

INCH-POUND

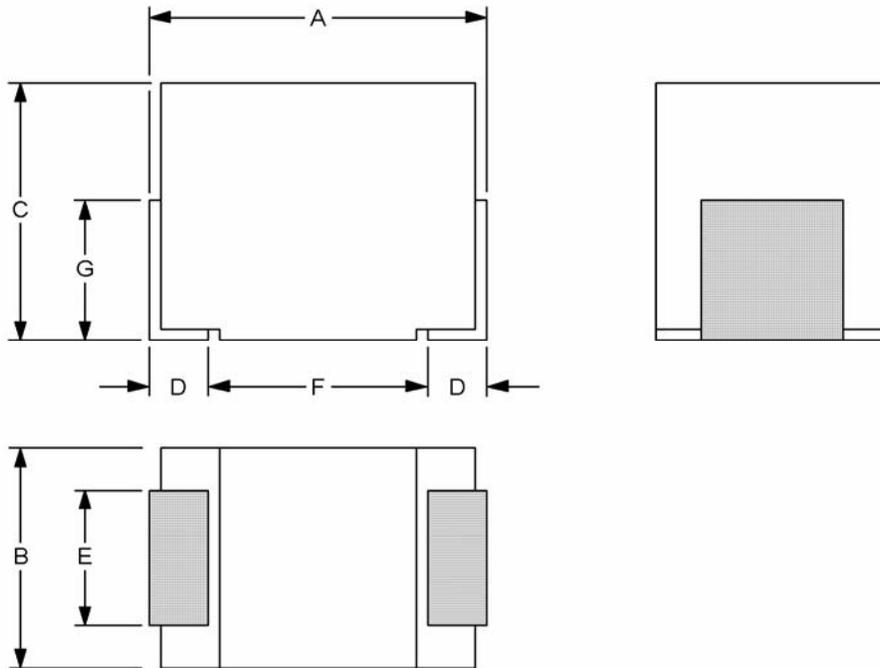
MIL-PRF-27/367A  
14 July 2006  
SUPERSEDING  
MIL-PRF-27/367  
13 December 2004

PERFORMANCE SPECIFICATION SHEET

INDUCTOR, POWER, HIGH CURRENT, SURFACE MOUNT

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.



NOTES:

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

	Inches	mm
A	.490 to .520	12.44 to 13.21
B	.230 to .250	5.84 to 6.35
C	.210 to .230	5.33 to 5.84
D	.050 Min.	1.27 Min.
E	.055 to .075	1.40 to 1.91
F	.330 (Ref. Only)	8.38 (Ref. Only)
G	.120 (Ref. Only)	3.04 (Ref only)

FIGURE 1. Dimensions and configuration.

## MIL-PRF-27/367A

TABLE I. Electrical characteristics (initial).

Dash number	Inductance ( $\mu$ H) $\pm 15\%$ <u>1/</u>	DC resistance ohms (max)	Current rating Amps (max)	Incremental current (Amps) <u>2/</u>
-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	0.998	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

TABLE I. Electrical characteristics (initial). - Continued.

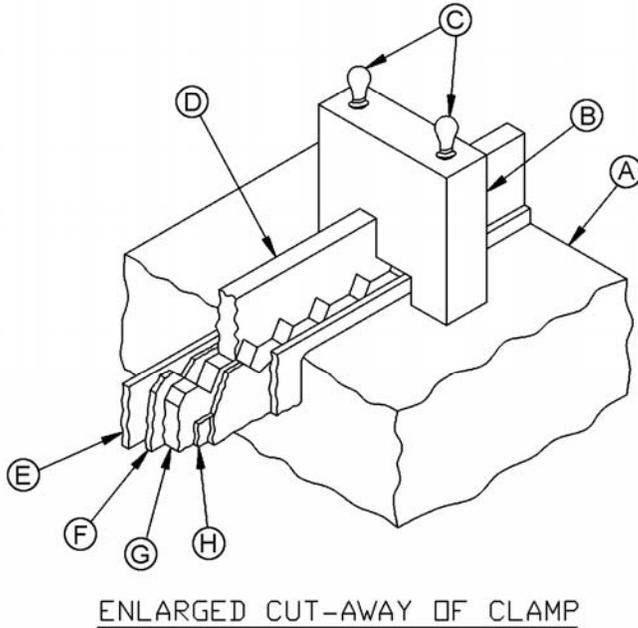
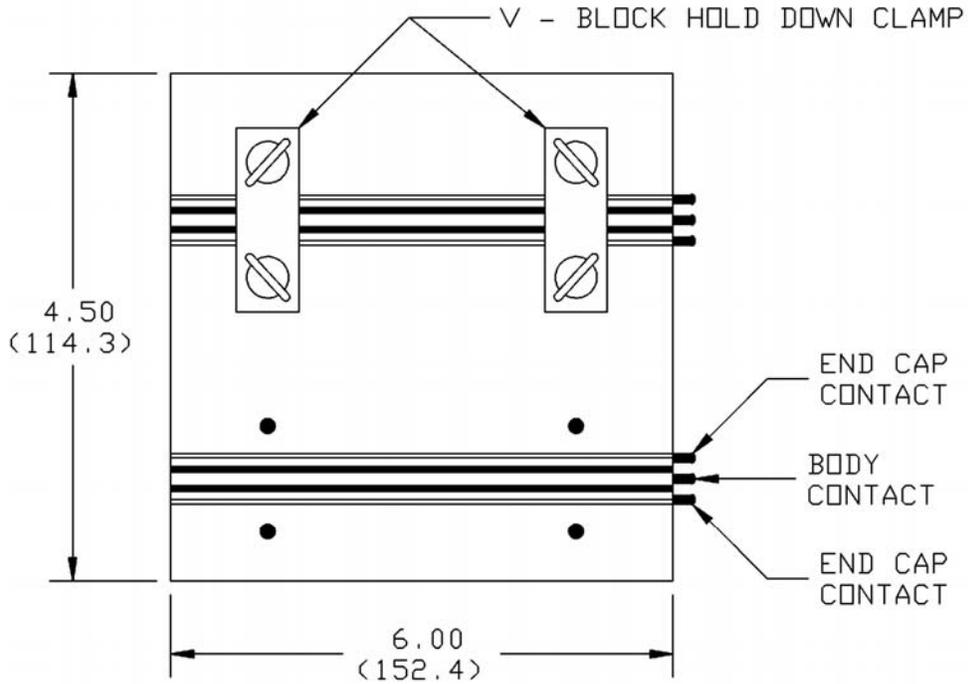
Dash number	Inductance ( $\mu$ H) $\pm 15\%$ <u>1/</u>	DC resistance ohms (max)	Current rating Amps (max)	Incremental current (Amps) <u>2/</u>
-51	3300	25.00	0.126	0.126
-52	3900	33.00	0.110	0.110
-53	4700	37.00	0.103	0.103
-54	5600	40.00	0.100	0.100
-55	6800	62.00	0.080	0.080
-56	8200	66.00	0.077	0.077
-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 at 1 V ac open circuit with no dc current at 1 KHz.

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

TABLE II. Electrical characteristics (final).

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



Legend	
LTR	Description
A	G-10 base
B	Upper V-block hold-down clamp
C	Clamp screws
D	Upper V-block (body contact)
E	End cap contact retaining wall
F	End cap contact V-block (in contact with E)
G	Lower V-block (body contact)
H	G-10 insulators (separating G from F/E)

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Metric equivalents are in parentheses.

FIGURE 2. Test fixture for insulation resistance, dielectric withstanding voltage, and barometric pressure.

MIL-PRF-27/367A

REQUIREMENTS:

Dimensions and configuration: See figure 1.

Weight: 1.5 grams maximum.

Case: Grade 5, encapsulated.

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

Temperature rise (at +85°C): +45°C, method of mounting shall be on test substrates that provide test pieces one inch minimum separation.

Altitude: 70,000 feet.

Resistance to soldering heat: Method 210, test condition B, MIL-STD-202. Depth of immersion shall be the entire mounting surface for 4 to 5 seconds.

Bond strength: Method 2011, test condition F, MIL-STD-883.

Force: 2 pounds.

Dielectric withstanding voltage: Method 301 of MIL-STD-202, test voltage 1,000 V rms.

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

Insulation resistance: Method 302, MIL-STD-202, 1,000 megohms minimum at 500 V dc.

Electrical characteristics (initial): See table I.

Vibration, high frequency: Method 204, test condition D, MIL-STD-202.

Moisture resistance: Method 106, MIL-STD-202, method of mounting shall be on test substrates that provide test pieces one inch minimum separation.

Test fixture: Test shall be performed using test fixture shown on figure 2, or equivalent.

Quality Assurance Provisions:

Extent of qualification: Qualification testing and approval to M27/367-61 shall be sufficient to grant qualification to: M27/367-01 through M27/367-61 inclusive and M27/368-01 through M27/368-31 inclusive and M27/370-01 through M27/370-52 inclusive, all parts.

Marking location: See figure 1.

Part or Identifying Number (PIN): M27/367-(dash number from table I).

Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. 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 and relationship to the last previous issue.

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

MIL-STD-202  
MIL-STD-883

Custodians:  
Army - CR  
Navy - EC  
Air Force - 11  
DLA - CC

Preparing activity:  
DLA - CC  
(Project: 5950-2006-002)

Review activity:  
Army - MI

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 <http://assist.daps.dla.mil>.