

P6DUI-xxxxZ(H30)LF



PM1-SERIES

Rev.11-2008

- ✓ 1 Watt
- ✓ Unregulated
- ✓ **Dual Separate Output**
- ✓ **DIP14 Case**
- ✓ **1 - 3 kV DC I/O Isolation**
- ✓ Low Ripple and Noise

The PM1 series P6DUI-xxxxZ(H30)LF is a family of cost effective 1 W dual separate output DC/DC converters. These converters are in an ultra miniature DIP14 case. Devices are encapsulated. High performance features: 1000VDC up to 3000VDC input/output isolation, high efficiency operation, output voltage accuracy of $\pm 3\%$ maximum, input range of $\pm 10\%$ tolerance and low output ripple and noise.

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

Input Specifications

Voltage Range	$\pm 10\%$
Input Filter	Capacitor
Input Reflected Ripple Current ¹	20 mA pk-pk

Output Specifications

Voltage Accuracy	$\pm 3\%$
Short Circuit Protection	Short Term
Line Regulation	$\pm 1.2\% / 1\% V_{in}$ Change
Load Regulation (20% - 100%)	$\pm 10\%$ (3.3 Vout Models: $\pm 20\%$)
Ripple and Noise (20Mhz bandwidth)	75 mV pk-pk
Temperature Coefficient	$\pm 0.02\% / ^\circ\text{C}$

General Specifications

Efficiency	See Table
I/O Isolation Voltage (3 sec.)	1000 VDC (3000 VDC optional)*
I/O Isolation Capacity	60 pF, typ.
I/O Isolation Resistance	1000 MOhm
Switching Frequency	80 kHz (Variable)
Humidity	95% rel H
Reliability Calculated MTBF (MIL-HDBK-217F)	> 1.121 Mhrs

Physical Specifications

Case Material	Non Conductive Black Plastic (UL94V-0 rated)
Potting Material	Epoxy (UL94V-0 rated)
Weight	~ 2.6g, typ.

Environment Specifications

Operating Temperature	-40 to +85 $^\circ\text{C}$ (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.)

Selection Guide

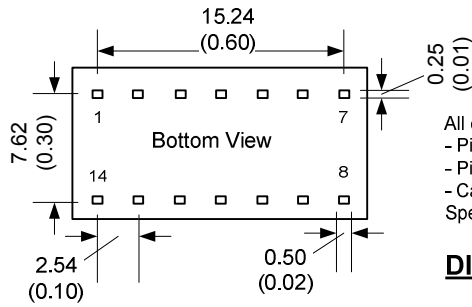
Dual Separate Output

Order #	Input Voltage (VDC)		Input Current No Load (mA)	Input Current Full Load (mA)	Output Voltage (VDC)		Output Current Full Load (mA)	Efficiency (%)	Capacitor Load (μF) ²
DUAL SEPARATE OUTPUT									
P6DUI-05053R3ZLF	5	25	259	5, 3.3	100, 152	77	100		
P6DUI-05057R2ZLF	5	25	266	5, 7.2	100, 69	75	100		
P6DUI-050509ZLF	5	25	259	5, 9	100, 56	77	100		
P6DUI-050512ZLF	5	25	259	5, 12	100, 42	77	100		
P6DUI-050515ZLF	5	25	256	5, 15	100, 33	78	100		
P6DUI-12053R3ZLF	12	15	106	5, 3.3	100, 152	78	100		
P6DUI-12057R2ZLF	12	15	111	5, 7.2	100, 69	75	100		
P6DUI-120509ZLF	12	15	108	5, 9	100, 56	77	100		
P6DUI-120512ZLF	12	15	92	5, 12	100, 42	80	100		
P6DUI-120515ZLF	12	15	106	5, 15	100, 33	78	100		
P6DUI-24053R3ZLF	24	8	55	5, 3.3	100, 152	75	100		
P6DUI-24057R2ZLF	24	8	55	5, 7.2	100, 69	75	100		
P6DUI-240509ZLF	24	8	54	5, 9	100, 56	77	100		
P6DUI-240512ZLF	24	8	53	5, 12	100, 42	78	100		
P6DUI-240515ZLF	24	8	53	5, 15	100, 33	78	100		
P6DUI-050505ZLF	5	25	266	5, 5	100, 100	75	100		
P6DUI-057R27R2ZLF	5	25	259	7.2, 7.2	69, 69	77	100		
P6DUI-050909ZLF	5	25	253	9, 9	56, 56	79	100		
P6DUI-051212ZLF	5	25	250	12, 12	42, 42	80	100		
P6DUI-051515ZLF	5	25	243	15, 15	33, 33	82	100		
P6DUI-120505ZLF	12	15	111	5, 5	100, 100	75	100		
P6DUI-127R27R2ZLF	12	15	108	7.2, 7.2	69, 69	77	100		
P6DUI-120909ZLF	12	15	108	9, 9	56, 56	77	100		
P6DUI-121212ZLF	12	15	104	12, 12	42, 42	80	100		
P6DUI-121515ZLF	12	15	102	15, 15	33, 33	81	100		
P6DUI-240505ZLF	24	8	55	5, 5	100, 100	75	100		
P6DUI-247R27R2ZLF	24	8	54	7.2, 7.2	69, 69	77	100		
P6DUI-240909ZLF	24	8	52	9, 9	56, 56	79	100		
P6DUI-241212ZLF	24	8	50	12, 12	42, 42	82	100		
P6DUI-241515ZLF	24	8	50	15, 15	33, 33	82	100		

If you need other specifications, please enquire.

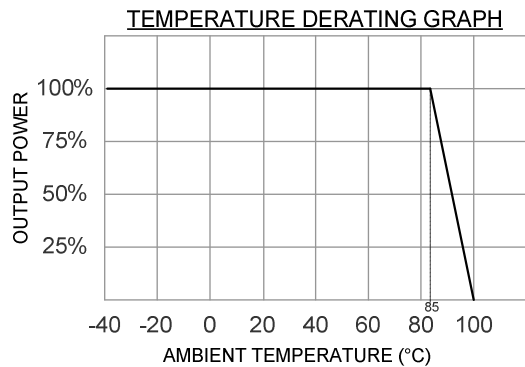
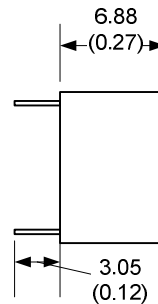
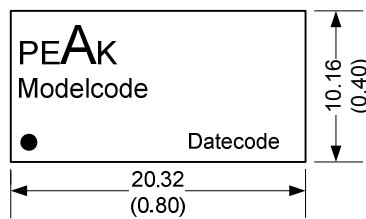
*** For optional 3kV DC I/O Isolation, please add "H30" before LF!
 → Example: P6DUI-050505ZH30LF for 3kV**

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.

DIP14 – PLASTIC CASE



PIN CONNECTIONS	
#	DUAL SEP.
1	- Vin
7	N.C.
8	- V2out
9	+V2out
10	- V1out
11	+V1out
14	+Vin
Others	Omitted

Same Pinning for 3kV Models!

App Notes:

¹ = Measured Input reflected ripple current with a simulated source inductance of 12uH.

² = Tested by minimal Vin and constant resistive load.

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