

SELF-LEADED SURFACE MOUNT INDUCTORS



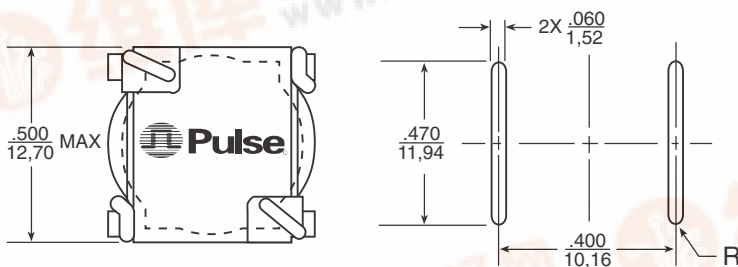
- ⊕ Materials meet UL 94-VO rating
- ⊕ Fits in half inch high boards for use in laptop and notebook computers
- ⊕ Frequency range of up to 1 MHz
- ⊕ Patented, low profile, self-leaded design

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

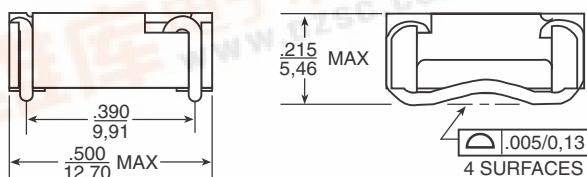
Part Number	Reference Values			Control Values		Calculation Data	
	I _{DC} (amp)	L @ DC L _{DC} (μH)	ET (V-μsec)	L w/o DC L ₀ ±20% (μH)	DCR (nom) R _N +15% MAX (mΩ)	100 Gauss ET ₁₀₀ (V-μsec)	1 Amp DC H ₁ (Orsted)
P0144	3.80	9.4	15.2	10.4	27	2.65	11.95
P0145	3.13	13.3	18.8	14.6	40	3.13	14.12
P0146	2.43	23	24.3	25	65	4.10	18.46
P0147	1.65	50	37.0	56	121	6.15	27.69
P0148	1.35	75	44.3	83	181	7.47	33.67
P0149	1.23	90	49.2	100	246	8.19	36.93
P0150	0.99	137	59.4	152	387	10.12	45.61
P0151	0.81	200	71.3	220	585	12.17	54.85
P0152	0.65	305	85.8	331	845	14.94	67.34
P0153	0.53	439	99.6	472	1322	17.83	80.37

- Notes:**
- The reference inductance at rated DC current is a typical value.
 - Temperature rise is 50°C in typical buck or boost circuits at 250 KHz and with the reference ET applied to the inductor.
 - Total loss in the inductor is 380 mWatts for 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_{DC}² X 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 ET₁₀₀ from the table, and multiply by 100.
 - Limit the DC bias (H) to 46 orstedts. Calculate H by multiplying H₁ from the table by I_{DC} of the application.

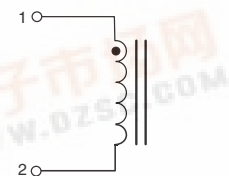
Mechanical



Suggested Pad Layout



Schematic



Dimensions: Inches
mm

Unless otherwise specified all tolerances are ± .010
0.25

