




# SMT POWER INDUCTORS

## Toroid - Military/Aerospace POGO Series



-  Ruggedized header with POGO pins for secure board mounting
-  **Current Rating:** up to 8.3ADC
-  **Inductance Range:** 2.0µH to 336µH

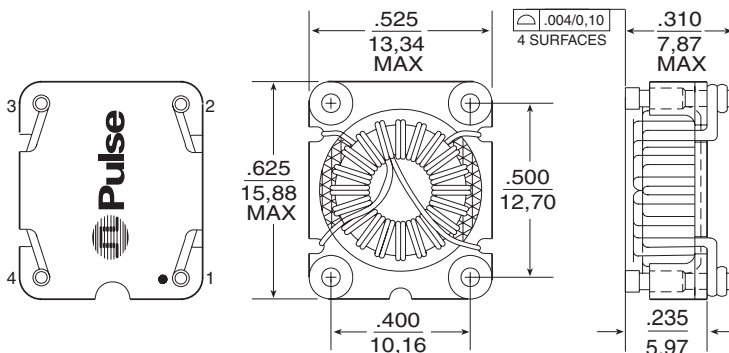
### Electrical Specifications @ 25°C — Operating Temperature -40°C to +130°C

Part # Number	Inductance @ I <sub>rated</sub> (µH MIN)	I <sub>rated</sub> (A)	DCR (MAX) (mΩ)	ET (V-µsec)	Inductance @ 0A <sub>dc</sub> (µH ±10%)	100 Gauss ET <sub>100</sub> (V-µsec)	1 Amp DC H <sub>1</sub> (Orsted)	Connection
<b>POGO 25</b>								
PL8600	2.0	8.30	8.0	7.31	2.2	1.20	5.43	Parallel
PL8601	2.4	7.20	10.9	7.81	2.6	1.33	5.97	Parallel
PL8602	5.0	5.20	19.0	11.72	5.5	1.93	8.69	Parallel
PL8600	7.0	4.16	16.0	14.61	8.75	2.41	10.86	Series
PL8603	9.3	3.80	30	16.12	10.4	2.65	11.95	Parallel
PL8601	8.4	3.78	21.8	15.62	10.4	2.65	11.95	Series
PL8604	14.1	3.10	45.5	19.73	15.7	3.25	14.66	Parallel
PL8605	19.8	2.60	66.5	23.45	22.1	3.86	17.38	Parallel
PL8602	17.9	2.60	38.0	23.43	22.45	3.86	17.38	Series
PL8606	29.3	2.20	101	28.50	32.8	4.70	21.18	Parallel
PL8603	33.8	1.89	60	32.25	41.7	5.30	23.89	Series
PL8607	42.6	1.80	151	34.49	47.6	5.66	25.52	Parallel
PL8604	50.9	1.54	91	39.46	62.8	6.51	29.32	Series
PL8608	61.3	1.50	222	40.85	67.5	6.75	30.41	Parallel
PL8605	71.5	1.30	133	46.90	88.2	7.71	34.75	Series
PL8609	84.2	1.20	318	46.22	91.0	7.83	35.30	Parallel
PL8606	106.1	1.07	202	57.00	131.0	9.40	42.36	Series
PL8607	154.2	0.89	302	68.99	190.3	11.33	51.05	Series
PL8608	218.9	0.74	444	81.70	270.2	13.50	60.82	Series
PL8609	295.0	0.64	636	92.43	364.0	15.66	70.59	Series

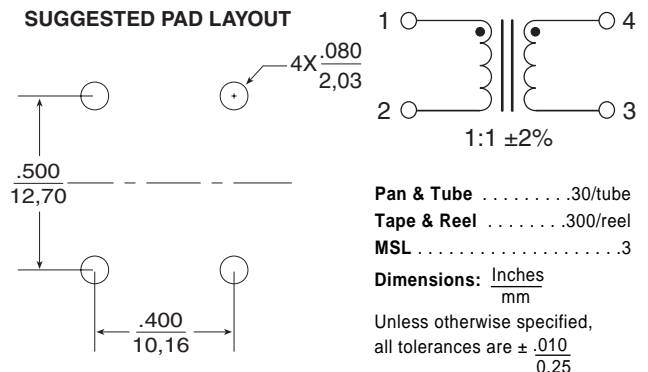
#### NOTES:

- Temperature rise is 50°C in typical buck or boost circuits at 250kHz and with the reference ET applied to the inductor.
- Total loss in the inductor is 380mWatts for a 50°C temperature rise above ambient.
- To estimate temperature rise in a given application, determine copper and core losses, divide by 380 and multiply by 50.
- For the copper loss, calculate  $I_{oc}^2 \times R_N$ .
- For core loss, using frequency (f) and operating flux density (B), calculate  $6.11 \times 10^{-18} \times B^{2.7} \times f^{2.04}$ .
- For flux density (B), calculate ET (V-µsec) for the application, divide by ET<sub>100</sub> from the table, and multiply by 100.
- Limit the DC bias (H) to 46 orsted. Calculate H by multiplying H<sub>1</sub> from the table by I<sub>oc</sub> of the application.
- The maximum DCR listed is approximately 17% over the nominal DCR.
- Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. PL8600 becomes PL8600T). Pulse complies to industry standard tape and reel specification EIA481.

### Mechanical



### Schematic



### For More Information:

#### Pulse Worldwide Headquarters

2 Pearl Buck Court  
Bristol, PA 19007  
U.S.A.  
[www.pulseeng.com](http://www.pulseeng.com)  
TEL: 215 781 6400  
FAX: 215 781 6403

#### Pulse Northern Europe

3 Huxley Road  
Surrey Research Park  
Guildford, Surrey GU2 5RE  
United Kingdom  
TEL: 44 1483 401700  
FAX: 44 1483 401701

#### Pulse Southern Europe

Zone Industrielle  
F-39270  
Orgelet  
France  
TEL: 33 3 84 35 04 04  
FAX: 33 3 84 25 46 41

#### Pulse China Headquarters

No. 1  
Industrial District  
Changan, Dongguan  
China  
TEL: 86 769 5538070  
FAX: 86 769 5538870

#### Pulse North China

Room 1002  
No. 819  
Nanjing West Rd  
Shanghai  
China  
TEL: 86 21 32181071  
FAX: 86 21 32181396

#### Pulse South Asia

150 Kampong Ampat  
#07-01/02  
KA Centre  
Singapore 368324  
TEL: 65 6287 8998  
FAX: 65 6280 0080

#### Pulse North Asia

3F-4, No. 81, Sec. 1  
Hsin Tai Wu Road  
Hsi-Chih  
Taipei Hsien  
Taiwan  
TEL: 886 2 26980228  
FAX: 886 2 26980948

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