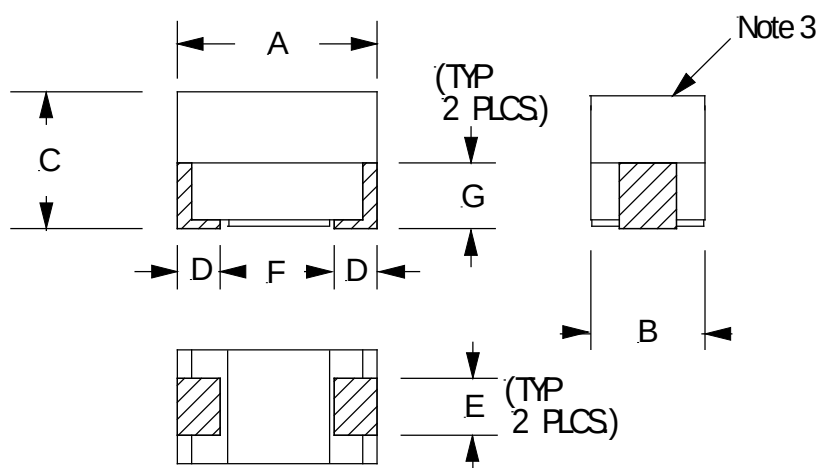


PERFORMANCE SPECIFICATION SHEET

COIL, RADIO FREQUENCY, CHIP, FIXED, MOLDED, UNSHIELDED ESTABLISHED RELIABILITY, SURFACE MOUNT

This specification is approved for use by all Departments
and Agencies of the Department of Defense.

The requirements for acquiring the products described
herein shall consist of this specification sheet and MIL-PRF-32560.



Dim.	Inches	Millimeters
A	0.160 to 0.190	4.06 to 4.83
B	0.118 to 0.134	3.00 to 3.40
C	0.114 to 0.138	2.90 to 3.51
D	0.015 min.	0.38 min.
E	0.042 to 0.078	1.07 to 1.98
F	0.118 (Ref. Only)	3.00 (Ref. Only)
G	0.066 (Ref. Only)	1.68 (Ref. Only)

NOTES:

1. Dimensions are in inches
2. Metric equivalents are given for general information only.
3. Marking shall be on the top surface of the coil.

FIGURE 1. Dimensions and Configuration.

REQUIREMENTS:

Dimensions and configuration: See Figure 1.

Material: Phenolic core (inductance values 0.010 to 0.082 uH, inclusive); Iron core (inductance values 0.10 to 0.82 uH, inclusive); Ferrite core (inductance values 1.0 to 1000 uH, inclusive).

Termination finish: Tin lead only

Weight: 0.3 gram maximum.

Operating temperature range: -55°C to +125°C.

Temperature rise (at 90°C): 35°C maximum. Test performed with coil mounted on SMD test substrate.

Maximum operating temperature: +125°C.

Altitude: 70,000 feet maximum.

Dielectric Withstanding Voltage: In accordance with MIL-PRF-32560.

Barometric Pressure: In accordance with MIL-PRF-32560.

Insulation Resistance: In accordance with MIL-PRF-32560.

Points of test voltage application for Dielectric Withstanding Voltage, Barometric Pressure, and Insulation Resistance are between the terminals of the coil shorted together and the contact arm or assembly. The contact arm is made of conductive, moisture-resistant, resilient material and it shall cover the entire surface opposite the terminals, and shall be held firmly in place against this surface during testing.

Electrical characteristics (initial): See Table I.

Inductance and tolerance: See Table I.

Quality Factor (Q): See Table I.

Self-resonant frequency: See Table I.

DC resistance: See Table I.

Terminal (Bond) Strength: 2.0 pounds, when tested in accordance with MIL-STD-883, Method 2011, Test condition F. Test performed with coil mounted on SMD test substrate.

Solderability: In accordance with MIL-PRF-32560.

Resistance to solvents: Test is not applicable.

Overload: Test performed with coil mounted on SMD test substrate.

Low temperature storage: Test performed with coil mounted on SMD test substrate.

Vibration: In accordance with MIL-PRF-32560. Test performed with coil mounted on SMD test substrate.

Shock (Specified Pulse): In accordance with MIL-PRF-32560. Test performed with coil mounted on SMD test substrate.

Life: Test performed with coil mounted on SMD test substrate.

Moisture Resistance: In accordance with MIL-PRF-32560.

SMD test substrate (where applicable): Material shall be made of a minimum of 96 percent alumina, or equivalent. The test substrate shall be prepared with metallized surface land areas.

Coil Mounting (where applicable): Test coils are to be soldered to the SMD test substrate's metallized areas only. Solder used shall be Sn63Pb37 solder or equivalent. The test substrate shall then be placed in or on a suitable heat transfer unit (molten solder, hot plate, tunnel oven, etc.) with the temperature maintained at 260°C +/- 5°C, until the solder melts and reflows forming a homogenous solder connection.

Electrical characteristics (final): See Table II. For any Subgroup test requiring coils to be mounted to an SMD test substrate, the electrical characteristics (final) measurements are to be referenced to the electrical characteristics (initial) measurements determined after the test coil is mounted to the test substrate.

Part Marking: Coil marking is not applicable due to body size constraints.

Table I Electrical characteristics (initial) and dash numbers.

Dash Number 1/	Inductance 3/ (μH)	Inductance Tolerance (%)	Q 3/ (min)	Test Frequency (MHz)	Self-resonant frequency (MHz) (min)	DC resistance (ohms) (max)	Current rating (mA) (max) 2/
BR010*B*	0.010	±5,±10,±20	40	50	1,000	0.10	1,230
BR012*B*	0.012	±5,±10,±20	40	50	1,000	0.10	1,230
BR015*B*	0.015	±5,±10,±20	40	50	1,000	0.10	1,230
BR018*B*	0.018	±5,±10,±20	40	50	1,000	0.10	1,230
BR022*B*	0.022	±5,±10,±20	40	50	1,000	0.10	1,230
BR027*B*	0.027	±5,±10,±20	40	50	1,000	0.15	1,000
BR033*B*	0.033	±5,±10,±20	40	50	1,000	0.15	1,000
BR039*B*	0.039	±5,±10,±20	30	50	1,000	0.20	870
BR047*B*	0.047	±5,±10,±20	30	50	1,000	0.20	870
BR056*B*	0.056	±5,±10,±20	30	50	850	0.25	770
BR068*B*	0.068	±5,±10,±20	25	50	750	0.25	770
BR082*B*	0.082	±5,±10,±20	25	50	750	0.25	700
BR10*B*	0.10	±5,±10	30	25	650	0.30	818
BR12*B*	0.12	±5,±10	30	25	600	0.30	818
BR15*B*	0.15	±5,±10	30	25	500	0.30	818
BR18*B*	0.18	±5,±10	30	25	400	0.35	757
BR22*B*	0.22	±5,±10	30	25	350	0.40	708
BR27*B*	0.27	±5,±10	30	25	300	0.45	668
BR33*B*	0.33	±5,±10	30	25	250	0.55	604
BR39*B*	0.39	±5,±10	30	25	220	0.70	535
BR47*B*	0.47	±5,±10	30	25	190	0.80	501
BR56*B*	0.56	±5,±10	30	25	170	1.20	409
BR68*B*	0.68	±5,±10	30	25	150	1.40	379
BR82*B*	0.82	±5,±10	30	25	140	1.60	354
B1R0*B*	1.0	±5,±10	50	7.9	100	0.50	634
B1R2*B*	1.2	±5,±10	50	7.9	80	0.55	604
B1R5*B*	1.5	±5,±10	50	7.9	70	0.60	578
B1R8*B*	1.8	±5,±10	50	7.9	60	0.65	556
B2R2*B*	2.2	±5,±10	50	7.9	55	0.70	535
B2R7*B*	2.7	±5,±10	50	7.9	50	0.75	517
B3R3*B*	3.3	±5,±10	50	7.9	45	0.80	501
B3R9*B*	3.9	±5,±10	50	7.9	40	0.90	472
B4R7*B*	4.7	±5,±10	50	7.9	35	1.00	448
B5R6*B*	5.6	±5,±10	50	7.9	33	1.10	427
B6R8*B*	6.8	±5,±10	50	7.9	27	1.20	409
B8R2*B*	8.2	±5,±10	50	7.9	25	1.40	375
B100*B*	10	±5,±10	50	7.9	20	1.60	354
B120*B*	12	±5,±10	50	2.5	18	2.00	317
B150*B*	15	±5,±10	50	2.5	17	2.50	283
B180*B*	18	±5,±10	50	2.5	15	2.80	268
B220*B*	22	±5,±10	50	2.5	13	3.20	250
B270*B*	27	±5,±10	50	2.5	12	3.60	236
B330*B*	33	±5,±10	50	2.5	11	4.00	224
B390*B*	39	±5,±10	50	2.5	10	4.50	211
B470*B*	47	±5,±10	50	2.5	10	5.00	200
B560*B*	56	±5,±10	50	2.5	9	5.50	191
B680*B*	68	±5,±10	50	2.5	9	6.00	183
B820*B*	82	±5,±10	50	2.5	8	7.00	169

See footnotes at end of table.

Table I Electrical characteristics (initial) and dash numbers. - continued

Dash Number <u>1/</u>	Inductance <u>3/</u> (μ H)	Inductance Tolerance (%)	Q <u>3/</u> (min)	Test Frequency (MHz)	Self-resonant frequency (MHz) (min)	DC resistance (ohms) (max)	Current rating (mA) (max) <u>2/</u>
B101*B*	100	$\pm 5, \pm 10$	50	2.5	8	8.00	158
B121*B*	120	$\pm 5, \pm 10$	40	0.79	6	8.0	158
B151*B*	150	$\pm 5, \pm 10$	40	0.79	5	9.0	149
B181*B*	180	$\pm 5, \pm 10$	40	0.79	5	9.5	145
B221*B*	220	$\pm 5, \pm 10$	40	0.79	4	10.0	142
B271*B*	270	$\pm 5, \pm 10$	40	0.79	4	12.0	129
B331*B*	330	$\pm 5, \pm 10$	40	0.79	3.5	14.0	120
B391*B*	390	$\pm 5, \pm 10$	40	0.79	3.0	20.0	100
B471*B*	470	$\pm 5, \pm 10$	40	0.79	3.0	26.0	88
B561*B*	560	$\pm 5, \pm 10$	30	0.79	3.0	30.0	82
B681*B*	680	$\pm 5, \pm 10$	30	0.79	3.0	30.0	82
B821*B*	820	$\pm 5, \pm 10$	30	0.79	2.5	45.0	67
B102*B*	1000	$\pm 5, \pm 10$	30	0.79	2.5	60.0	55

1/ The complete dash number will include three (3) additional letters (indicated by ***). The first additional letter will indicate the inductance tolerance (e.g. J = $\pm 5\%$, K = $\pm 10\%$, M = $\pm 20\%$), the second additional letter will indicate the termination finish B = Tin lead, and the third additional letter will indicate the product level (e.g. M, P, R, S) and will be added to the end of the dash number.

2/ Maximum current allowed not to exceed the specified maximum temperature rise.

3/ Inductance and Q to be measured using HP4291A; HP 4194A or equivalent using TF16092; TF16034 or equivalent.

Table II Electrical characteristics (final).

Inspection group	Allowable variation from initial measurements			
	Inductance (Percent)	DC resistance	Self-resonant frequency (Percent)	Q (Percent)
Qualification inspection				
Group II	± 5	$\pm(3\% + .001 \text{ ohm})$	-10	-10
Group IIIA	± 5	-----	-----	-10
Group IV	± 5	$\pm(3\% + .001 \text{ ohm})$	-8	-10
Group V	± 5	$\pm(3\% + .001 \text{ ohm})$	-10	-10
Group B inspection				
Subgroup 1	± 5	$\pm(3\% + .001 \text{ ohm})$	-8	-10
Subgroup 2	± 5	$\pm(3\% + .001 \text{ ohm})$	-10	-10
Subgroup 3a	± 5	----	----	-10
Subgroup 4	± 5	$\pm(3\% + .001 \text{ ohm})$	-8	-10

Part or Identifying Number (PIN): The part number shall be in the following form.

M32560/04-***** (dash number per Table I)

Referenced documents: In addition to MIL-PRF-32560, this document references:

MIL-STD-883

Custodians:

Army – CR
Navy – EC
Air Force – 85
DLA – CC

Preparing activity:

DLA – CC

Review Activities:

Army – AR, CR4, MI
Navy – AS, CG, MC, OS
Air Force – 19, 99
NASA – NA
Other - MDA

(Project 5950-2017-004)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil>.