

INCH-POUND

MIL-PRF-27/69C
W/AMENDMENT 1
31 March 2021
SUPERSEDING
MIL-PRF-27/69C
28 April 2008

PERFORMANCE SPECIFICATION SHEET

TRANSFORMERS, AUDIO FREQUENCY

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 and MIL-PRF-27.

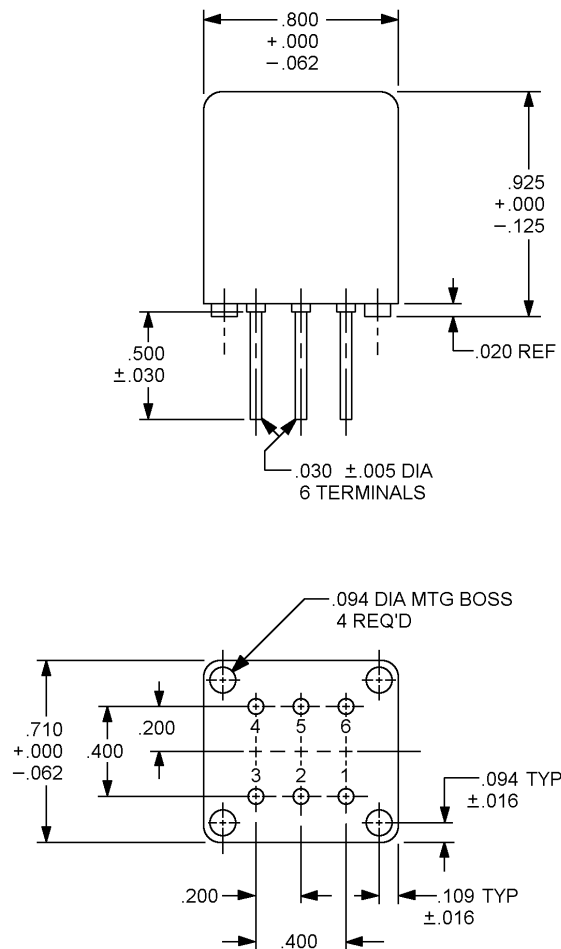
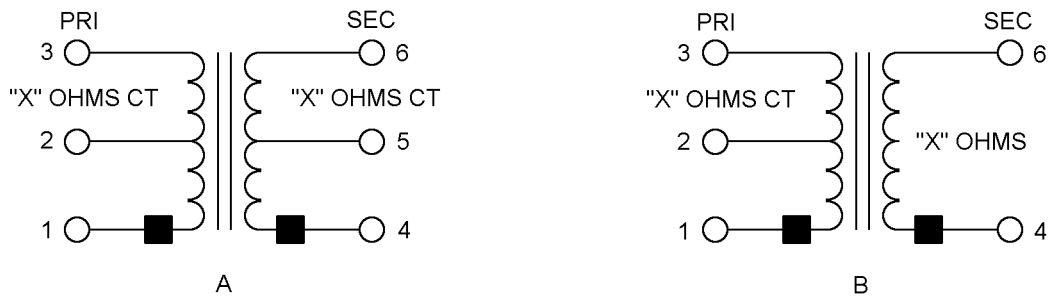


FIGURE 1. Dimensions and configuration.



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Inches	mm	Inches	mm
.005	0.13	.125	3.18
.016	0.41	.200	5.08
.020	0.51	.400	10.16
.030	0.76	.500	12.70
.062	1.57	.710	18.03
.094	2.39	.800	20.32
.109	2.77	.925	23.50



WORKING VOLTAGE: 175 V
ALTITUDE: 70 kFT MAX
(SEE TABLE I FOR VALUE OF "X")

CIRCUIT DIAGRAMS AND MARKING

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ± 0.016 (0.41 mm).
4. Marking shall be on sides and/or top of case.
5. Electrical values shall be marked as specified in table I, as applicable.

FIGURE 1. Dimensions and configuration – Continued.

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REQUIREMENTS: (When numbers in parentheses, i.e., (1.-3) are used, they indicate the winding and the extreme terminals of the winding.)

Electrical ratings: See table I.

Power level: 500 milliwatts maximum at 200 hertz.

Working voltage: 175 volts.

Frequency range: 200 hertz to 20 kilohertz.

TABLE I. Electrical ratings. 1/

Dash number	Circuit diagram (see figure 1)	Primary impedance ohms (1-3)	Secondary impedance ohms (4-6)	Primary DCR ohms $\pm 25\%$	Secondary DCR ohm $\pm 25\%$	Primary unbalanced DC current max (mA)
01	A	25k CT	1,000 CT	2,700	150	0
02	A	10k CT	10 k CT	1,100	1,200	1.0
03	A	10k CT	1,500 CT	1,100	180	1.0
04	A	10k CT	600 CT	1,100	75	1.0
05	B	10k CT	4	1,100	0.5	1.0
06	A	4,000 CT	10 k CT	440	1,200	1.5
07	B	1,500 CT	15	170	1.8	2.5
08	A	1 k CT	600 CT	105	75	3.0
09	B	1 k CT	4	105	0.5	3.0
10	A	600 CT	25 k CT	65	3,700	4.0
11	A	600 CT	600 CT	65	75	4.0
12	B	600 CT	60	65	7	2.0
13	B	600 CT	15	65	2	2.0
14	B	600 CT	4	65	0.5	2.0
15	A	250 CT	600 CT	30	75	2.0

1/ Qualification testing and approval to M27/69-01 shall be sufficient to grant qualification approval to M27/69-02 through M27/69-15, inclusive. Qualification by similarity can be obtained for MIL-PRF -27/67, /68, /70, /71, and /72 by the submission of two samples each, (of dash number 01 for MIL-PRF-27/67, /68, /70, /71, and /72) which shall be subject to group A, subgroup II tests, with zero defects allowed.

Design and construction:

Dimensions and configuration: See figure 1.

Duty cycle: Continuous.

Case: Encapsulated.

Material: Plastic.

Terminals: Pin (printed circuit).

Material: Nickel iron alloy, tin plated.

Diameter: .030 $\pm$.005 inch.

Length: .500 $\pm$.030 inch.

Weight: 26.93 grams maximum.

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Altitude: 70,000 feet, maximum.

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

Terminal strength: MIL-STD-202-211, test condition A, 2 pounds.

Dielectric withstanding voltage:

At sea level: 500 volts rms.

At barometric pressure: 300 volts rms.

Electrical characteristics: See table II.

Frequency response.

Reference frequency: 1 kilohertz.

Polarity: Additive, with terminals 3 and 4 connected.

TABLE II. Electrical characteristics.

Dash number	Frequency response at 200 Hz to 20 kHz ± 1 dB			
	Z _s (1-3) ohms	Z _L (4-6) ohms	E _L volts	Primary dc current (1-3) mA
01	25 k	1,000	3.0	0
02	10 k	10 k	8.0	0.5
03	10 k	1,500	8.0	0.5
04	10 k	600	8.0	0.5
05	10 k	4	8.0	0.5
06	4,000	10 k	5.0	0.75
07	1,500	15	3.0	1.25
08	1 k	600	3.0	1.5
09	1 k	4	3.0	1.5
10	600	25 k	2.0	2.0
11	600	600	2.0	2.0
12	600	60	2.0	2.0
13	600	15	2.0	2.0
14	600	4	2.0	2.0
15	250	600	2.0	3.5

Marking location: See figure 1.

Part or Identifying Number (PIN): M27/69- (dash number from table I).

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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-202-211
MIL-PRF-27/67
MIL-PRF-27/68
MIL-PRF-27/70
MIL-PRF-27/71
MIL-PRF-27/72

Custodians:

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

Preparing activity:
DLA – CC

(Project 5950-2021-013)

Review activities:

Army – AR, CR4, MI
Navy – AS, MC, OS, SH
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>.