



**THE DATASHEET OF  
MS14046-4RU**



## 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:** ± 10 %, standard

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

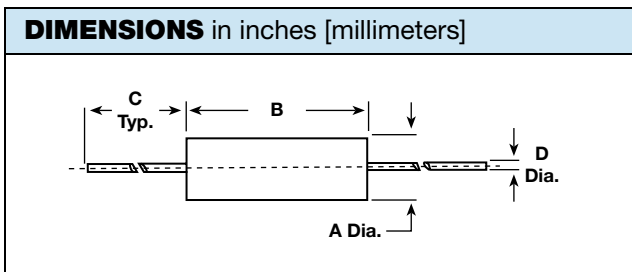
**Dielectric Strength:** Per MIL-STD-202, method 301: 1000 V<sub>AC</sub>

### 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

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



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]

### 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

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



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

STANDARD ELECTRICAL SPECIFICATIONS										
MODEL	IND. (μH)	TOL. (%)	MILITARY STANDARD	MILITARY TYPE	Q MIN.	TEST FREQ. L AND Q (MHz)	SRF MIN. (MHz) <sup>(1)</sup>	DCR MAX. (Ω)	RATED DC CURRENT (mA) <sup>(2)</sup>	
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	
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

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

STANDARD ELECTRICAL SPECIFICATIONS										
MODEL	IND. (μH)	TOL. (%)	MILITARY STANDARD	MILITARY TYPE	Q MIN.	TEST FREQ. L AND Q (MHz)	SRF MIN. (MHz) <sup>(1)</sup>	DCR MAX. (Ω)	RATED DC CURRENT (mA) <sup>(2)</sup>	
MS14046	5.6	± 10	-1	LT10K 128	45	7.9	60.0	0.32	495	IRON CORE
	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	
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	IRON CORE
	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



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

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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