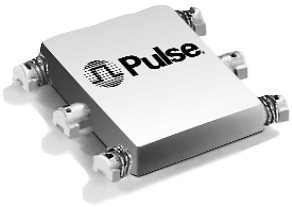
LOW PROFILE SELF-LEADED POWER INDUCTORS

Designed for PCMCIA Applications



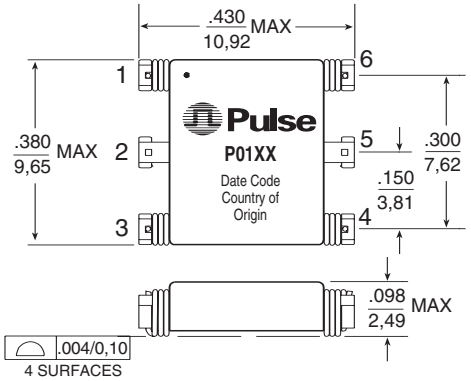
- Small PCMCIA size (.38" X .43" X .098")
- Frequency range: 100 kHz to 1 MHz
- Up to 3 amps rated DC current
- Surface mount, pick and placeable

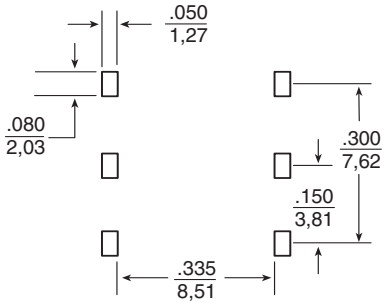
Electrical Specifications @ 25°C — Operating Temperature -40°C to +130°C

ID		Reference Values			Control Values		Calculation Data	
Part Number	Hookup	I_{DC} (amp)	L @ DC L_{DC} (µH)	ET (V-µsec)	L w/o DC L_0 ±20% (µH)	DCR (MAX) (mΩ)	100 Gauss ET_{100} (V-µsec)	1 Amp DC H_1 (Orsted)
P0108	Series	0.27	122.6	16.55	137.8	1545	2.77	102.50
P0107	Series	0.33	88.5	14.60	100.5	1068	2.37	87.55
P0106	Series	0.40	60.1	12.03	69.1	720	1.96	72.60
P0116	Series	0.44	43.6	9.59	46.9	692	1.62	59.79
P0108	Parallel	0.54	30.7	8.28	34.4	382	1.38	51.25
P0105	Series	0.62	20.1	6.22	21.6	325	1.10	40.57
P0107	Parallel	0.66	22.1	7.30	25.1	267	1.18	43.77
P0104	Series	0.73	15.7	5.74	17.3	236	0.98	36.30
P0106	Parallel	0.80	15.0	6.01	17.3	180	0.98	36.30
P0103	Series	0.86	12.1	5.21	13.5	170	0.87	32.03
P0116	Parallel	0.88	10.9	4.80	11.7	173	0.81	29.89
P0102	Series	1.03	9.0	4.63	10.1	121	0.75	27.76
P0101	Series	1.23	6.4	3.92	7.2	86	0.63	23.49
P0105	Parallel	1.24	5.0	3.11	5.4	81	0.55	20.29
P0100	Series	1.41	5.2	3.67	6.0	66	0.58	21.35
P0104	Parallel	1.46	3.9	2.87	4.3	59	0.49	18.15
P0103	Parallel	1.72	3.0	2.60	3.4	42	0.43	16.01
P0102	Parallel	2.06	2.2	2.32	2.5	30	0.38	13.88
P0101	Parallel	2.46	1.6	1.96	1.8	22	0.32	11.74
P0100	Parallel	2.82	1.3	1.83	1.5	16	0.29	10.68

NOTES:
1. The reference inductance at rated DC current is a typical value.
2. Temperature rise is 50°C in typical buck or boost circuits at 500 kHz and with the reference ET applied to the inductor.
3. Total loss in the inductor is 95 mWatts for 50°C temperature rise above ambient.
4. To estimate temperature rise in a given application, determine copper and core losses, divide by 95 and multiply by 50.
5. For the copper loss, calculate $I_{DC}^2 \times R_N$.
6. For R_N, multiply DCR_{MAX} by 0.85.
7. For core loss, using frequency (f) and operating flux density (B), calculate $747 \times 10^{-21} \times B^{2.7} \times f^{2.04}$.
8. For flux density (B), calculate ET (V-µsec) for the application, divide by ET_{100} from the table, and multiply by 100.
9. Limit the DC bias (H) to 31 orsteds. Calculate H by multiplying H_1 from the table by I_{DC} of the application.
10. Add suffix "**T**" to part number for tape and reel package (i.e. P0100**T**).

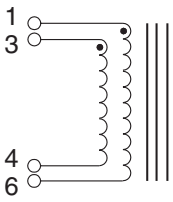
Mechanical





SUGGESTED PAD LAYOUT

Schematic



Weight.....0.25 grams
Tape & Reel.....1250/reel
Tube.....55/tube

Dimensions: Inches / mm

Unless otherwise specified, all tolerances are ± .010 / 0,25

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