

# P2BU-xxxxELF



## PMA-SERIES

Rev.11-2008

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

The PMA series P2BU-xxxxELF is a family of cost effective 0.25 W single output DC/DC converters. These converters are in an ultra miniature DIP8 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 <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.)	1000 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 °C (ambient)
Maximum Case Temperature	100 °C
Storage Temperature	-40 to +125 °C
Cooling	Free Air Convection
RoHS Conform	Soldering 260 °C, max. (1.5mm from case 10s.)

# Selection Guide

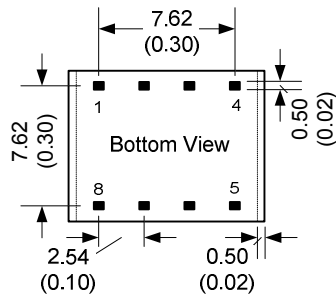
## Single Output

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>							
P2BU-053R3ELF	5	20	75	3.3	75.7	66	100
P2BU-0505ELF	5	20	75	5	50	66	100
P2BU-057R2ELF	5	20	75	7.2	34.72	66	100
P2BU-0509ELF	5	20	73	9	27.77	68	100
P2BU-0512ELF	5	20	73	12	20.83	68	100
P2BU-0515ELF	5	20	73	15	16.67	68	100
P2BU-0518ELF	5	20	73	18	13.88	68	100
P2BU-0524ELF	5	20	71	24	10.41	70	100
P2BU-123R3ELF	12	15	31	3.3	75.7	66	100
P2BU-1205ELF	12	15	31	5	50	67	100
P2BU-127R2ELF	12	15	30	7.2	34.72	68	100
P2BU-1209ELF	12	15	30	9	27.77	68	100
P2BU-1212ELF	12	15	30	12	20.83	68	100
P2BU-1215ELF	12	15	30	15	16.67	69	100
P2BU-1218ELF	12	15	29	18	13.88	70	100
P2BU-1224ELF	12	15	28	24	10.41	72	100
P2BU-243R3ELF	24	8	15	3.3	75.7	67	100
P2BU-2405ELF	24	8	15	5	50	67	100
P2BU-247R2ELF	24	8	15	7.2	34.72	67	100
P2BU-2409ELF	24	8	15	9	27.77	69	100
P2BU-2412ELF	24	8	15	12	20.83	69	100
P2BU-2415ELF	24	8	15	15	16.67	69	100
P2BU-2418ELF	24	8	15	18	13.88	69	100
P2BU-2424ELF	24	8	15	24	10.41	69	100

If you need other specifications, please enquire.

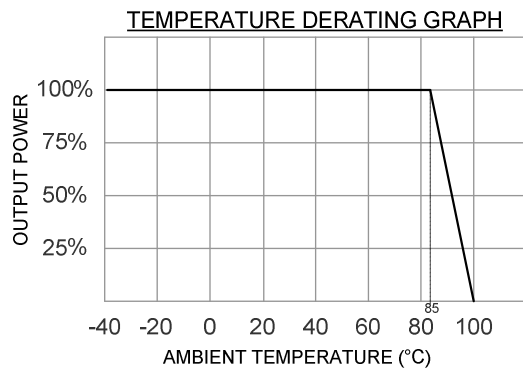
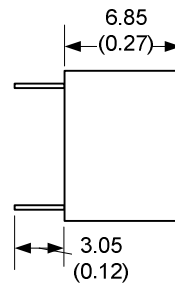
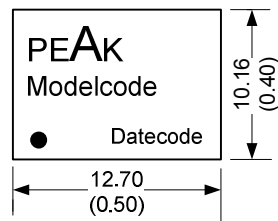
Notes:

# 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.