

P2IU-xxxxELF



PMA-SERIES

Rev.11-2008

- ✓ 0.25 Watt
- ✓ Unregulated
- ✓ **Single** Output
- ✓ **SIP4** Case
- ✓ **3 kV** DC I/O Isolation
- ✓ Low Ripple and Noise

The PMA series P2IU-xxxxELF is a family of cost effective 0.25 W single output DC/DC converters. These converters are in an ultra miniature SIP4 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: $\pm 20\%$)
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 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	~ 1.5g, 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.)

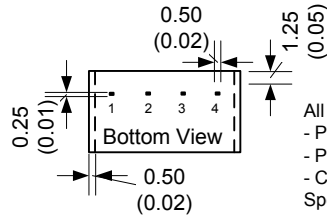
Selection Guide

Single Output

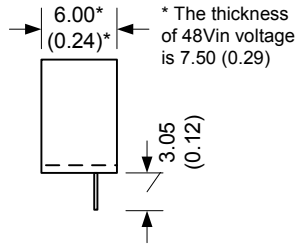
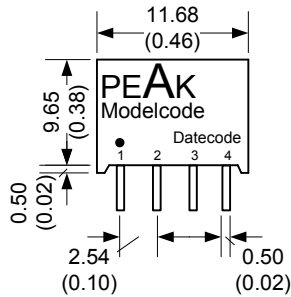
Order #	Input Voltage (VDC)	Input Current No Load (mA)	Input Current Full Load (mA)	Output Voltage (VDC)	Output Current Full Load (mA)	Efficiency (%)	Capacitor Load (uF) ²
SINGLE OUTPUT							
P2IU-053R3ELF	5	20	75	3.3	75.7	66	100
P2IU-0505ELF	5	20	75	5	50	66	100
P2IU-057R2ELF	5	20	75	7.2	34.72	66	100
P2IU-0509ELF	5	20	73	9	27.77	68	100
P2IU-0512ELF	5	20	73	12	20.83	68	100
P2IU-0515ELF	5	20	73	15	16.67	68	100
P2IU-0518ELF	5	20	73	18	13.88	68	100
P2IU-0524ELF	5	20	71	24	10.41	70	100
P2IU-123R3ELF	12	15	31	3.3	75.7	66	100
P2IU-1205ELF	12	15	31	5	50	67	100
P2IU-127R2ELF	12	15	30	7.2	34.72	68	100
P2IU-1209ELF	12	15	30	9	27.77	68	100
P2IU-1212ELF	12	15	30	12	20.83	68	100
P2IU-1215ELF	12	15	30	15	16.67	69	100
P2IU-1218ELF	12	15	29	18	13.88	70	100
P2IU-1224ELF	12	15	28	24	10.41	72	100
P2IU-243R3ELF	24	8	15	3.3	75.7	67	100
P2IU-2405ELF	24	8	15	5	50	67	100
P2IU-247R2ELF	24	8	15	7.2	34.72	67	100
P2IU-2409ELF	24	8	15	9	27.77	69	100
P2IU-2412ELF	24	8	15	12	20.83	69	100
P2IU-2415ELF	24	8	15	15	16.67	69	100
P2IU-2418ELF	24	8	15	18	13.88	69	100
P2IU-2424ELF	24	8	15	24	10.41	69	100
P2IU-483R3ELF	48	5	8.1	3.3	75.7	64	100
P2IU-4805ELF	48	5	7.8	5	50	66	100
P2IU-487R2ELF	48	5	7.8	7.2	34.72	66	100
P2IU-4809ELF	48	5	7.8	9	27.77	66	100
P2IU-4812ELF	48	5	7.7	12	20.83	67	100
P2IU-4815ELF	48	5	7.7	15	16.67	67	100
P2IU-4818ELF	48	5	7.7	18	13.88	67	100
P2IU-4824ELF	48	5	7.5	24	10.41	69	100

If you need other specifications, please enquire.

Package / Pinning / Derating

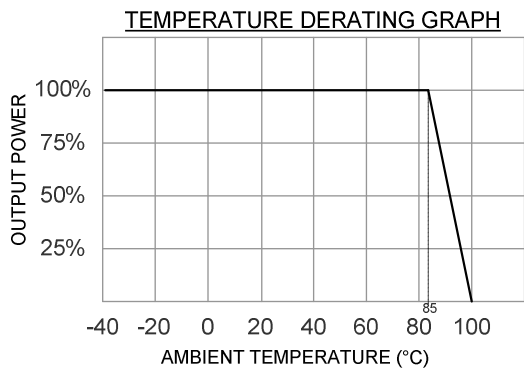


All dimensions are typical in millimeters (inches).
 - Pin diameter: 0.5 +/-0.05 (0.02 +/-0.002)
 - Pin pitch tolerance: +/-0.35 (+/-0.014)
 - Case tolerance +/-0.5 (+/-0.02)
 Specification may change without notice.



* The thickness of 48Vin voltage is 7.50 (0.29)

SIP4 – PLASTIC CASE



PIN CONNECTIONS	
#	SINGLE
1	- Vin
2	+Vin
3	- Vout
4	+Vout

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.