

INCH-POUND

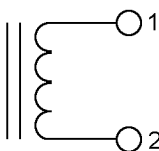
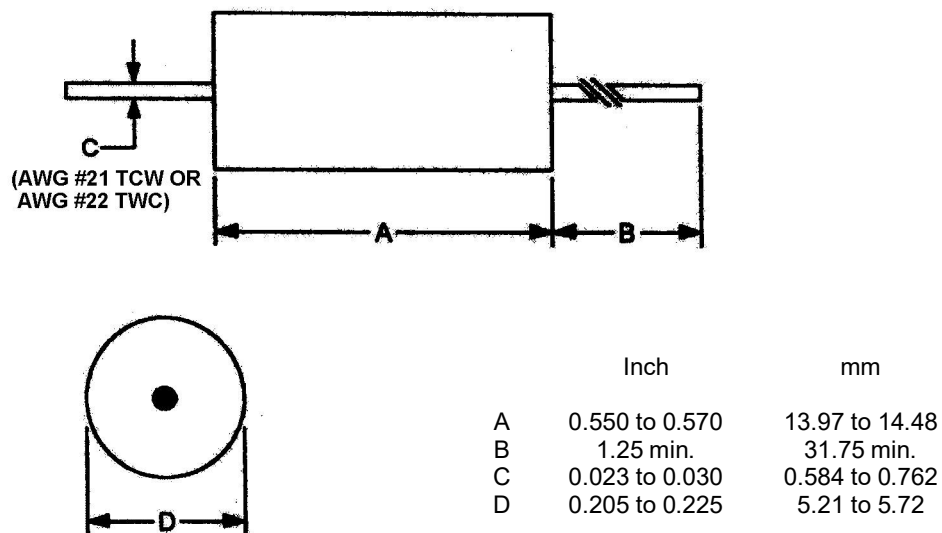
MIL-PRF-27/371B
w/AMENDMENT 1
10 July 2020
SUPERSEDING
MIL-PRF-27/371B
16 April 2010

PERFORMANCE SPECIFICATION SHEET

INDUCTOR, POWER, UNSHIELDED, MOLDED, AXIAL LEADED

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

The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-PRF-27.



CIRCUIT DIAGRAM

NOTES:

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

FIGURE 1. Dimensions and configuration.



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TABLE I. Electrical characteristics (initial).

Dash number	Inductance (μ H) $\pm 15\%$ 1/	DC resistance ohms (max)	Current rating (Amps) (max)	Incremental current (Amps) 2/
-01	0.22	0.0080	7.00	7.00
-02	0.27	0.0085	6.75	6.75
-03	0.33	0.0090	6.50	6.50
-04	0.39	0.0095	6.25	6.25
-05	0.47	0.0100	6.00	6.00
-06	0.56	0.0105	5.80	5.80
-07	0.68	0.0110	5.70	5.70
-08	0.82	0.0120	5.60	5.60
-09	1.00	0.013	5.50	5.50
-10	1.20	0.018	4.69	4.69
-11	1.50	0.020	4.45	4.45
-12	1.80	0.021	4.34	4.34
-13	2.20	0.029	3.70	3.70
-14	2.70	0.034	3.41	3.41
-15	3.30	0.038	3.23	3.23
-16	3.90	0.042	3.07	3.07
-17	4.70	0.047	2.90	2.90
-18	5.60	0.051	2.79	2.79
-19	6.80	0.058	2.61	2.61
-20	8.20	0.063	2.51	2.51
-21	10.0	0.071	2.36	2.36
-22	12.0	0.079	2.24	2.24
-23	15.0	0.089	2.11	2.11
-24	18.0	0.119	1.82	1.82
-25	22.0	0.152	1.61	1.61
-26	27.0	0.179	1.48	1.48
-27	33.0	0.222	1.33	1.33
-28	39.0	0.315	1.12	1.12
-29	47.0	0.362	1.04	1.04
-30	56.0	0.397	1.00	1.00
-31	68.0	0.418	0.97	0.97
-32	82.0	0.604	0.81	0.81
-33	100	0.672	0.76	0.76
-34	120	0.735	0.73	0.73
-35	150	0.913	0.63	0.63
-36	180	1.370	0.53	0.53
-37	220	1.580	0.50	0.50
-38	270	1.770	0.47	0.47
-39	330	2.510	0.39	0.39
-40	390	2.730	0.38	0.38
-41	470	3.250	0.35	0.35
-42	560	3.750	0.33	0.33
-43	680	4.310	0.30	0.30
-44	820	6.040	0.26	0.26
-45	1000	6.900	0.24	0.24
-46	1200	10.00	0.200	0.200
-47	1500	12.50	0.178	0.178
-48	1800	16.00	0.157	0.157
-49	2200	20.00	0.141	0.141
-50	2700	23.00	0.131	0.131
-51	3300	25.00	0.126	0.126
-52	3900	33.00	0.110	0.110

TABLE I. Electrical characteristics (initial) – Continued.

Dash number	Inductance (μ H) $\pm 15\%$ <u>1/</u>	DC resistance ohms (max)	Current rating (Amps) (max)	Incremental current (Amps) <u>2/</u>
-53	4700	37.00	0.103	0.103
-54	5600	40.00	0.100	0.100
-55	6800	62.00	0.080	0.080
-56	8200	66.00	0.077	0.077
-57	10000	74.00	0.071	0.071
-58	12000	93.00	0.065	0.065
-59	15000	105.0	0.061	0.061
-60	18000	143.0	0.052	0.052
-61	22000	160.0	0.050	0.050

1/ Measured with no dc current.

2/ The current at which the inductance will decrease by a maximum of 5 percent from its initial zero dc value.

TABLE II. Electrical characteristics (final).

Inspection group	Allowable percent variation from the initial measurement	
Qualification inspection:	Inductance	DC resistance
Group II	± 5	± 3 (+.001 ohm)
Group III	± 5	± 2 (+.001 ohm)
Group IV	± 5	-----

REQUIREMENTS:

Electrical ratings: See table I.

Electrical characteristics (final): See table II.

Dimensions and configuration: See figure 1.

Case: Grade 5, encapsulated.

Material: Epoxy.

Weight: 2.5 grams maximum.

Operating temperature range: -55°C to +130°C.

Altitude: 70,000 feet.

Resistance to soldering heat: MIL-STD-202-210, test condition B. Depth of immersion shall be to within 0.25 inch from the nearest insulating material.

Ambient temperature: 85°C.

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Power: .44 watt maximum power dissipation at 85°C.

Temperature rise: 45°C maximum at an ambient temperature of 85°C.

Terminal strength: Pull: MIL-STD-202-211, test condition A, 5 pounds.
Twist: MIL-STD-202-211, test condition D, 3 rotations of 360°.

Barometric pressure: MIL-STD-202-105, test condition C, 70,000 feet with a test voltage 500 V rms.

Dielectric withstanding voltage:

At sea level: MIL-STD-202-301, test voltage of 1,000 V rms.

At reduced barometric pressure: MIL-STD-202-105, test voltage of 500 V rms.

At reduced voltage: 375 Vrms.

Electrical characteristics: See table I.

Inductance: With 1 kHz across (1-2), the inductance shall be "X" μ H $\pm$ 15 percent.
(For "X", see table I.)

DC resistance @ 25°C: See table I.

Induced voltage tests are not applicable.

Resistance to solvents test is not applicable for laser marked units.

Quality Assurance Provisions:

Extent of qualification: Qualification testing and approval to M27/371-61 shall be sufficient to grant qualification to: M27/371-01 through M27/371-61 inclusive and M27/369-01 through M27/369-52 inclusive, all parts.

Marking location: See figure 1.

Part or Identifying Number (PIN): M27/371-(dash number from table I).

Amendment notations. The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations.

Referenced documents. In addition to MIL-PRF-27, this document references the following:

MIL-STD-202-105, MIL-STD-202-210, MIL-STD-202-211, MIL-STD-202-301

Custodians:

Army - CR

Navy - EC

Air Force - 85

DLA - CC

Preparing activity:

DLA - CC

(Project 5950-2020-007)

Review activities:

Army - MI

Navy - AS, OS

Air Force - 19

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 this information above using the ASSIST Online database at <https://assist.dla.mil>.