

INCH-POUND

MIL-PRF-27/173F
 18 July 2008
 SUPERSEDING
 MIL-PRF-27/173E
 7 April 1992

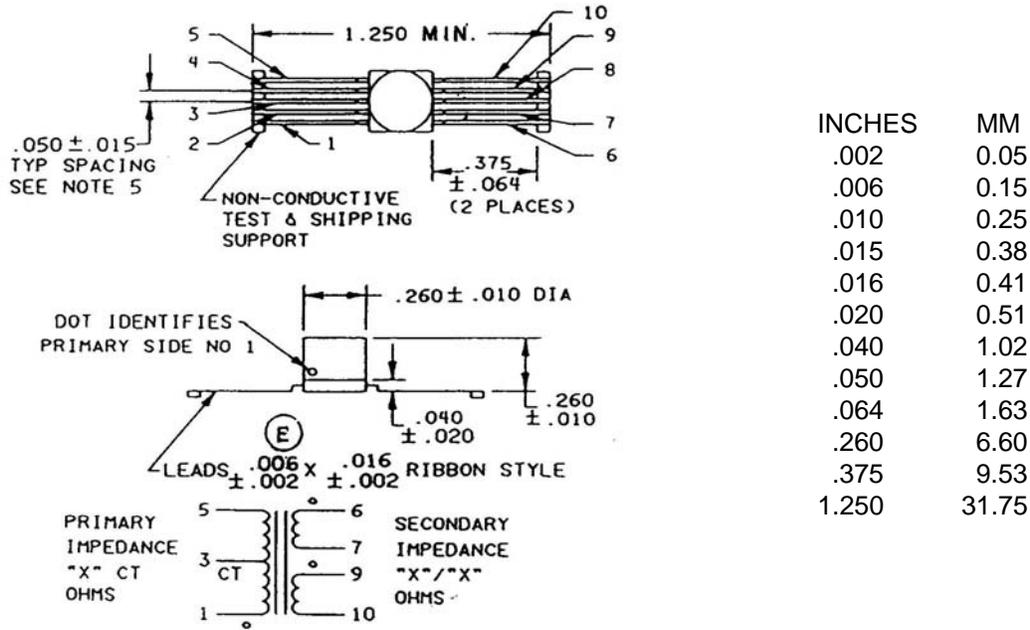
MILITARY SPECIFICATION SHEET

TRANSFORMERS, AUDIO FREQUENCY, MICRO-MINIATURE

Inactive for new design
 after 21 February 2003

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.



WORKING VOLTAGE (PEAK): 50 V
 ALTITUDE: 150,000 FT MAX
 FREQUENCY RANGE: 300 Hz – 250 kHz
CIRCUIT DIAGRAM AND MARKING

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Marking shall be on the top and bottom of the case.
4. Electrical values shall be marked as specified in table I as applicable.
5. Terminal spacing is on center.

FIGURE 1. Dimensions and configurations.

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REQUIREMENTS: (When numbers in parentheses, i.e., (1-5) are used, they indicate the winding and the extreme terminals of the winding. When the extreme terminals of two windings are used, i.e., (6-10), the windings are connected in series, i.e., terminals 7 and 9 are connected.

Electrical ratings: See table I.

Working voltage (peak): 50 V.

Frequency range: 300 Hz to 250 kHz.

Primary dc current (1-5): 0 ampere.

TABLE I. Electrical ratings. 1/

Dash Number	Primary Impedance (1-5) Ohms ct	Secondary Impedance (6-10) 2/ Ohms	Primary dc resistance (1-5) Ohms ±25%	Primary power level at 1 kHz (max) mW	Secondary dc resistance (6-10) Ohms ±25%
01	25 k	1000/250 Split	2400	40	78
02	1500	600/150 Split	150	75	65
03	150	12/3	16	80	1.85
04	300	600/150	30	80	65
05	400	400/100	45	80	45
06	500	50/12.5	58	80	5.5
07	600	600/150	65	80	65
08	1000	1000/250	110	80	100
09	2000	8000/2000	177	75	745
10	10 k	500/125	900	75	56
11	10 k	1200/300	900	75	100
12	10 k	2000/500	900	75	160
13	10 k	10k/2500	900	75	750

1/ Complete qualification testing and approval to M27/173-01 shall be sufficient to grant qualification approval to M27/173-02 through -13.

2/ By paralleling the secondary windings, one-fourth of the specified impedance is available.

Design and construction:

Dimensions and configurations: See figure 1.

Duty cycle: Continuous.

Terminals: Type LR (---)E-32-C1, per MIL-STD-1276.

Weight: 1.50 grams, maximum.

Altitude: 150,000 feet, maximum.

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Operating temperature range: -55°C to +105°C

Terminal strength: MIL-STD-202, method 211, test condition B, 5 bends.

Vibration (high frequency): MIL-STD-202, method 204, test condition D.

Solderability: MIL-STD-202, method 208.

Dielectric withstanding voltage:

At sea level: 200 V rms.

At barometric pressure: 125 V rms.

Electrical characteristics: See table II.

Harmonic distortion: Total harmonic content of the output shall be a maximum of 5 percent at the specified power level and 1 kHz (see table I).

Frequency response: See table II, all impedances are loaded to 1 mW.

Reference frequency: 1 kHz.

Insertion loss: Insertion loss shall be a maximum of 4.0 dB at the specified power level (see table I).

Polarity: Additive, with (5-6) and (7-9) connected.

Marking location: See figure 1.

Part or Identifying Number (PIN): M27/173-(dash number from table I).

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TABLE II. Electrical characteristics.

Dash number	Frequency response at 300 Hz to 250 kHz, ± 2 dB	
	Z_s (1-5) Ohms	Z_L (6-10) Ohms
01	25 k	1000
02	1.5 k	600
03	150	12
04	300	600
05	400	400
06	500	50
07	600	600
08	1000	1000
09	2 k	8 k
10	10 k	500
11	10 k	1.2 k
12	10 k	2 k
13	10 k	10 k

SUPERSESSION DATA:

MIL-PRF-27/173 supersedes MS21398(USAF) which was inactive for design after 21 March 1977. The transformer, M27/173-02, covered by this specification sheet supersedes PIN MS21398-1.

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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-1276

Custodians:

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

Preparing activity:

DLA – CC

(Project 5950-2008-021)

Review activities:

Army – AR, CR4
Navy – AS, MC, OS, SH
Air Force – 19, 99

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>.