

# P8KU-xxxxELF



## PMA-SERIES

Rev.11-2008

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

The PMA series P8KU-xxxxELF is a family of cost effective 1.5 W single 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 <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%)	$\pm 10\%$ (3.3V <sub>out</sub> Models: $\pm 20\%$ )
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
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	~ 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

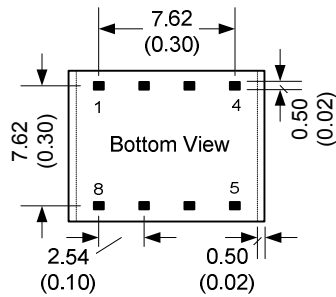
## Single Output

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) <sup>2</sup>
<b>SINGLE OUTPUT</b>							
P8KU-053R3ELF	5	30	361	3.3	400	73	220
P8KU-0505ELF	5	30	400	5	300	75	220
P8KU-057R2ELF	5	30	400	7.2	208	75	220
P8KU-0509ELF	5	30	400	9	167	75	220
P8KU-0512ELF	5	30	384	12	125	78	220
P8KU-0515ELF	5	30	384	15	100	78	220
P8KU-0518ELF	5	30	384	18	83	78	220
P8KU-0524ELF	5	30	379	24	62.5	79	220
P8KU-123R3ELF	12	15	148	3.3	400	74	220
P8KU-1205ELF	12	15	168	5	300	74	220
P8KU-127R2ELF	12	15	166	7.2	208	75	220
P8KU-1209ELF	12	15	166	9	167	75	220
P8KU-1212ELF	12	15	166	12	125	75	220
P8KU-1215ELF	12	15	162	15	100	77	220
P8KU-1218ELF	12	15	162	18	83	77	220
P8KU-1224ELF	12	15	162	24	62.5	75	220
P8KU-243R3ELF	24	10	73	3.3	400	75	220
P8KU-2405ELF	24	10	83	5	300	75	220
P8KU-247R2ELF	24	10	83	7.2	208	75	220
P8KU-2409ELF	24	10	83	9	167	75	220
P8KU-2412ELF	24	10	82	12	125	76	220
P8KU-2415ELF	24	10	82	15	100	76	220
P8KU-2418ELF	24	10	82	18	83	76	220
P8KU-2424ELF	24	10	79	24	62.5	79	220

If you need other specifications, please enquire.

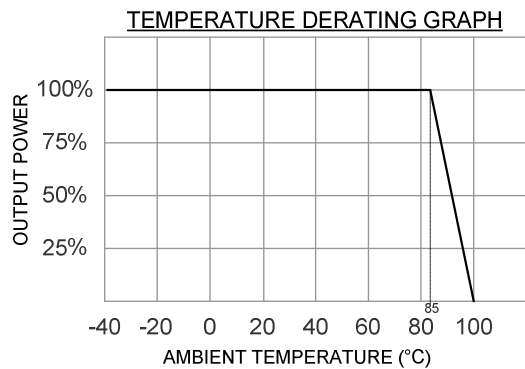
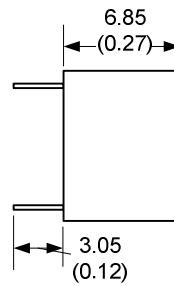
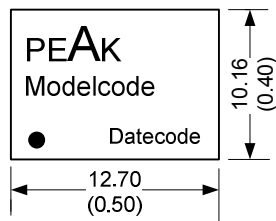
Notes:

# 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



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

### 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.