

# P6CUI-xxxxZ(H30)LF



## PM1-SERIES

Rev.02-2009

- ✓ 1 Watt
- ✓ Unregulated
- ✓ **Dual Separate Output**
- ✓ **SIP7 Case**
- ✓ **1 - 3 kV DC I/O Isolation**
- ✓ Low Ripple and Noise

The PM1 series P6CUI-xxxxZ(H30)LF is a family of cost effective 1 W dual separate output DC/DC converters. These converters are in an ultra miniature SIP7 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 <sup>1</sup>	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	~ 2.3g, 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 (10 mm distance required)
RoHS Conform	Soldering 260 $^\circ\text{C}$ , max. (1.5 mm from case 10s.)

# Selection Guide

## Dual Separate Output

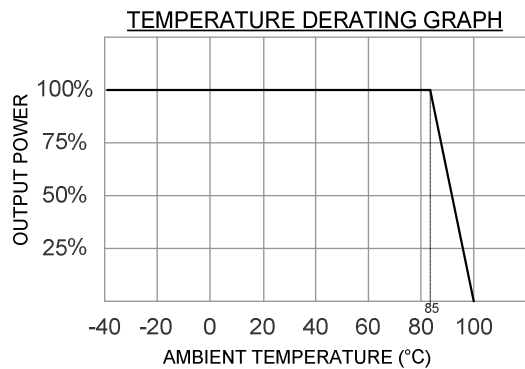
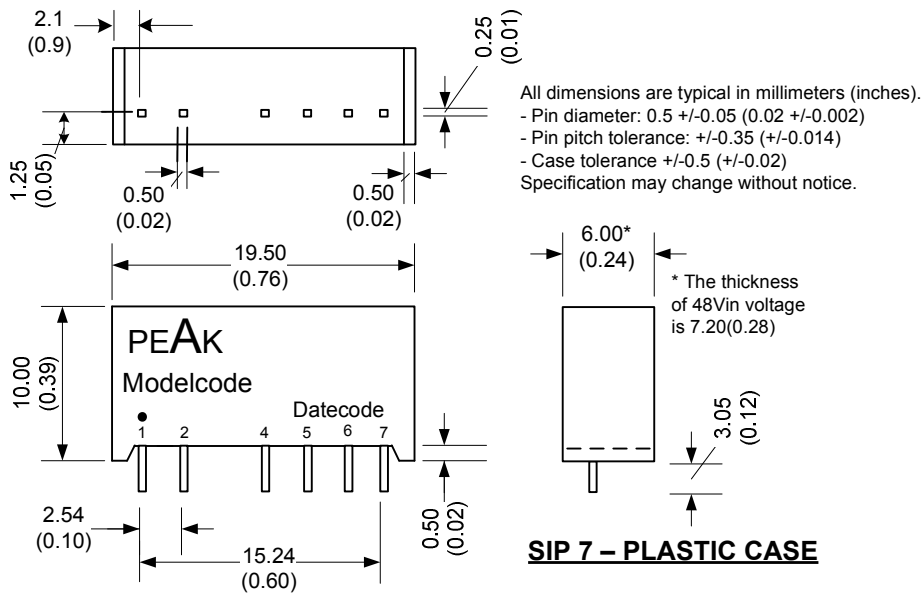
Order #	Input Voltage (VDC)		Input Current No Load (mA)	Input Current Full Load (mA)		Output Voltage (VDC)		Output Current Full Load (mA)	Efficiency (%)	Capacitor Load (µF) <sup>2</sup>
<b>DUAL SEPARATE OUTPUT</b>										
P6CUI-05053R3ZLF	5	25	259	5, 3.3	100, 152	77	100			
P6CUI-05057R2ZLF	5	25	266	5, 7.2	100, 69	75	100			
P6CUI-050509ZLF	5	25	259	5, 9	100, 56	77	100			
P6CUI-050512ZLF	5	25	259	5, 12	100, 42	77	100			
P6CUI-050515ZLF	5	25	256	5, 15	100, 33	78	100			
P6CUI-057R218ZLF	5	24	251	7.2, 18	100, 10	74	100			
P6CUI-12053R3ZLF	12	15	106	5, 3.3	100, 152	78	100			
P6CUI-12057R2ZLF	12	15	111	5, 7.2	100, 69	75	100			
P6CUI-120509ZLF	12	15	108	5, 9	100, 56	77	100			
P6CUI-120512ZLF	12	15	92	5, 12	100, 42	80	100			
P6CUI-120515ZLF	12	15	106	5, 15	100, 33	78	100			
P6CUI-24053R3ZLF	24	8	55	5, 3.3	100, 152	75	100			
P6CUI-24057R2ZLF	24	8	55	5, 7.2	100, 69	75	100			
P6CUI-240509ZLF	24	8	54	5, 9	100, 56	77	100			
P6CUI-240512ZLF	24	8	53	5, 12	100, 42	78	100			
P6CUI-240515ZLF	24	8	53	5, 15	100, 33	78	100			
P6CUI-050505ZLF	5	25	266	5, 5	100, 100	75	100			
P6CUI-057R27R2ZLF	5	25	259	7.2, 7.2	69, 69	77	100			
P6CUI-050909ZLF	5	25	253	9, 9	56, 56	79	100			
P6CUI-051212ZLF	5	25	250	12, 12	42, 42	80	100			
P6CUI-051515ZLF	5	25	243	15, 15	33, 33	82	100			
P6CUI-120505ZLF	12	15	111	5, 5	100, 100	75	100			
P6CUI-127R27R2ZLF	12	15	108	7.2, 7.2	69, 69	77	100			
P6CUI-120909ZLF	12	15	108	9, 9	56, 56	77	100			
P6CUI-121212ZLF	12	15	104	12, 12	42, 42	80	100			
P6CUI-121515ZLF	12	15	102	15, 15	33, 33	81	100			
P6CUI-240505ZLF	24	8	55	5, 5	100, 100	75	100			
P6CUI-247R27R2ZLF	24	8	54	7.2, 7.2	69, 69	77	100			
P6CUI-240909ZLF	24	8	52	9, 9	56, 56	79	100			
P6CUI-241212ZLF	24	8	50	12, 12	42, 42	82	100			
P6CUI-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: P6CUI-050505ZH30LF for 3kV**

# Package / Pinning / Derating



PIN CONNECTIONS	
#	DUAL SEP.
1	+Vin
2	- Vin
4	+V1out
5	- V1out
6	+V2out
7	- V2out

Same Pinning for 3kV Models!

## App Notes:

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

<sup>2</sup> = 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.