P6KU-xxxxELF

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The world of DC/DC converters
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PMA-SERIES Rev.11-2008

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

The PMA series P6KU-xxxxELF is a family of cost effective 1 W single output DC/DC converters. These converters are encapsulated in an ultra miniature DIP8 case. High performance features: 3000VDC input/output isolation, high efficiency operation, output voltage accuracy of ±3% maximum, input range of ±10% tolerance and low output ripple and noise.

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

Input Specifications	
Voltage Range	± 10%
Input Filter	Capacitor
Input Reflected Ripple Current[1]	20 mA pk-pk
Output Specifications	
Voltage Accuracy	± 3%
Short Circuit Protection	Short Term
Line Regulation	± 1.2% / 1% Vin Change
Load Regulation (20% - 100%)	± 10% (3.3Vout Models: ± 20%)
Ripple and Noise (20Mhz bandwidth)	100 mV pk-pk
Temperature Coefficient	± 0.02% / ℃
General Specifications	
Efficiency	See Table
I/O Isolation Voltage (3 sec.)	3000 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℃ (ambient)
Maximum Case Temperature	100℃
Storage Temperature	-40 to +125℃
Cooling	Free Air Convection
RoHS Conform	Soldering 260℃, max. (1.5mm from case 10s.)

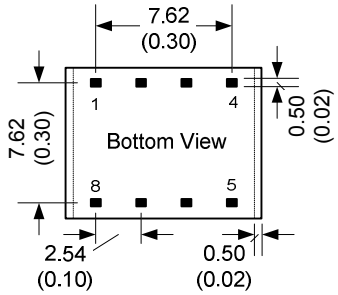
Selection Guide
Single Output

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]
SINGLE OUTPUT							
P6KU-053R3ELF	5	25	278	3.3	303	72	220
P6KU-0505ELF	5	25	267	5	200	75	220
P6KU-057R2ELF	5	25	264	7.2	138.8	76	220
P6KU-0509ELF	5	25	260	9	111.1	77	220
P6KU-0512ELF	5	25	257	12	83.3	78	220
P6KU-0515ELF	5	25	257	15	66.67	78	220
P6KU-0518ELF	5	25	257	18	55.5	78	220
P6KU-0524ELF	5	25	257	24	41.67	78	220
P6KU-123R3ELF	12	16	116	3.3	303	72	220
P6KU-1205ELF	12	16	112	5	200	75	220
P6KU-127R2ELF	12	16	110	7.2	138.8	76	220
P6KU-1209ELF	12	16	109	9	111.1	77	220
P6KU-1212ELF	12	16	107	12	83.3	78	220
P6KU-1215ELF	12	16	107	15	66.67	78	220
P6KU-1218ELF	12	16	107	18	55.5	78	220
P6KU-1224ELF	12	16	107	24	41.67	78	220
P6KU-243R3ELF	24	10	58	3.3	303	72	220
P6KU-2405ELF	24	10	56	5	200	75	220
P6KU-247R2ELF	24	10	55	7.2	138.8	76	220
P6KU-2409ELF	24	10	55	9	111.1	77	220
P6KU-2412ELF	24	10	54	12	83.3	78	220
P6KU-2415ELF	24	10	54	15	66.67	78	220
P6KU-2418ELF	24	10	54	18	55.5	78	220
P6KU-2424ELF	24	10	54	24	41.67	78	220

If you need other specifications, please enquire.

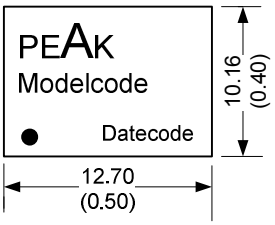
Notes:

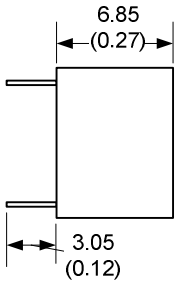
Package / Pinning / Derating



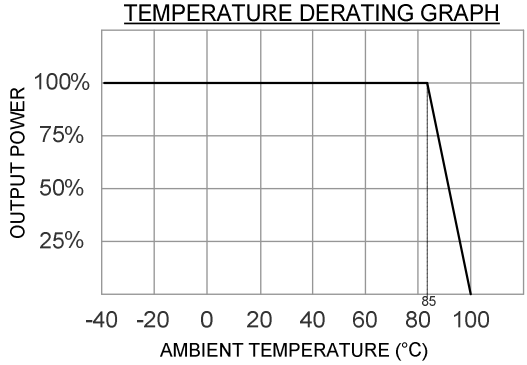
All dimensions are typical in millimeters (inches).
- Pin diameter: 1.0 +/-0.05 (0.04 +/-0.002)
- Pin pitch tolerance: +/-0.35 (+/-0.014)
- Case tolerance +/-0.5 (+/-0.02)
Specification may change without notice.

DIP 8 – PLASTIC CASE





TEMPERATURE DERATING GRAPH

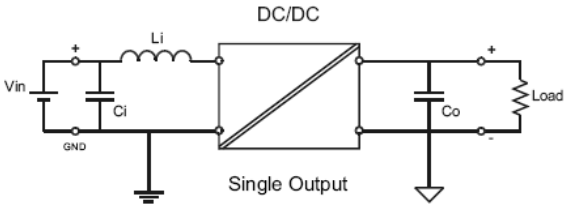


PIN CONNECTIONS	
#	SINGLE
1	- Vin
4	+Vin
5	+Vout
7	- Vout
Others	Omitted

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.
- For reduce converter's ripple & noise, it is recommended to add a 4.7μF~100μF capacitor in output end. For EMI performance improvement, it is recommended to add a 12μH inductor and a 10μF~220μF capacitor in input end.



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