

Pot Core Inductor

The Pot Core Inductors manufactured by Engineered Components Company are designed for RF/low power applications utilizing low-loss ferrite core material. The pot core inductor design shields and isolates the winding from stray magnetic fields and effects from the surrounding circuit elements.

The standard inductance value tolerance is +/-10% when measured at the frequencies listed (see Table 1). Inductance values and Q values are measured on an HP 4284A LCR meter. Since inductance values vary with AC/DC current values, each end application should be evaluated to ensure proper readings. The tabulated current ratings are those calculated to cause a 25 deg. C rise in case temperature. These pot core inductors are designed to meet the applicable portions of MIL-C-15305, Grade 1, Class B. Temperature coefficient of inductance is less than 400ppm/deg. C over the operating temperature range of -30 to +70 deg. C. Inductors are capable of withstanding 500Vdc @ 50 uA applied between the coil and the case.

The inductor and the four copper leads (tin-lead plated) are mounted on a Liquid Crystal Polymer platform, off-white in color, and secured in epoxy resin by utilizing a black Diallyl Phthalate case. Finished inductor sizes are shown in Table 2. Any exposed pot core is coated with a conformal coating. Marking, applied by Laser Label, designates one coil termination lead with an indicator dot (see Figure 1). The opposite lead is also a coil termination lead, while the leads at 90 deg. locations are no-connection mounting leads.

Product Selection Table

PART NUMBER	L(mH)	SIZE	DCR (TYP.)	Q (NOM.)	SRF TYP. (MHz.)	RATED I _{dc} (mA)
PCI-1.0	1.0	1	2.5	150	1.25	350
PCI-1.2	1.2	1	3.0	160	1.15	320
PCI-1.5	1.5	1	3.5	180	1.08	290
PCI-1.8	1.8	1	4.0	200	1.00	270
PCI-2.2	2.2	2	5.5	200	.89	270
PCI-2.7	2.7	2	6.0	210	.85	260
PCI-3.3	3.3	2	6.5	230	.73	250
PCI-3.9	3.9	2	7.0	250	.68	240
PCI-4.7	4.7	3	5.5	135	.72	300
PCI-5.6	5.6	3	6.0	150	.58	290
PCI-6.8	6.8	3	7.0	165	.55	270
PCI-8.2	8.2	3	8.0	180	.52	250
PCI-10	10	4	10	170	.37	260
PCI-12	12	4	11	190	.35	250
PCI-15	15	4	12	220	.33	240
PCI-18	18	4	13.5	240	.30	230
PCI-22	22	4	15	280	.28	220
PCI-27	27	5	11	150	.19	280
PCI-33	33	5	12	165	.17	270
PCI-39	39	5	14	180	.16	250
PCI-47	47	5	16	190	.15	230
PCI-56	56	6	18	200	.105	230
PCI-68	68	6	20	210	.100	220
PCI-82	82	6	22	240	.095	210
PCI-100	100	6	24	270	.090	200
PCI-120	120	7	32	300	.065	250
PCI-150	150	7	35	330	.063	240
PCI-180	180	7	38	360	.061	230
PCI-220	220	7	42	400	.059	220
PCI-270	270	8	28	170	.045	330
PCI-330	330	8	31	180	.043	310
PCI-390	390	8	35	190	.041	290
PCI-470	470	8	38	200	.039	280
PCI-560	560	9	48	210	.038	290
PCI-680	680	9	54	220	.034	270
PCI-820	820	9	60	230	.030	260

Special modules can often be manufactured to provide for customer specific applications.

Table 1

Test Frequency Table

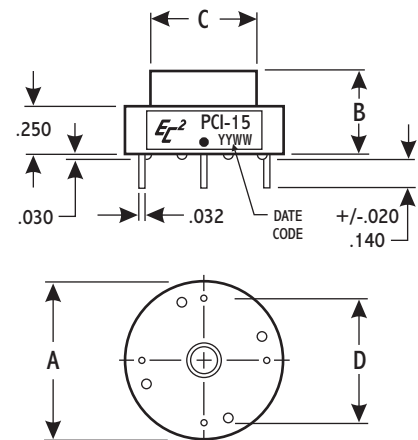
L(Mh) RANGE	L & Q TEST FREQUENCY
1.0 - 4.3	79KHz
4.3 - 25	25KHz
25 - 250	7.9KHz
250 - 1000	2.5KHz

Table 2

Size Table

SIZE	A	B	C	D
1	.525	.285	N/A	.350
2	.640	.320	.360	.450
3	.700	.360	.430	.500
4	.820	.440	.550	.650
5	1.025	.520	.720	.800
6	1.145	.640	.850	.950
7	1.340	.740	1.010	1.100
8	1.525	.850	1.200	1.300
9	1.750	.980	1.400	1.550

Figure 1



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