

P10IU-xxxxELF



PME-SERIES

Rev.01-2009

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

The PME series P10IU-xxxxELF is a family of cost effective 2 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	Capacitors
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)	150 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	70 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.)

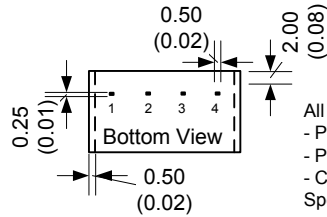
Selection Guide

Single Output

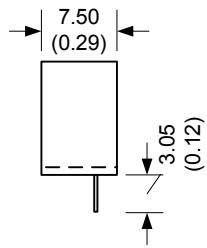
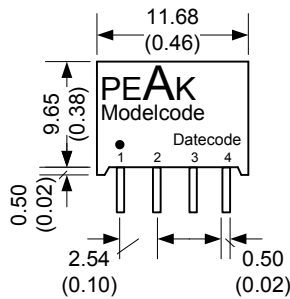
Order #	Input Voltage (VDC)	Input Current No Load (mA)	Input Current Full Load (mA)	Output Voltage (VDC)	Output Current Full Load (mA)	Efficiency (%)	Capacitor Load (uF) ²
SINGLE OUTPUT							
P10IU-053R3ELF	5	35	371	3.3	400	71	470
P10IU-0505ELF	5	35	519	5	400	77	470
P10IU-057R2ELF	5	35	519	7.2	278	77	470
P10IU-0509ELF	5	35	500	9	222	80	470
P10IU-0512ELF	5	35	487	12	167	82	470
P10IU-0515ELF	5	35	487	15	133	82	470
P10IU-0518ELF	5	35	487	18	111	82	470
P10IU-0524ELF	5	35	487	24	83	82	470
P10IU-123R3ELF	12	20	152	3.3	400	72	470
P10IU-1205ELF	12	20	213	5	400	78	470
P10IU-127R2ELF	12	20	208	7.2	278	80	470
P10IU-1209ELF	12	20	203	9	222	82	470
P10IU-1212ELF	12	20	198	12	167	84	470
P10IU-1215ELF	12	20	198	15	133	84	470
P10IU-1218ELF	12	20	198	18	111	84	470
P10IU-1224ELF	12	25	203	24	83	82	470
P10IU-153R3ELF	15	18	120	3.3	400	73	470
P10IU-1505ELF	15	18	170	5	400	78	470
P10IU-157R2ELF	15	18	166	7.2	278	80	470
P10IU-1509ELF	15	18	162	9	222	82	470
P10IU-1512ELF	15	18	158	12	167	84	470
P10IU-1515ELF	15	18	158	15	133	84	470
P10IU-1518ELF	15	18	158	18	111	84	470
P10IU-1524ELF	15	18	162	24	83	82	470
P10IU-243R3ELF	24	10	74	3.3	400	74	470
P10IU-2405ELF	24	10	104	5	400	80	470
P10IU-247R2ELF	24	10	104	7.2	278	80	470
P10IU-2409ELF	24	10	99	9	222	84	470
P10IU-2412ELF	24	10	99	12	167	84	470
P10IU-2415ELF	24	10	99	15	133	84	470
P10IU-2418ELF	24	10	99	18	111	84	470
P10IU-2424ELF	24	10	99	24	83	84	470
P10IU-483R3ELF	48	7	38	3.3	400	72	470
P10IU-4805ELF	48	7	53	5	400	78	470
P10IU-487R2ELF	48	7	52	7.2	278	80	470
P10IU-4809ELF	48	7	51	9	222	82	470
P10IU-4812ELF	48	7	52	12	167	80	470
P10IU-4815ELF	48	7	51	15	133	82	470
P10IU-4818ELF	48	7	51	18	111	82	470
P10IU-4824ELF	48	7	51	24	83	82	470

If you need other specifications, please enquire.

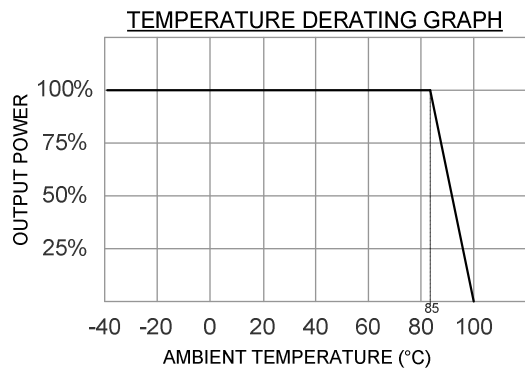
Package / Pinning / Derating



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.



SIP4 – PLASTIC CASE

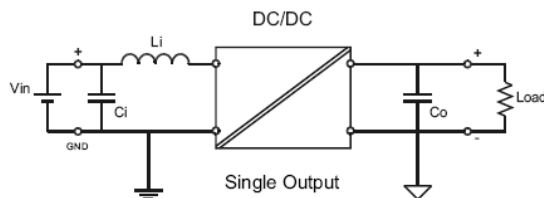


PIN CONNECTIONS	
#	SINGLE
1	- Vin
2	+Vin
3	- Vout
4	+Vout

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