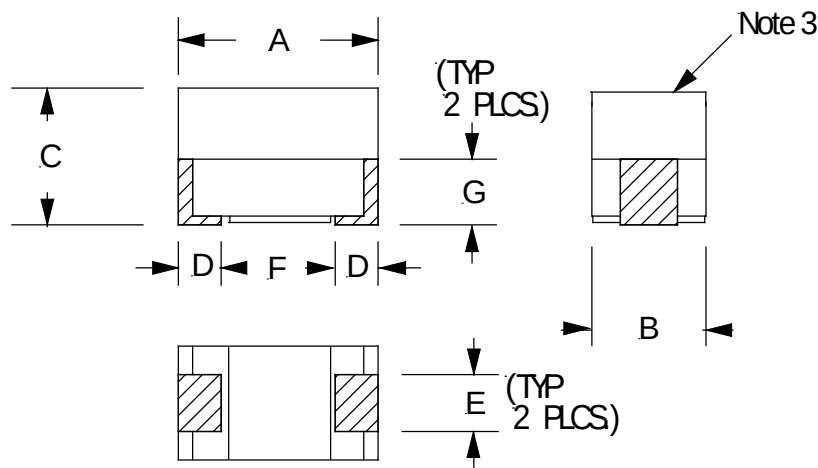


PERFORMANCE SPECIFICATION SHEET

COIL, RADIO FREQUENCY, CHIP, FIXED, MOLDED, SHIELDED,
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	0.165 to 0.190	4.19 to 4.83
B	0.118 to 0.134	3.00 to 3.40
C	0.114 to 0.138	2.99 to 3.51
D	0.015 min.	0.38 min.
E	0.045 to 0.078	1.14 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: 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: 0.30 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 <u>1/</u>	Inductance (μ H) <u>3/</u>	Inductance Tolerance (%)	Q (min) <u>3/</u>	Test Frequency (MHz)	Self- resonant frequency (MHz) (min)	DC resistance (ohms) (max)	Current rating (mA) (max) <u>2/</u>
BR10*B*	0.10	$\pm 5, \pm 10, \pm 20$	50	25	460	0.09	1,490
BR12*B*	0.12	$\pm 5, \pm 10, \pm 20$	50	25	400	0.10	1,412
BR15*B*	0.15	$\pm 5, \pm 10, \pm 20$	50	25	390	0.11	1,347
BR18*B*	0.18	$\pm 5, \pm 10, \pm 20$	50	25	350	0.12	1,290
BR22*B*	0.22	$\pm 5, \pm 10, \pm 20$	50	25	310	0.15	1,154
BR27*B*	0.27	$\pm 5, \pm 10, \pm 20$	50	25	280	0.18	1,053
BR33*B*	0.33	$\pm 5, \pm 10, \pm 20$	40	25	240	0.22	952
BR39*B*	0.39	$\pm 5, \pm 10, \pm 20$	40	25	215	0.26	876
BR47*B*	0.47	$\pm 5, \pm 10, \pm 20$	40	25	205	0.31	802
BR56*B*	0.56	$\pm 5, \pm 10, \pm 20$	40	25	185	0.37	735
BR68*B*	0.68	$\pm 5, \pm 10, \pm 20$	40	25	166	0.44	675
BR82*B*	0.82	$\pm 5, \pm 10, \pm 20$	40	25	155	0.53	614
B1R0*B*	1.0	$\pm 5, \pm 10$	40	7.9	160	0.35	755
B1R2*B*	1.2	$\pm 5, \pm 10$	40	7.9	140	0.38	725
B1R5*B*	1.5	$\pm 5, \pm 10$	40	7.9	110	0.40	706
B1R8*B*	1.8	$\pm 5, \pm 10$	40	7.9	100	0.43	681
B2R2*B*	2.2	$\pm 5, \pm 10$	40	7.9	90	0.46	658
B2R7*B*	2.7	$\pm 5, \pm 10$	40	7.9	67	0.49	638
B3R3*B*	3.3	$\pm 5, \pm 10$	40	7.9	61	0.70	534
B3R9*B*	3.9	$\pm 5, \pm 10$	40	7.9	56	0.84	487
B4R7*B*	4.7	$\pm 5, \pm 10$	40	7.9	50	0.90	471
B5R6*B*	5.6	$\pm 5, \pm 10$	40	7.9	40	1.00	447
B6R8*B*	6.8	$\pm 5, \pm 10$	40	7.9	32	1.20	408
B8R2*B*	8.2	$\pm 5, \pm 10$	40	7.9	30	1.44	372
B100*B*	10	$\pm 5, \pm 10$	50	2.5	25	1.80	333
B120*B*	12	$\pm 5, \pm 10$	50	2.5	22	2.00	315
B150*B*	15	$\pm 5, \pm 10$	50	2.5	18	2.20	301
B180*B*	18	$\pm 5, \pm 10$	50	2.5	15	2.40	288
B220*B*	22	$\pm 5, \pm 10$	50	2.5	14	2.60	277
B270*B*	27	$\pm 5, \pm 10$	50	2.5	13	2.80	267
B330*B*	33	$\pm 5, \pm 10$	50	2.5	12	3.00	258
B390*B*	39	$\pm 5, \pm 10$	50	2.5	11	3.20	250
B470*B*	47	$\pm 5, \pm 10$	50	2.5	9.0	3.40	242
B560*B*	56	$\pm 5, \pm 10$	50	2.5	8.0	3.60	235
B680*B*	68	$\pm 5, \pm 10$	50	2.5	7.6	4.30	215
B820*B*	82	$\pm 5, \pm 10$	50	2.5	7.2	5.20	196
B101*B*	100	$\pm 5, \pm 10$	40	0.79	7.0	7.00	169
B121*B*	120	$\pm 5, \pm 10$	40	0.79	6.0	7.50	163
B151*B*	150	$\pm 5, \pm 10$	40	0.79	5.0	8.00	158
B181*B*	180	$\pm 5, \pm 10$	40	0.79	4.5	8.50	153
B221*B*	220	$\pm 5, \pm 10$	40	0.79	4.2	9.00	149
B271*B*	270	$\pm 5, \pm 10$	40	0.79	4.0	11.0	135
B331*B*	330	$\pm 5, \pm 10$	40	0.79	3.7	12.0	129
B391*B*	390	$\pm 5, \pm 10$	40	0.79	3.5	18.0	105

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>
B471*B*	470	$\pm 5, \pm 10$	40	0.79	3.3	24.0	91
B561*B*	560	$\pm 5, \pm 10$	40	0.79	2.8	28.0	84
B681*B*	680	$\pm 5, \pm 10$	40	0.79	2.6	32.0	79
B821*B*	820	$\pm 5, \pm 10$	40	0.79	2.2	40.0	71
B102*B*	1000	$\pm 5, \pm 10$	40	0.79	2.0	55.0	60

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.

M32560/05-***** (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 5950-2017-005)

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>.