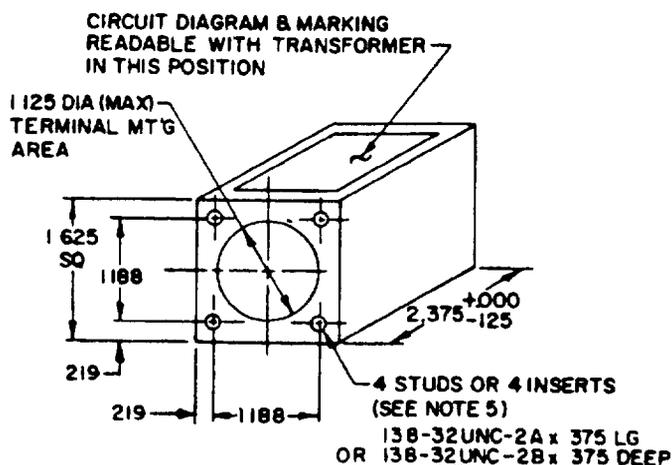


MILITARY SPECIFICATION SHEET

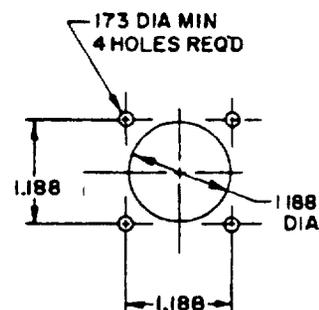
Ⓐ TRANSFORMER, AUDIO FREQUENCY, TF4R21AJ

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

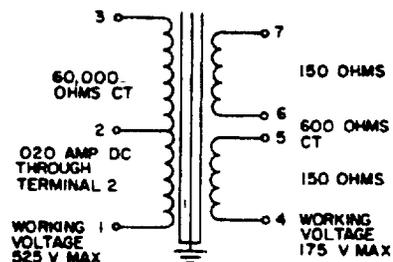
The complete requirements for procuring the transformer described herein shall consist of this document and the latest issue of Specification MIL-T-27.



MINIMUM CHASSIS CUTOUT



300 TO 10,000 Hz  
POWER LEVEL 5 W MAX



MAX ALTITUDE 50,000 FT

INCHES	MM
.125	3.18
.138	3.51
.219	5.56
.375	9.53
1.125	28.58
1.188	30.18
1.625	41.28
2.375	60.33

CIRCUIT DIAGRAM and marking

NOTES

- Dimensions are in inches
- Metric equivalents (to the nearest .01 mm) are given for general information only and are based upon 1 inch = 25.4 mm.
- Unless otherwise specified, tolerance on overall case dimensions is +.000 (.00 mm) -.063 (1.60 mm).
- Tolerance on mounting dimensions is +.016 (.41 mm).
- Inserts not recommended for new design.
- Terminal arrangement optional within mounting area indicated.
- When numbers in parentheses, e.g. (1-3), are used, they indicate the winding and the extreme terminals of the winding. When the extreme terminals of two windings are used, e.g. (4-7), the windings are connected in series, i.e., terminals 5 and 6 are connected

Ⓐ denotes change

MIL-T-27/11A

REQUIREMENTS:

Electrical rating

Primary power level - .5 W, maximum; .1 W, minimum.

Working voltage (1-3) - 525 V, maximum.  
(4-5) - 175 V, maximum.  
(6-7) - 175 V, maximum.

Primary current - .020 ampere dc through terminal 2, .001 ampere dc, maximum unbalance.

Primary impedance (1-3) - 60,000 ohms ct.

Design, configuration, and physical dimensions: See figure.

Material: Metal encased, steel.

Weight: .72 pound, maximum.

Duty cycle: Continuous.

Altitude: 50,000 feet, maximum.

Life expectancy: 10,000 hours, minimum.

Temperature range: -55°C to 105°C.

Terminals: Solder terminals, No. 18 AWG.

Terminal height: .375 (9.53 mm)  $\begin{matrix} +.000 \\ -.188 \end{matrix}$  (4.78 mm).

Terminal strength: Method 211 of MIL-STD-202, test condition A, 5 pounds.

Operating temperature: 105°C, maximum.

Dielectric withstanding voltage: Method 301 of MIL-STD-202; test voltage at sea level, 1,500 Vrms. At reduced barometric pressure, 500 Vrms.

Electrical characteristics

Harmonic distortion - Not more than 1 percent with 173 V, 300 Hz across (1-3) and .020 ampere dc through terminal 2.

No load (center-tap voltage unbalance only) - With 173 V, 1,000 Hz across (1-3) and .020 ampere dc through terminal 2.  
Unbalance (4-5) and (6-7) - 1 percent, maximum.  
Unbalance (1-2) and (2-3) - 1 percent, maximum.

Secondary load impedance (4-5) - 150 ohms.  
(6-7) - 150 ohms  $\pm 10$  percent.  
(4-7) - 600 ohms ct.

Primary impedance - With approximately 10 V, 1,000 Hz across (1-3) and .020 ampere dc through terminal 2 and 600 ohms ct across (4-7), the primary impedance shall be 60,000 ohms ct  $\pm 10$  percent across (1-3).

Frequency response:

Range - 300 to 10,000 Hz at rated power, flat within  $\pm 2$  dB; reference frequency = 1,000 Hz; test voltage 10 Vrms (1-3).

Insertion loss - 1.5 dB maximum, with 173 V, input at 1,000 Hz across (1-3).

Resonance - Second resonant frequency = 20,000 Hz, minimum.

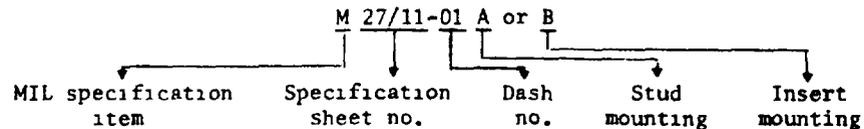
Polarity - Additive, with terminals 3 and 4, and 5 and 6 connected.

Temperature rise: 20°C maximum, above an ambient of 85°C, with rated power at 300 Hz.

Vibration, high frequency: Method 204, test condition B.

Shock (specified pulse): Method 213, test condition I.

Part number example:



(For cross reference of MS part number to military part number, see table I.)

TABLE I. Cross reference.

Mounting	MS90008c		M27/11	
	Dash no.	Type designation	Dash no.	(A) Type designation
Studs	-A	TF4RX13AJ005	-01A	TF4R21AJ
Inserts	-B	Tf4RX13AJ005	-01B	TF4R21AJ

(A) NOTE: Qualification approval to MIL-T-27/11 shall be sufficient to grant qualification approval to MIL-T-27/3 through MIL-T-27/10.

Custodians:

Army - EL  
Navy - EC  
Air Force - 85

Preparing activity:

Army - EL

Agent:

DSA - ES

Review activities:

Army - EL, MU  
Navy - EC  
Air Force - 11, 17, 99  
DSA - ES

(Project 5950-0533-8)

User activities:

Army - ME  
Navy - MC, AS  
Air Force - 19

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**NOTE** This form may not be used to request copies of documents, nor to request waivers, deviations, or clarification of specification requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

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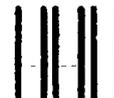
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b ADDRESS (Street City, State, ZIP Code)		<input type="checkbox"/> VENDOR	
		<input type="checkbox"/> USER	
		<input type="checkbox"/> MANUFACTURER	
		<input type="checkbox"/> OTHER (Specify) _____	
5 PROBLEM AREAS			
a. Paragraph Number and Wording			
b. Recommended Wording			
c. Reason/Rationale for Recommendation			
6 REMARKS			
7a NAME OF SUBMITTER (Last First MI) - Optional		b WORK TELEPHONE NUMBER (Include Area Code) - Optional	
c MAILING ADDRESS (Street City State ZIP Code) - Optional		8 DATE OF SUBMISSION (YYMMDD)	

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