

# P6CUI-xxxxZ(H30)LF (SIP7)

# P6DUI-xxxxZ(H30)LF (DIP14)

## PM1-SERIES

Rev. 07-2015

- ✓ 1 Watt
- ✓ Unregulated
- ✓ **Dual Separate Output**
- ✓ **SIP7 or DIP14 Case**
- ✓ **1-3 kV DC I/O Isolation**
- ✓ Low Ripple and Noise

The PM1 series is a family of cost effective 0.5 – 1W single/dual output DC/DC converters. They are encapsulated in an ultra miniature SIP7 (PxCU/LU...) or DIP14 (PxDU/MU...) case. High performance features: 1000-6000Vdc input/output isolation, high efficiency operation, output voltage accuracy of  $\pm 3\%$  maximum, input range of  $\pm 10\%$  and low output ripple and noise.

All specifications typical at Ta=25°C, nominal input voltage and full load unless otherwise specified

### Input Specifications

Voltage Range	$\pm 10\%$
Current max.	50 – 266mA (See table)
Current No-Load	8 – 25mA (See table)
Filter	Capacitors
Reflected Ripple Current (@12uH)	20mA pk-pk

### General Specifications

Efficiency	57% - 82% (See table)
Isolation I/O (60 sec)	1000VDC (P6CUI/DUI-xxxxELF) 3000VDC (P6CUI/DUI-xxxxEH30LF)
Isolation I/O Capacitance	60 pF
Isolation I/O Resistance	1000 M $\Omega$
Switching Frequency	80 kHz (variable)
Humidity (rel.)	95%
MTBF (Calculated MIL-HDBK-217F)	>1.121 Mhrs
Safety Standard (designed to meet)	IEC 60950-1

### Output Specifications

Voltage accuracy	$\pm 3\%$
Line regulation (per 1% Vin change)	$\pm 1.2\%$
Load regulation ( 20% to 100% )	$\pm 10\%$ , max. (for 3.3Vout) $\pm 20\%$ , max.
Ripple & noise (20 MHz bandwidth)	75 mV pk-pk
Temperature coefficient	$\pm 0.02\%/^{\circ}\text{C}$
Capacitor load (Test: min. Vin + const. load)	100uF

### Environment / Physical Specifications

Operation Temp. (Derating)	-40°C to 85°C
Case max.	100°C
Storage	-40°C to 125°C
Cooling	Nature / Free Air
Case Material	Plastic (UL94V-0 rated)
Potting	Epoxy (UL94V-0 rated)
Pin Material	Alloy42 (Solder coated)
Weight	2.3 g (SIP7) 2.6 g (DIP14)



Order #	Input Voltage (VDC)	Input Current No Load (mA)	Input Current Full Load (mA)	Output Voltage (VDC)	Output Current Full Load (mA)	Efficiency (%)
<b>DUAL SEPARATE OUTPUT</b>						
P6CUI/DUI-05053R3ZLF	5	25	259	5, 3.3	100, 152	77
P6CUI/DUI-05057R2ZLF	5	25	266	5, 7.2	100, 69	75
P6CUI/DUI-050509ZLF	5	25	259	5, 9	100, 56	77
P6CUI/DUI-050512ZLF	5	25	259	5, 12	100, 42	77
P6CUI/DUI-050515ZLF	5	25	256	5, 15	100, 33	78
P6CUI/DUI-057R218ZLF	5	24	251	7.2, 18	100, 10	74
P6CUI/DUI-12053R3ZLF	12	15	106	5, 3.3	100, 152	78
P6CUI/DUI-12057R2ZLF	12	15	111	5, 7.2	100, 69	75
P6CUI/DUI-120509ZLF	12	15	108	5, 9	100, 56	77
P6CUI/DUI-120512ZLF	12	15	92	5, 12	100, 42	80
P6CUI/DUI-120515ZLF	12	15	106	5, 15	100, 33	78
P6CUI/DUI-24053R3ZLF	24	8	55	5, 3.3	100, 152	75
P6CUI/DUI-24057R2ZLF	24	8	55	5, 7.2	100, 69	75
P6CUI/DUI-240509ZLF	24	8	54	5, 9	100, 56	77
P6CUI/DUI-240512ZLF	24	8	53	5, 12	100, 42	78
P6CUI/DUI-240515ZLF	24	8	53	5, 15	100, 33	78
P6CUI/DUI-050505ZLF	5	25	266	5, 5	100, 100	75
P6CUI/DUI-057R27R2ZLF	5	25	259	7.2, 7.2	69, 69	77
P6CUI/DUI-050909ZLF	5	25	253	9, 9	56, 56	79
P6CUI/DUI-051212ZLF	5	25	250	12, 12	42, 42	80
P6CUI/DUI-051515ZLF	5	25	243	15, 15	33, 33	82
P6CUI/DUI-120505ZLF	12	15	111	5, 5	100, 100	75
P6CUI/DUI-127R27R2ZLF	12	15	108	7.2, 7.2	69, 69	77
P6CUI/DUI-120909ZLF	12	15	108	9, 9	56, 56	77
P6CUI/DUI-121212ZLF	12	15	104	12, 12	42, 42	80
P6CUI/DUI-121515ZLF	12	15	102	15, 15	33, 33	81
P6CUI/DUI-240505ZLF	24	8	55	5, 5	100, 100	75
P6CUI/DUI-247R27R2ZLF	24	8	54	7.2, 7.2	69, 69	77
P6CUI/DUI-240909ZLF	24	8	52	9, 9	56, 56	79
P6CUI/DUI-241212ZLF	24	8	50	12, 12	42, 42	82
P6CUI/DUI-241515ZLF	24	8	50	15, 15	33, 33	82

If you need other specifications, please enquire.

## How to Order:

Standard <b>1kV</b> Isolation <b>SIP</b> Case	P6 <u>C</u> UI-xxxxZLF
Standard <b>1kV</b> Isolation <b>DIP</b> Case	P6 <u>D</u> UI-xxxxZLF
Optional <b>3kV</b> Isolation <b>SIP</b> Case	P6 <u>C</u> UI-xxxxZ <u>H30</u> LF
Optional <b>3kV</b> Isolation <b>DIP</b> Case	P6 <u>D</u> UI-xxxxZ <u>H30</u> LF



## Package / Pinning / Derating

All dimensions are typical in millimeters (inches).  
 - Pin diameter: 0.5 +/-0.05 (0.02 +/-0.002)  
 - Pin pitch tolerance: +/-0.35 (+/-0.014)  
 - Case tolerance +/-0.5 (+/-0.02)  
 Specification may change without notice.

\* The thickness of 48Vin voltage is 7.20(0.28)

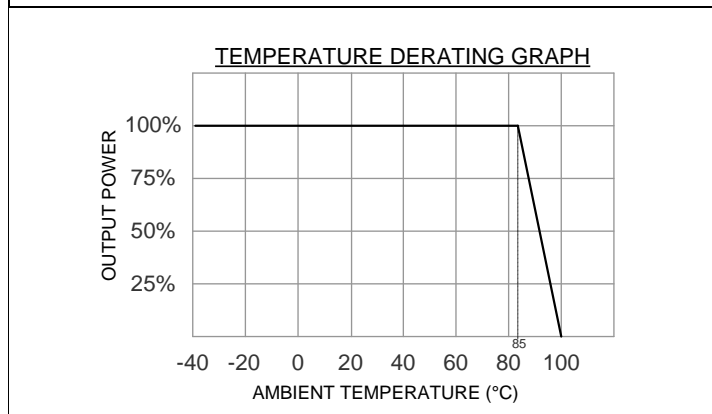
**SIP 7 – PLASTIC CASE**

PIN CONNECTIONS	
Model	P6CUI (SIP7)
#	DUAL Sep.
1	+Vin
2	-Vin
4	+V1out
5	-V1out
6	+V2out
7	-V2out

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	
Model	P6DUI (DIP14)
#	DUAL Sep.
1	-Vin
7	NC
8	-V2out
9	+V2out
10	-V1out
11	+V1out
14	+Vin
others	no Pin



### App Notes:

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

