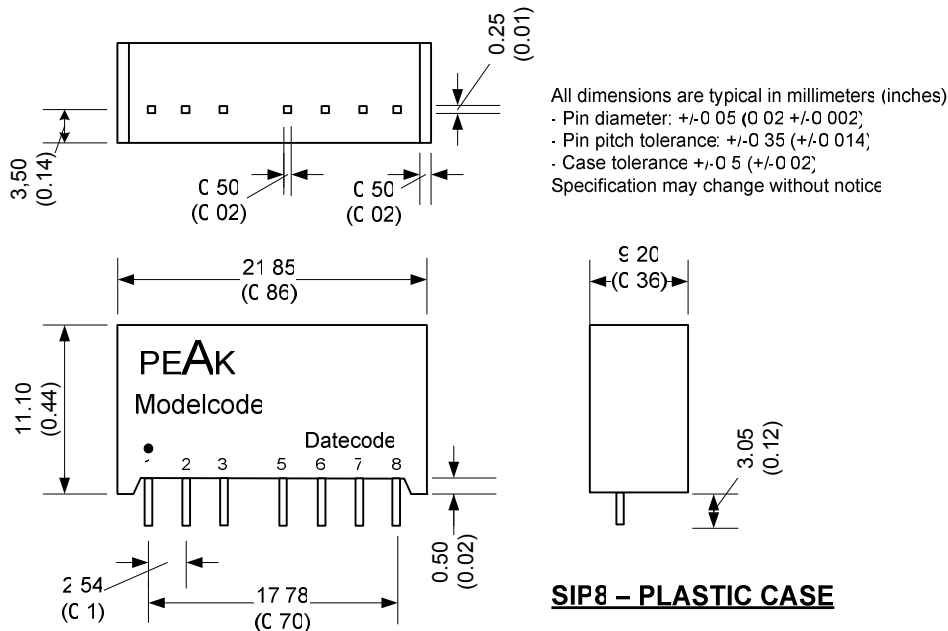
Selection Guide

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) ³
SINGLE OUTPUT								
PC10NG-123R3E4:1LF	4.5- 18	40	195	3.3	0	500	71	1000
PC10NG-1205E4:1LF	4.5- 18	40	230	5	0	400	74	1000
PC10NG-1212E4:1LF	4.5- 18	40	225	12	0	166	75	220
PC10NG-1215E4:1LF	4.5- 18	40	225	15	0	133	75	100
PC10NG-243R3E4:1LF	9- 36	25	100	3.3	0	500	71	1000
PC10NG-2405E4:1LF	9- 36	25	110	5	0	400	80	1000
PC10NG-2409E4:1LF	9-26	20	106.83	9	0	222.22	78	220
PC10NG-2412E4:1LF	9- 36	25	105	12	0	166	80	220
PC10NG-2415E4:1LF	9- 36	25	105	15	0	133	80	100
PC10NG-483R3E4:1LF	18- 75	15	50	3.3	0	500	72	1000
PC10NG-4805E4:1LF	18- 75	15	55	5	0	400	77	1000
PC10NG-4812E4:1LF	18- 75	15	55	12	0	166	79	220
PC10NG-4815E4:1LF	18- 75	15	55	15	0	133	78	100
DUAL OUTPUT								
PC10NG-1205Z4:1LF	4.5- 18	40	215	± 5	0	± 200	78	±470
PC10NG-1212Z4:1LF	4.5- 18	40	215	± 12	0	± 83	78	±100
PC10NG-1215Z4:1LF	4.5- 18	40	215	± 15	0	± 66	78	±47
PC10NG-2405Z4:1LF	9- 36	25	115	± 5	0	± 200	73	± 470
PC10NG-2412Z4:1LF	9- 36	25	110	± 12	0	± 83	77	±100
PC10NG-2415Z4:1LF	9- 36	25	110	± 15	0	± 66	79	±47
PC10NG-4805Z4:1LF	18- 75	15	60	± 5	0	± 200	70	± 470
PC10NG-4812Z4:1LF	18- 75	15	55	± 12	0	± 83	76	±100
PC10NG-4815Z4:1LF	18- 75	15	55	± 15	0	± 66	76	±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

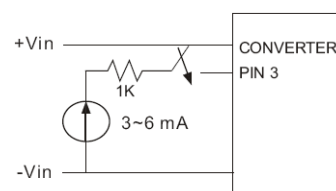
App Notes:

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.