

Inductors

Military, MIL-PRF-15305 Qualified, Type LT
and Commercial, Molded, Shielded



FEATURES

- Wide inductance range in small package.
- Flame retardant coating.
- Electromagnetic shield-finest shield available.
- Epoxy molded construction provides superior moisture protection.
- Precision performance, excellent reliability, sturdy construction.

ELECTRICAL SPECIFICATIONS

Inductance Tolerance: $\pm 10\%$ standard.
 $\pm 5\%$ available.

Insulation Resistance: 1000 Megohm minimum per MIL-STD-202, Method 302, Test Condition B.

Dielectric Withstanding Voltage: 1000 VAC per MIL-STD-202, Method 301 (sea level).

Percent Coupling: 3% maximum per MIL-PRF-15305.

Operating Temperature Range: -55°C to $+105^{\circ}\text{C}$.

MECHANICAL SPECIFICATIONS

Terminal Strength: 5 pounds pull per MIL-STD-202, Method 211, Test Condition A.

Weight: IMS-5 = 0.85 grams maximum.

MATERIAL SPECIFICATIONS

Encapsulant: Epoxy.

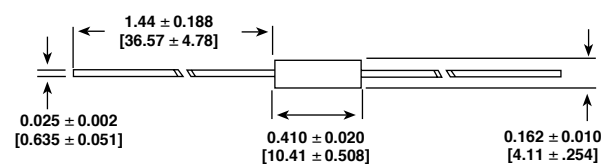
Standard Terminal: #22 AWG tinned copper.

INDUCTANCE RANGE AND MILITARY STANDARD						
INDUCTANCE RANGE		CLASSIFICATION		MATERIAL		MILITARY STANDARD
FROM	TO	GRADE	CLASS	CORE	SHIELD	
.10 μH	.82 μH	1	A	Phenolic	Powd. Iron	MS75087
1.0 μH	12.0 μH	1	A	Powd. Iron	Powd. Iron	MS75088
15.0 μH	100,000 μH	1	A	Ferrite	Ferrite	MS75089*

*Not QPL'd.

ENVIRONMENTAL PERFORMANCE		
TEST	CONDITIONS	SPECIFICATIONS
Barometric Pressure	Test Condition C	MIL-STD-202, Method 105
Thermal Shock	Test Condition A-1	MIL-STD-202, Method 107
Flammability	—	MIL-STD-202, Method 111
Overload	—	MIL-PRF-15305
Low Temperature Storage	—	MIL-PRF-15305
Resistance to Soldering Heat	Test Condition A	MIL-STD-202, Method 210
Resistance to Solvents	—	MIL-STD-202, Method 215

DIMENSIONS in inches [millimeters]



STANDARD ELECTRICAL SPECIFICATIONS									
IND. (μH)	TOL.	MILITARY STANDARD	MILITARY TYPE	Q MIN.	TEST FREQ. L & Q (MHz)	SELF-RESONANT FREQ. MIN. (MHz)	DCR @ 25°C MAX. (Ohms)	RATED DC CURRENT (mA)	INCREMENTAL*** (mA)
0.10	$\pm 10\%$	MS75087	LT10K	50	25.0	250.0	0.025	1790	—
0.12	$\pm 10\%$	-1	191	51	25.0	250.0	0.034	1530	—
0.15	$\pm 10\%$	-2	192	51	25.0	250.0	0.037	1470	—
0.18	$\pm 10\%$	-3	193	50	25.0	250.0	0.047	1300	—
0.22	$\pm 10\%$	-4	194	49	25.0	250.0	0.067	1100	—
0.27	$\pm 10\%$	-5	195	47	25.0	250.0	0.11	855	—
0.33	$\pm 10\%$	-6	196	46	25.0	250.0	0.13	780	—
0.39	$\pm 10\%$	-7	197	44	25.0	250.0	0.18	670	—
0.47	$\pm 10\%$	-8	198	44	25.0	235.0	0.25	565	—
0.56	$\pm 10\%$	-9	199	43	25.0	210.0	0.33	490	—
0.68	$\pm 10\%$	-10	200	42	25.0	190.0	0.45	420	—
0.82	$\pm 10\%$	-11	201	40	25.0	180.0	0.59	370	—
1.0	$\pm 10\%$	-12	202	44	25.0	140.0	0.07	1070	—
1.2	$\pm 10\%$	MS75088	LT10K	44	7.9	130.0	0.10	895	—

*Measured with full length lead. **Rated DC Current: Based on maximum temperature rise not to exceed 15°C at $+90^{\circ}\text{C}$ ambient.

***Incremental Current: The minimum typical current at which the inductance will be decreased by 5% from its initial zero DC value.

NOTE: Listing of Military Standard does not imply qualification. Contact factory for latest government QPL information.

**STANDARD ELECTRICAL SPECIFICATIONS**

IND. (μ H)	TOL.	MILITARY STANDARD	MILITARY TYPE	Q MIN.	TEST FREQ. L & Q (MHz)	SELF-RESONANT * FREQ. MIN. (MHz)	DCR @ 25°C MAX. (Ohms)	RATED DC ** CURRENT (mA)	INCREMENTAL *** CURRENT (mA)
1.5	$\pm 10\%$	-3	205	44	7.9	115.0	0.12	815	—
1.8	$\pm 10\%$	-4	206	44	7.9	105.0	0.14	775	—
2.2	$\pm 10\%$	-5	207	44	7.9	100.0	0.19	650	—
2.7	$\pm 10\%$	-6	208	44	7.9	92.0	0.28	535	—
3.3	$\pm 10\%$	-7	209	44	7.9	85.0	0.35	480	—
3.9	$\pm 10\%$	-8	210	44	7.9	75.0	0.40	450	—
4.7	$\pm 10\%$	-9	211	44	7.9	70.0	0.55	380	—
5.6	$\pm 10\%$	-10	212	44	7.9	65.0	0.72	335	—
6.8	$\pm 10\%$	-11	213	50	7.9	55.0	1.02	280	—
8.2	$\pm 10\%$	-12	214	50	7.9	50.0	1.32	250	—
10.0	$\pm 10\%$	-13	215	50	7.9	46.0	1.62	220	—
12.0	$\pm 10\%$	-14	216	55	2.5	44.0	2.0	200	—
MS75089 (Not QPL'd)									
15.0	$\pm 10\%$	-1	217	45	2.5	49.0	0.80	315	250.0
18.0	$\pm 10\%$	-2	218	45	2.5	45.0	0.89	300	235.0
22.0	$\pm 10\%$	-3	219	45	2.5	41.0	0.96	290	220.0
27.0	$\pm 10\%$	-4	220	45	2.5	38.0	1.19	260	200.0
33.0	$\pm 10\%$	-5	221	45	2.5	34.0	1.37	240	190.0
39.0	$\pm 10\%$	-6	222	50	2.5	29.0	1.93	205	180.0
47.0	$\pm 10\%$	-7	223	50	2.5	27.0	2.11	195	175.0
56.0	$\pm 10\%$	-8	224	50	2.5	25.0	2.23	190	160.0
68.0	$\pm 10\%$	-9	225	50	2.5	21.0	2.70	170	150.0
82.0	$\pm 10\%$	-10	226	50	2.5	10.5	2.44	180	140.0
100.0	$\pm 10\%$	-11	227	50	2.5	10.0	3.12	160	120.0
120.0	$\pm 10\%$	-12	228	55	0.79	9.7	3.6	150	95.0
150.0	$\pm 10\%$	-13	229	55	0.79	8.5	4.1	140	90.0
180.0	$\pm 10\%$	-14	230	55	0.79	8.0	4.4	135	85.0
220.0	$\pm 10\%$	-15	231	55	0.79	7.5	5.0	125	80.0
270.0	$\pm 10\%$	-16	232	55	0.79	7.0	5.8	115	70.0
330.0	$\pm 10\%$	-17	233	55	0.79	6.5	6.4	110	65.0
390.0	$\pm 10\%$	-18	234	60	0.79	6.2	7.4	105	60.0
470.0	$\pm 10\%$	-19	235	60	0.79	5.7	9.5	92	58.0
560.0	$\pm 10\%$	-20	236	60	0.79	4.7	10.5	90	55.0
680.0	$\pm 10\%$	-21	237	60	0.79	4.5	11.8	80	50.0
820.0	$\pm 10\%$	-22	238	60	0.79	4.2	13.0	80	45.0
MS75089 (Not QPL'd)									
1000.0	$\pm 10\%$	-23	239	60	0.79	3.8	17.5	70	40.0
1200.0	$\pm 10\%$	-24	240	45	0.25	1.5	22.1	60	35.0
1500.0	$\pm 10\%$	-25	241	45	0.25	1.2	26.5	55	33.0
1800.0	$\pm 10\%$	-26	242	45	0.25	1.0	29.9	50	30.0
2200.0	$\pm 10\%$	-27	243	45	0.25	0.97	33.8	50	27.0
2700.0	$\pm 10\%$	-28	244	45	0.25	0.92	47.3	40	25.0
3300.0	$\pm 10\%$	-29	245	45	0.25	0.84	53.0	40	22.0
3900.0	$\pm 10\%$	-30	246	45	0.25	0.80	73.8	35	20.0
4700.0	$\pm 10\%$	-31	247	45	0.25	0.74	81.6	31	19.0
5600.0	$\pm 10\%$	-32	248	44	0.25	0.73	98.9	28	17.0
6800.0	$\pm 10\%$	-33	249	40	0.25	0.66	111.0	27	16.0
8200.0	$\pm 10\%$	-34	250	40	0.25	0.54	119.0	26	15.0
10000.0	$\pm 10\%$	-35	251	40	0.25	0.47	137.0	24	14.0
12000.0	$\pm 10\%$	-36	252	30	0.079	0.33	143.0	23	13.0
15000.0	$\pm 10\%$	-37	253	30	0.079	0.29	157.0	22	12.0
18000.0	$\pm 10\%$	-38	254	30	0.079	0.28	175.0	21	10.0
22000.0	$\pm 10\%$	-39	255	27	0.079	0.25	274.0	17	9.0
27000.0	$\pm 10\%$	-40	256	27	0.079	0.21	308.0	16	8.0
33000.0	$\pm 10\%$	-41	257	27	0.079	0.19	343.0	15	7.5
39000.0	$\pm 10\%$	-42	258	27	0.079	0.17	376.0	15	6.0
47000.0	$\pm 10\%$	-43	259	23	0.079	0.16	473.0	13	5.5
56000.0	$\pm 10\%$	-44	260	23	0.079	0.14	512.0	13	5.0
68000.0	$\pm 10\%$	-45	261	23	0.079	0.13	580.0	12	4.0
82000.0	$\pm 10\%$	-46	262	21	0.079	0.12	618.0	11	3.5
100000.0	$\pm 10\%$	-47	263	18	0.079	0.11	678.0	11	3.0

*Measured with full length lead. **Rated DC Current: Based on maximum temperature rise not to exceed 15°C at + 90°C ambient.

***Incremental Current: The minimum typical current at which the inductance will be decreased by 5% from its initial zero DC value.

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ORDERING INFORMATION

IMS-5 MODEL	10 μ H INDUCTANCE VALUE	$\pm 10\%$ INDUCTANCE TOLERANCE
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ORDERING INFORMATION - MILITARY PART NUMBER

MS75088 MILITARY STANDARD	-13 INDUCTANCE VALUE	OR	LT TYPE	10 GRADE AND CLASS	K FAMILY	215 ID NUMBER
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