

PEA3-xxxxE/Z (H30) LF



PMM1-SERIES

Rev.09-2010

- ✓ 3 Watt
- ✓ Semi Regulated
- ✓ **Single and Dual Output**
- ✓ **SIP7 Case**
- ✓ **1 - 3 kV DC I/O Isolation**
- ✓ Low Ripple and Noise
- ✓ **High Efficiency**

The PMM1 series PEA3-xxxxE/Z(H30)LF is a family of cost effective 3 W single & dual output DC-DC converters. These converters are in an ultra miniature SIP7 case. Devices are encapsulated. High performance features: 1000 – 3000 VDC 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	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 (10% - 100%)	See table
Ripple and Noise (20Mhz bandwidth)	50 mV pk-pk
Temperature Coefficient	$\pm 0.02\% / ^\circ\text{C}$

General Specifications

Efficiency	See Table
I/O Isolation Voltage (3 sec.)	1000 VDC (3000VDC optional)*
I/O Isolation Capacity	60 pF, typ.
I/O Isolation Resistance	1G Ohm
Switching Frequency	70 kHz (Variable)
Humidity	95% rel H
Reliability Calculated MTBF (MIL-HDBK-217F)	> 1.8 Mhrs

Physical Specifications

Case Material	Non Conductive Black Plastic (UL94V-0 rated)
Potting Material	Epoxy (UL94V-0 rated)
Weight	~ 2.8g, typ.

Environment Specifications

Operating Temperature (ambient)	-40 to +85 °C (12 Vin)	-40 to +71 °C (5 Vin)
Maximum Case Temperature	100 °C	
Storage Temperature	-40 to +125 °C	
Cooling	Free Air Convection (10 mm distance required)	
RoHS Conform	Soldering 260 °C, max. (1.5 mm from case 10s.)	

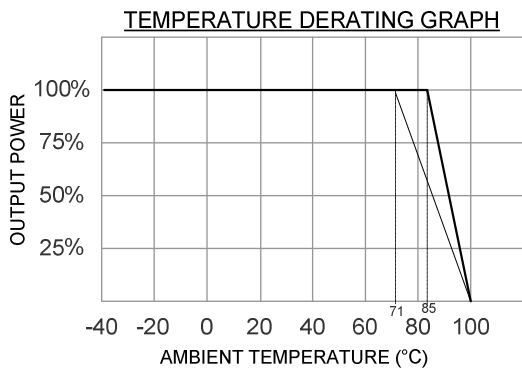
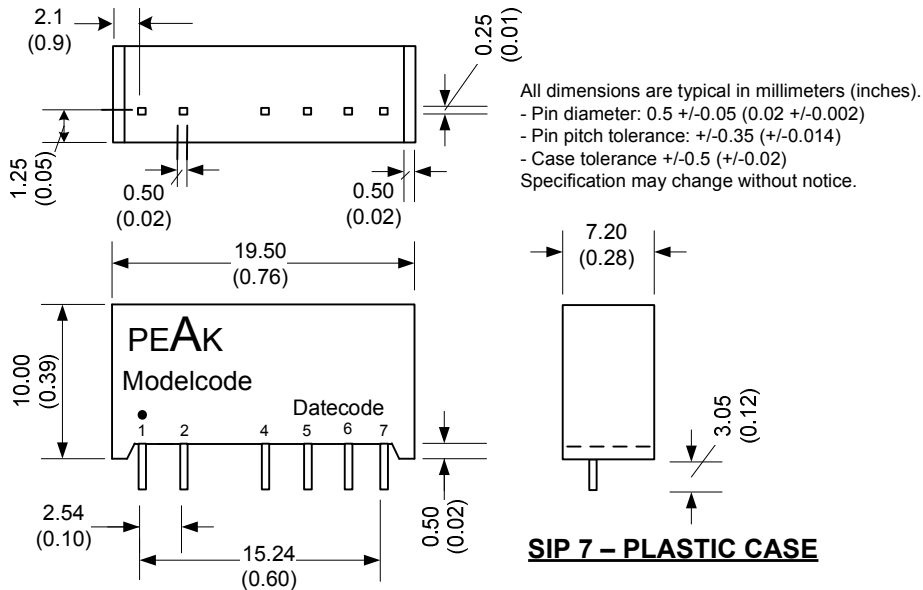
Selection Guide

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)	Load Regulation (%)	Efficiency (%)	Capacitor Load (uF)*
<u>SINGLE OUTPUT</u>								
PEA3-0505ELF	5	80	730	5	600	8	80	220
PEA3-0509ELF	5	80	730	9	333	7	81	220
PEA3-0512ELF	5	80	725	12	250	7	82	100
PEA3-0515ELF	5	80	725	15	200	6	84	100
PEA3-1205ELF	12	20	294	5	600	5	84	220
PEA3-1209ELF	12	20	294	9	333	4	86	220
PEA3-1212ELF	12	20	274	12	250	4	89	100
PEA3-1215ELF	12	20	274	15	200	3	90	100
<u>DUAL OUTPUT</u>								
PEA3-0505ZLF	5	70	730	± 5	± 300	7	82	± 100
PEA3-0509ZLF	5	70	730	± 9	± 166,67	6	83	± 100
PEA3-0512ZLF	5	70	700	± 12	± 125	6	84	± 47
PEA3-0515ZLF	5	70	700	± 15	± 100	5	86	± 47
PEA3-1205ZLF	12	20	298	± 5	± 300	4	85	± 100
PEA3-1209ZLF	12	20	298	± 9	± 166,67	3.5	86	± 100
PEA3-1212ZLF	12	20	274	± 12	± 125	3.5	89	± 47
PEA3-1215ZLF	12	20	274	± 15	± 100	3	90	± 47

* For optional **3kV Isolation** please add “**H30**” between E/Z and LF!
Example: PEA3-1215EH30LF for 3kV isolation.

Package / Pinning / Derating



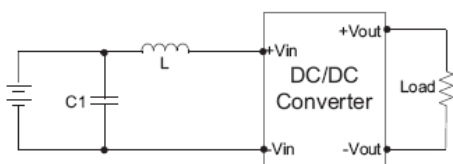
PIN CONNECTIONS				
#	SINGLE	DUAL	SINGLE 3kV	DUAL 3kV
1	+Vin	+Vin	+Vin	+Vin
2	- Vin	- Vin	- Vin	- Vin
4	- Vout	- Vout	Omitted	Omitted
5	Omitted	Common	- Vout	- Vout
6	+Vout	+Vout	Omitted	Common
7	Omitted	Omitted	+Vout	+Vout

App Notes:

- ¹ = 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 optional 3kV Isolation please add "H30" between E/Z and LF! Example: PEA3-1215EH30LF for 3kV isolation.

EMC SPECIFICATIONS		
Radiated Emissions	EN 55022	CLASS B
ESD	IEC 61000-4-2	Perf. Criteria A
RS	IEC 61000-4-3	Perf. Criteria A

Input filter components (C1, L) are used to help meet conducted emissions requirement for the module. These components should be mounted as close as possible to the module; all leads should be minimized to decrease radiated noise.



	C1	L
PEA3-05xxXLF	1210, 2.2uF/100V	18 uH
PEA3-12xxXLF	1210, 2.2uF/100V	18 uH