



Inductors, Military, MIL-PRF-15305 Qualified, Type LT, Molded, Axial Leaded



FEATURES

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

ELECTRICAL SPECIFICATIONS

Inductance Tolerance: $\pm 10\%$, standard

Insulation Resistance: 1000 M Ω minimum per MIL-STD-202, method 302, test condition B

Dielectric Strength: Per MIL-STD-202, method 301: 1000 V_{AC}

MECHANICAL SPECIFICATIONS

Terminal Strength: Per MIL-STD-202, method 211, test condition A: 5 pounds pull and twist

Weight: MS75083 = 0.30 g maximum

MS75084 = 0.30 g maximum

MS75085 = 0.30 g maximum

MS18130 = 0.65 g maximum

MS14046 = 0.65 g maximum

MS90538 = 0.65 g maximum

MS75101 = 0.95 g maximum

MATERIAL SPECIFICATIONS

Encapsulant: Epoxy

Standard Terminal: MS75083, MS75084, MS75085, 24 AWG; MS18130, MS14046, MS90538, MS75101, 22 AWG; tinned copper

TEST EQUIPMENT ⁽¹⁾

- H/P 4342A Q-meter
- Measurements corporation megacycle meter, model 59
- Wheatstone bridge

Note

⁽¹⁾ Test procedures per MIL-PRF-15305

INDUCTANCE RANGE AND MILITARY STANDARD				
MILITARY STANDARD	INDUCTANCE RANGE MIL. RANGE (μ H) (in bold face)		CLASSIFICATION	
	FROM	TO	GRADE	CLASS
MS75083	0.10	1	1	B
MS75084	1.2	27	1	A
MS75085	33	1000	1	A
MS18130	0.15	4.7	1	B
MS14046	5.6	33	1	A
MS90538	36	240	1	A
MS75101	3.3	27	1	A

DIMENSIONS in inches [millimeters]					
MODEL		A (DIA.)	B	C (TYP.)	D (DIA.)
MS75083	Max.	0.105 [2.67]	0.260 [6.60]	1.63 [41.40]	0.0215 [0.546]
	Min.	0.085 [2.16]	0.240 [6.10]	1.25 [31.75]	0.0185 [0.470]
MS75084	Max.	0.105 [2.67]	0.260 [6.60]	1.63 [41.40]	0.0215 [0.546]
	Min.	0.085 [2.16]	0.240 [6.10]	1.25 [31.75]	0.0185 [0.470]
MS75085	Max.	0.105 [2.67]	0.260 [6.60]	1.63 [41.40]	0.0215 [0.546]
	Min.	0.085 [2.16]	0.240 [6.10]	1.25 [31.75]	0.0185 [0.470]
MS83130	Max.	0.165 [4.19]	0.385 [9.78]	1.63 [41.40]	0.027 [0.686]
	Min.	0.145 [3.68]	0.365 [9.27]	1.25 [31.75]	0.023 [0.584]
MS14046	Max.	0.165 [4.19]	0.385 [9.78]	1.63 [41.40]	0.027 [0.686]
	Min.	0.145 [3.68]	0.365 [9.27]	1.25 [31.75]	0.023 [0.584]
MS90538	Max.	0.165 [4.19]	0.385 [9.78]	1.63 [41.40]	0.027 [0.686]
	Min.	0.145 [3.68]	0.365 [9.27]	1.25 [31.75]	0.023 [0.584]
MS75101	Max.	0.200 [5.08]	0.450 [11.43]	1.63 [41.40]	0.027 [0.686]
	Min.	0.180 [4.57]	0.430 [10.92]	1.25 [31.75]	0.023 [0.584]

ENVIRONMENTAL PERFORMANCE		
TEST	CONDITIONS	SPECIFICATIONS
Barometric Pressure	C	MIL-STD-202, method 105
Thermal Shock	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	A	MIL-STD-202, method 210
Resistance to Solvents	-	MIL-STD-202, method 215

MS7508x, MS18130, MS14046, MS90538, MS75101



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STANDARD ELECTRICAL SPECIFICATIONS										
MODEL	IND. (μ H)	TOL. (%)	MILITARY STANDARD	MILITARY TYPE	Q MIN.	TEST FREQ. L AND Q (MHz)	SRF MIN. (MHz) ⁽¹⁾	DCR MAX. (Ω)	RATED DC CURRENT (mA) ⁽²⁾	
MS75083	0.10	± 10	- 1	LT4K 339	40	25.0	680.0	0.08	1350	PHENOLIC CORE
	0.12	± 10	- 2	340	40	25.0	640.0	0.09	1270	
	0.15	± 10	- 3	341	38	25.0	600.0	0.10	1200	
	0.18	± 10	- 4	342	35	25.0	550.0	0.12	1105	
	0.22	± 10	- 5	343	33	25.0	510.0	0.14	1025	
	0.27	± 10	- 6	344	33	25.0	430.0	0.16	960	
	0.33	± 10	- 7	345	30	25.0	410.0	0.22	815	
	0.39	± 10	- 8	346	30	25.0	365.0	0.30	700	
	0.47	± 10	- 9	347	30	25.0	330.0	0.35	650	
	0.56	± 10	- 10	348	30	25.0	300.0	0.50	545	
	0.68	± 10	- 11	349	28	25.0	275.0	0.60	495	
	0.82	± 10	- 12	350	28	25.0	250.0	0.85	415	
	1.0	± 10	- 13	351	25	25.0	230.0	1.0	385	
MS75084	1.2	± 10	- 1	LT10K 061	25	7.9	150.0	0.18	590	IRON CORE
	1.5	± 10	- 2	062	28	7.9	140.0	0.22	535	
	1.8	± 10	- 3	063	30	7.9	125.0	0.30	455	
	2.2	± 10	- 4	064	30	7.9	115.0	0.40	395	
	2.7	± 10	- 5	065	37	7.9	100.0	0.55	355	
	3.3	± 10	- 6	066	45	7.9	90.0	0.85	270	
	3.9	± 10	- 7	067	45	7.9	80.0	1.0	250	
	4.7	± 10	- 8	068	45	7.9	75.0	1.2	230	
	5.6	± 10	- 9	069	50	7.9	65.0	1.8	185	
	6.8	± 10	- 10	070	50	7.9	60.0	2.0	175	
	8.2	± 10	- 11	071	55	7.9	55.0	2.7	155	
	10.0	± 10	- 12	072	55	7.9	50.0	3.7	130	
	12.0	± 10	- 13	073	45	2.5	40.0	2.7	155	
	15.0	± 10	- 14	074	40	2.5	35.0	2.8	150	
	18.0	± 10	- 15	075	50	2.5	30.0	3.1	145	
	22.0	± 10	- 16	076	50	2.5	25.0	3.3	140	
	27.0	± 10	- 17	077	50	2.5	20.0	3.5	135	
MS75085	33.0	± 10	- 1	LT10K 078	45	2.5	24.0	3.4	130	FERRITE CORE
	39.0	± 10	- 2	079	45	2.5	22.0	3.6	125	
	47.0	± 10	- 3	080	45	2.5	20.0	4.5	110	
	56.0	± 10	- 4	081	45	2.5	18.0	5.7	100	
	68.0	± 10	- 5	082	50	2.5	15.0	6.7	92	
	82.0	± 10	- 6	083	50	2.5	14.0	7.3	88	
	100.0	± 10	- 7	084	50	2.5	13.0	8.0	84	
	120.0	± 10	- 8	085	30	0.79	12.0	13.0	66	
	150.0	± 10	- 9	086	30	0.79	11.0	15.0	61	
	180.0	± 10	- 10	087	30	0.79	10.0	17.0	57	
	220.0	± 10	- 11	088	30	0.79	9.0	21.0	52	
	270.0	± 10	- 12	089	30	0.79	8.0	25.0	47	
	330.0	± 10	- 13	090	30	0.79	7.0	28.0	45	
	390.0	± 10	- 14	091	30	0.79	6.5	35.0	40	
	470.0	± 10	- 15	092	30	0.79	6.0	42.0	36	
	560.0	± 10	- 16	093	30	0.79	5.0	46.0	35	
	680.0	± 10	- 17	094	30	0.79	4.0	60.0	30	
	820.0	± 10	- 18	095	30	0.79	3.8	65.0	29	
	1000.0	± 10	- 19	096	30	0.79	3.4	72.0	28	
MS18130	0.15	± 20	- 1	LT4K 074	50	25.0	525.0	0.03	2450	PHENOLIC CORE
	0.22	± 20	- 2	075	50	25.0	450.0	0.055	1810	
	0.33	± 20	- 3	076	45	25.0	360.0	0.09	1400	
	0.47	± 20	- 4	077	45	25.0	310.0	0.12	1225	
	0.56	± 10	- 5	078	50	25.0	280.0	0.135	1150	
	0.68	± 10	- 6	079	50	25.0	250.0	0.15	1100	
	0.82	± 10	- 7	080	50	25.0	220.0	0.22	900	
	1.0	± 10	- 8	081	50	25.0	200.0	0.29	785	
	1.2	± 10	- 9	082	33	7.9	180.0	0.42	650	
	1.5	± 10	- 10	083	33	7.9	160.0	0.50	600	
	1.8	± 10	- 11	084	33	7.9	150.0	0.65	525	
	2.2	± 10	- 12	085	33	7.9	135.0	0.95	435	
	2.7	± 10	- 13	086	33	7.9	120.0	1.20	385	
	3.3	± 10	- 14	087	33	7.9	110.0	2.0	300	
	3.9	± 10	- 15	088	33	7.9	100.0	2.30	280	
	4.7	± 10	- 16	089	33	7.9	90.0	2.60	260	



MS7508x, MS18130, MS14046, MS90538, MS75101

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STANDARD ELECTRICAL SPECIFICATIONS									
MODEL	IND. (μH)	TOL. (%)	MILITARY STANDARD	MILITARY TYPE	Q MIN.	TEST FREQ. L AND Q (MHz)	SRF MIN. (MHz) ⁽¹⁾	DCR MAX. (Ω)	RATED DC CURRENT (mA) ⁽²⁾
MS14046	5.6	± 10	-1	LT10K 128	45	7.9	60.0	0.32	495
	6.8	± 10	-2	129	50	7.9	55.0	0.50	395
	8.2	± 10	-3	130	50	7.9	50.0	0.60	360
	10.0	± 10	-4	131	55	7.9	45.0	0.90	290
	12.0	± 10	-5	132	65	2.5	42.0	1.10	265
	15.0	± 10	-6	133	65	2.5	40.0	1.40	240
	18.0	± 10	-7	134	75	2.5	34.0	2.25	185
	22.0	± 10	-8	135	75	2.5	30.0	2.50	175
	27.0	± 10	-9	136	60	2.5	25.0	2.60	170
	33.0	± 10	-10	137	65	2.5	19.0	3.00	165
MS90538	36.0	± 5	-1	LT10K 001	60	2.5	15.5	2.50	180
	39.0	± 5	-2	002	60	2.5	14.5	2.60	176
	43.0	± 5	-3	003	60	2.5	13.7	2.70	172
	47.0	± 5	-4	004	55	2.5	13.0	2.75	170
	51.0	± 5	-5	005	55	2.5	12.7	2.85	167
	56.0	± 5	-6	006	55	2.5	12.0	3.00	164
	62.0	± 5	-7	007	55	2.5	11.5	3.15	160
	68.0	± 5	-8	008	55	2.5	11.0	3.30	156
	75.0	± 5	-9	009	55	2.5	10.5	3.70	147
	82.0	± 5	-10	010	50	2.5	10.3	3.90	143
	91.0	± 5	-11	011	50	2.5	10.0	4.30	136
	100.0	± 5	-12	012	50	2.5	9.5	4.50	133
	110.0	± 5	-13	013	60	0.79	8.9	4.90	128
	120.0	± 5	-14	014	65	0.79	8.7	5.20	124
	130.0	± 5	-15	015	65	0.79	8.5	5.45	121
	150.0	± 5	-16	016	65	0.79	8.0	6.05	114
	160.0	± 5	-17	017	65	0.79	7.5	6.40	111
	180.0	± 5	-18	018	65	0.79	7.0	6.75	108
	200.0	± 5	-19	019	65	0.79	6.5	7.10	106
	220.0	± 5	-20	020	65	0.79	6.2	7.45	103
	240.0	± 5	-21	021	65	0.79	5.9	7.80	101
MS75101	3.3	± 10	-01	LT10K 169	30	7.9	70.0	0.140	990
	3.9	± 10	-02	170	30	7.9	65.0	0.155	870
	4.7	± 10	-03	171	30	7.9	60.0	0.210	745
	5.6	± 10	-04	172	30	7.9	50.0	0.280	645
	6.8	± 10	-05	173	30	7.9	50.0	0.375	560
	8.2	± 10	-06	174	30	7.9	48.0	0.440	540
	10.0	± 10	-07	175	30	7.9	42.0	0.605	440
	12.0	± 10	-08	176	50	2.5	36.0	1.05	370
	15.0	± 10	-09	177	55	2.5	30.0	1.20	310
	18.0	± 10	-10	178	60	2.5	30.0	1.95	255
	22.0	± 10	-11	179	60	2.5	24.0	2.20	240
	27.0	± 10	-12	180	65	2.5	22.0	2.75	205

Notes

(1) Measured with full length lead

(2) Rated DC Current based on the maximum temperature rise as shown in table

MAXIMUM TEMPERATURE RISE		
		OPERATING TEMPERATURE RANGE
MS75083	0.10 μH to 1.0 μH = 35 °C at + 90 °C ambient	- 55 °C to + 125 °C
MS75084	1.2 μH to 27 μH = 15 °C at + 90 °C ambient	- 55 °C to + 105 °C
MS75085	33 μH to 1000 μH = 15 °C at + 90 °C ambient	- 55 °C to + 105 °C
MS18130	0.15 μH to 4.7 μH = 35 °C at + 90 °C ambient	- 55 °C to + 125 °C
MS14046	5.6 μH to 33 μH = 15 °C at + 90 °C ambient	- 55 °C to + 105 °C
MS90538	36 μH to 240 μH = 15 °C at + 90 °C ambient	- 55 °C to + 105 °C
MS75101	3.3 μH to 27 μH = 15 °C at + 90 °C ambient	- 55 °C to + 105 °C

MS7508x, MS18130, MS14046, MS90538, MS75101



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DESCRIPTION - MILITARY PART NUMBER

MS75084	-12		LT	10	K	072
MILITARY STANDARD	INDUCTANCE VALUE	OR	TYPE	GRADE AND CLASS	FAMILY	ID NUMBER

GLOBAL PART NUMBER

M	S	7	5	0	4	8	-	1	2	R	U
PRODUCT FAMILY						INDUCTANCE VALUE			PACKAGE CODE		



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