

P6KUI-xxxxZLF



PMA-SERIES

Rev.11-2008

- ✓ 1 Watt
- ✓ Unregulated
- ✓ **Dual Separate Output**
- ✓ **DIP8 Case**
- ✓ **3 kV DC I/O Isolation**
- ✓ Low Ripple and Noise

The PMA series P6KUI-xxxxZLF is a family of cost effective 1 W dual separate output DC/DC converters. These converters are in an ultra miniature DIP8 case. Devices are encapsulated. High performance features: 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%)	$\pm 10\%$ (3.3V _{out} Models: $\pm 15\%$)
Ripple and Noise (20Mhz bandwidth)	100 mV pk-pk
Temperature Coefficient	$\pm 0.02\% / ^\circ\text{C}$

General Specifications

Efficiency	See Table
I/O Isolation Voltage (3 sec.)	3000 VDC
Output1 / Output2 Isolation Voltage (3 sec.)	1000 VDC
I/O Isolation Capacity	60 pF, typ.
I/O Isolation Resistance	1000 M Ohm
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	~ 1.8g, 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.)

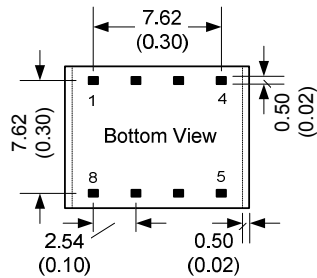
Selection Guide

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 (uF) ²
DUAL SEP. OUTPUT							
P6KUI-3R33R33R3ZLF	3.3	30	409	3.3, 3.3	152, 152	74	100
P6KUI-3R30505ZLF	3.3	30	404	5, 5	100, 100	75	100
P6KUI-3R37R27R2ZLF	3.3	30	398	7.2, 7.2	69, 69	76	100
P6KUI-3R30909ZLF	3.3	30	398	9, 9	56, 56	76	100
P6KUI-3R31212ZLF	3.3	30	466	12, 12	50, 50	78	100
P6KUI-3R31515ZLF	3.3	30	388	15, 15	33, 33	78	100
P6KUI-3R31818ZLF	3.3	30	398	18, 18	28, 28	76	100
P6KUI-3R32424ZLF	3.3	30	472	24, 24	25, 25	77	100
P6KUI-053R33R3ZLF	5	25	266	3.3, 3.3	152, 152	75	100
P6KUI-050505ZLF	5	25	250	5, 5	100, 100	80	100
P6KUI-057R27R2ZLF	5	25	256	7.2, 7.2	69, 69	78	100
P6KUI-050909ZLF	5	25	256	9, 9	56, 56	78	100
P6KUI-051212ZLF	5	25	300	12, 12	50, 50	80	100
P6KUI-051515ZLF	5	25	250	15, 15	33, 33	80	100
P6KUI-051818ZLF	5	25	256	18, 18	28, 28	78	100
P6KUI-052424ZLF	5	25	307	24, 24	25, 25	78	100
P6KUI-123R33R3ZLF	12	15	111	3.3, 3.3	152, 152	75	100
P6KUI-120505ZLF	12	15	108	5, 5	100, 100	77	100
P6KUI-127R27R2ZLF	12	15	108	7.2, 7.2	69, 69	77	100
P6KUI-120909ZLF	12	15	106	9, 9	56, 56	78	100
P6KUI-121212ZLF	12	15	121	12, 12	50, 50	82	100
P6KUI-121515ZLF	12	15	104	15, 15	33, 33	80	100
P6KUI-121818ZLF	12	15	104	18, 18	28, 28	80	100
P6KUI-122424ZLF	12	15	125	24, 24	25, 25	80	100
P6KUI-153R33R3ZLF	15	15	88	3.3, 3.3	152, 152	75	100
P6KUI-150505ZLF	15	15	86	5, 5	100, 100	77	100
P6KUI-157R27R2ZLF	15	15	86	7.2, 7.2	69, 69	77	100
P6KUI-150909ZLF	15	15	85	9, 9	56, 56	78	100
P6KUI-151212ZLF	15	15	97	12, 12	50, 50	82	100
P6KUI-151515ZLF	15	15	83	15, 15	33, 33	80	100
P6KUI-151818ZLF	15	15	83	18, 18	28, 28	80	100
P6KUI-152424ZLF	15	15	100	24, 24	25, 25	80	100
P6KUI-243R33R3ZLF	24	10	54	3.3, 3.3	152, 152	76	100
P6KUI-240505ZLF	24	10	52	5, 5	100, 100	80	100
P6KUI-247R27R2ZLF	24	10	53	7.2, 7.2	69, 69	78	100
P6KUI-240909ZLF	24	10	53	9, 9	56, 56	78	100
P6KUI-241212ZLF	24	10	60	12, 12	50, 50	82	100
P6KUI-241515ZLF	24	10	52	15, 15	33, 33	80	100
P6KUI-241818ZLF	24	10	52	18, 18	28, 28	80	100
P6KUI-242424ZLF	24	10	60	24, 24	25, 25	82	100

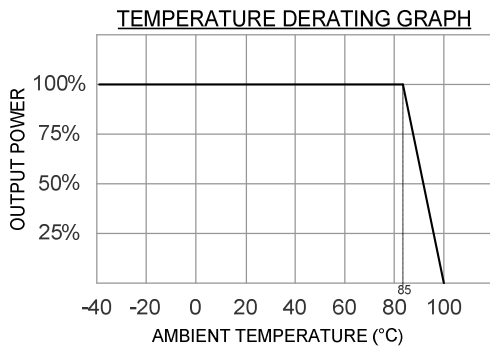
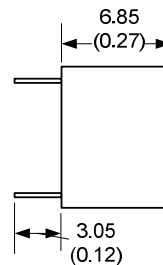
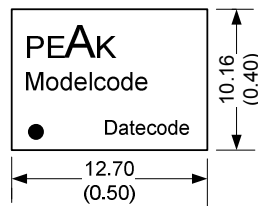
If you need other specifications, please enquire.

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.

DIP 8 – PLASTIC CASE



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

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.

EMC SPECIFICATIONS		
Radiated Emissions	EN 55022 FCC 47CFR Part 15/B	CLASS B CLASS B
ESD	IEC 61000-4-2	Perf. Criteria B
RS	IEC 61000-4-3	Perf. Criteria A