

# P10DUI-xxxxZ(H30)LF



## PM3-SERIES

Rev.11-2008

- ✓ 2 Watt
- ✓ Unregulated
- ✓ **Dual Separate Output**
- ✓ **DIP14 Case**
- ✓ **1 - 3 kV DC I/O Isolation**
- ✓ Low Ripple and Noise

The PM3 series P10DUI-xxxxZ(H30)LF is a family of cost effective 2 W dual separate output DC/DC converters. These converters are in an ultra miniature DIP14 case. Devices are encapsulated. High performance features: 1000VDC up to 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 <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%)	$\pm 10\%$ (3.3 Vout Models: $\pm 20\%$ )
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 (3000 VDC optional)*
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	~ 2.7g, 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
RoHS Conform	Soldering 260 $^\circ\text{C}$ , max. (1.5mm from case 10s.)

# Selection Guide

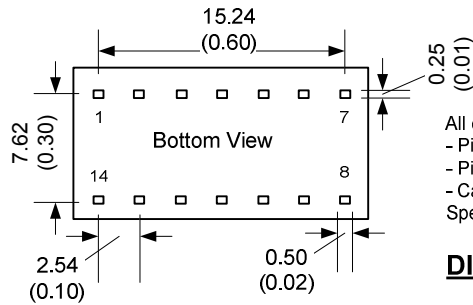
## Dual Separate Output

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) <sup>2</sup>
<b>DUAL SEP. OUTPUT</b>							
P10DUI-05053R3ZLF	5	35	519	5, 3.3	200, 200	77	220
P10DUI-05057R2ZLF	5	35	519	5, 7.2	200, 139	77	220
P10DUI-050509ZLF	5	35	519	5, 9	200, 111	77	220
P10DUI-050512ZLF	5	35	500	5, 12	200, 83	80	220
P10DUI-050515ZLF	5	35	500	5, 15	200, 67	80	220
P10DUI-12053R3ZLF	12	25	216	5, 3.3	200, 200	77	220
P10DUI-12057R2ZLF	12	25	216	5, 7.2	200, 139	77	220
P10DUI-120509ZLF	12	25	216	5, 9	200, 111	77	220
P10DUI-120512ZLF	12	25	208	5, 12	200, 83	80	220
P10DUI-120515ZLF	12	25	208	5, 15	200, 67	80	220
P10DUI-24053R3ZLF	24	12	108	5, 3.3	200, 200	77	220
P10DUI-24057R2ZLF	24	12	108	5, 7.2	200, 139	77	220
P10DUI-240509ZLF	24	12	108	5, 9	200, 111	77	220
P10DUI-240512ZLF	24	12	104	5, 12	200, 83	80	220
P10DUI-240515ZLF	24	12	104	5, 15	200, 67	80	220
P10DUI-050505ZLF	5	35	500	5, 5	200, 200	80	220
P10DUI-057R27R2ZLF	5	35	500	7.2, 7.2	139, 139	80	220
P10DUI-050909ZLF	5	35	500	9, 9	111, 111	80	220
P10DUI-051212ZLF	5	35	487	12, 12	83, 83	82	220
P10DUI-051515ZLF	5	35	487	15, 15	67, 67	82	220
P10DUI-120505ZLF	12	25	208	5, 5	200, 200	80	220
P10DUI-127R27R2ZLF	12	25	208	7.2, 7.2	139, 139	80	220
P10DUI-120909ZLF	12	25	208	9, 9	111, 111	80	220
P10DUI-121212ZLF	12	25	203	12, 12	83, 83	82	220
P10DUI-121515ZLF	12	25	198	15, 15	67, 67	84	220
P10DUI-240505ZLF	24	12	104	5, 5	200, 200	80	220
P10DUI-247R27R2ZLF	24	12	104	7.2, 7.2	139, 139	80	220
P10DUI-240909ZLF	24	12	104	9, 9	111, 111	80	220
P10DUI-241212ZLF	24	12	101	12, 12	83, 83	82	220
P10DUI-241515ZLF	24	12	98	15, 15	67, 67	85	220

If you need other specifications, please enquire.

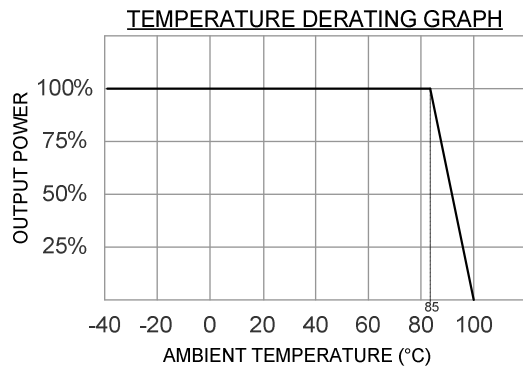
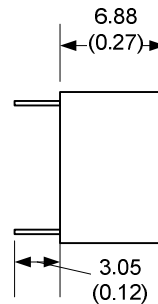
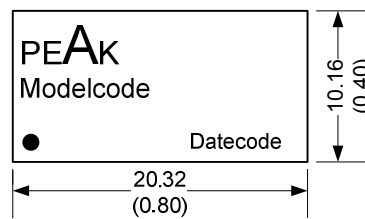
**\* For optional 3kV DC I/O Isolation, please add "H30" before LF!  
 → Example: P10DUI-050505ZH30LF for 3kV**

# 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.

## DIP14 – PLASTIC CASE



PIN CONNECTIONS	
#	DUAL SEP.
1	- Vin
7	N.C.
8	- V2out
9	+V2out
10	- V1out
11	+V1out
14	+Vin
Others	Omitted

Same Pinning for 3kV Models!

### 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.