

P6CU-xxxxE/Z K



PM1P-SERIES

Rev.04-2015

- ✓ 1 Watt
- ✓ Unregulated
- ✓ **Short Circuit Protection**
- ✓ **Single and Dual Output**
- ✓ **SIP7 Case**
- ✓ **1 kV DC I/O Isolation**
- ✓ **Low Ripple and Noise**

The PM1P series is a family of cost effective 1 W single & dual output DC-DC converters with continuous short circuit protection. These converters are in an ultra miniature SIP7 case. Devices are encapsulated. High performance features: 1000VDC 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	Continuous
Line Regulation	$\pm 1.2\% / 1\% V_{in}$ Change
Load Regulation (20% - 100%)	$\pm 10\%$
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
I/O Isolation Capacity	10 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
Safety Standart (designed to meet)	IEC 60950-1

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

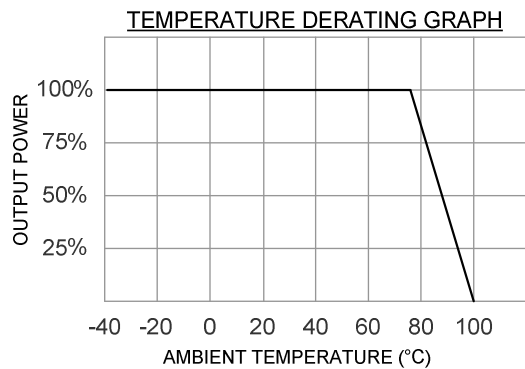
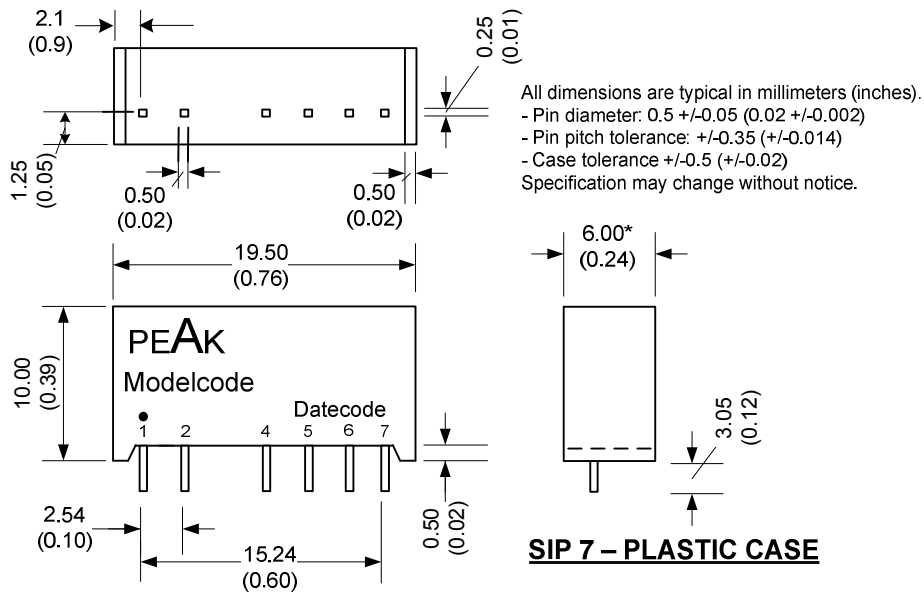
Single / Dual Output

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^2)
SINGLE OUTPUT							
P6CU-0505EK	5	60	281	5	200	71	220
P6CU-0512EK	5	60	270	12	83.3	74	220
P6CU-0515EK	5	60	270	15	66.7	74	220
P6CU-1205EK	12	30	115	5	200	72	220
P6CU-1212EK	12	30	112	12	83.3	74	220
P6CU-1215EK	12	30	111	15	66.7	75	220
P6CU-2405EK	24	10	57	5	200	73	220
P6CU-2412EK	24	10	55	12	83.3	75	220
P6CU-2415EK	24	10	55	15	66.7	75	220

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^2)
DUAL OUTPUT							
P6CU-0505ZK	5	60	285	± 5	± 100	70	± 100
P6CU-0512ZK	5	60	281	± 12	± 41.67	71	± 100
P6CU-0515ZK	5	60	281	± 15	± 33.33	71	± 100
P6CU-1205ZK	12	30	114	± 5	± 100	73	± 100
P6CU-1212ZK	12	30	109	± 12	± 41.67	76	± 100
P6CU-1215ZK	12	30	109	± 15	± 33.33	76	± 100
P6CU-2405ZK	24	10	57	± 5	± 100	72	± 100
P6CU-2412ZK	24	10	56	± 12	± 41.67	74	± 100
P6CU-2415ZK	24	10	54	± 15	± 33.33	76	± 100

If you need other specifications, please enquire.

Package / Pinning / Derating



PIN CONNECTIONS		
#	SINGLE	DUAL
1	+Vin	+Vin
2	- Vin	- Vin
4	- Vout	- Vout
5	Omitted	Common
6	+Vout	+Vout
7	Omitted	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.