

INCH-POUND

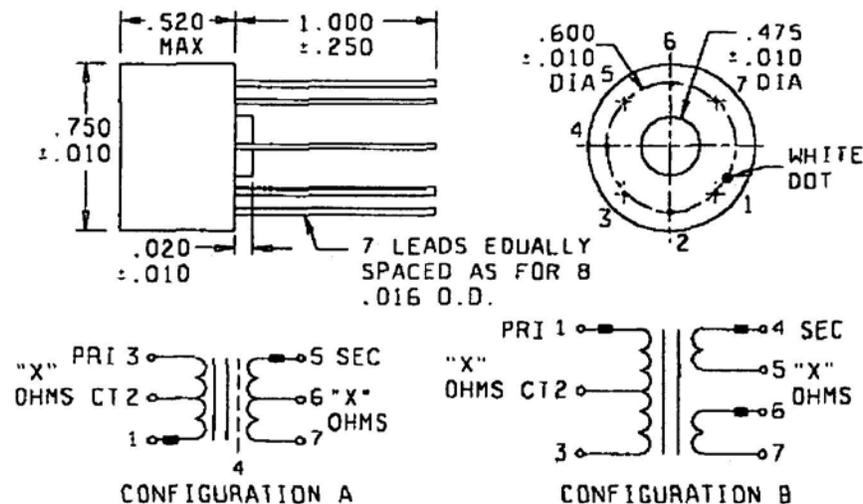
MIL-PRF-27/363A  
3 December 2010  
SUPERSEDING  
MIL-PRF-27/363  
4 April 1985

### PERFORMANCE SPECIFICATION

### TRANSFORMERS, AUDIO FREQUENCY

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 the latest issue of MIL-PRF-27.



INCHES	MM
.010	0.25
.016	0.41
.020	0.51
.250	6.35
.475	12.07
.520	13.21
.600	15.24
.750	19.05
1.000	25.40

WORKING VOLTAGE (PEAK): 100 V  
ALTITUDE: 150,000 FT MAX  
(SEE TABLE I FOR VALUE OF "X")

#### CIRCUIT DIAGRAMS

#### 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.
4. Primary and secondary electrical values shall be marked as specified in table I, as applicable.
5. The number of terminals shall be as shown in circuit diagram "A" and "B".

FIGURE 1. Dimensions and configuration.

REQUIREMENTS: (When numbers in parentheses, i.e., (1-2) are used, they indicate the winding and the extreme terminals of the winding.)

Electrical ratings: See table I.

Working voltage (peak): 100 volts.

Frequency range: 50 hertz to 30 kilohertz.

Design and construction:

Dimensions and configuration: See figure 1.

Duty cycle: Continuous.

Case: Encapsulated.

Altitude: 150,000 feet, maximum.

Terminals: Dumet wire leads.

Material: tin-lead plated type D4 in accordance with MIL-STD-1276.

Diameter: .016 inch.

Length: 1.000  $\pm$ .250 inch.

Weight: 17.0 grams, maximum.

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

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

Dielectric withstanding voltage:

At sea level: 200 volts rms.

At reduced barometric pressure: 200 volts rms.

Electrical characteristics: See table II.

No load (centertap unbalanced only): 1 percent with 5 volts, 5 kilohertz across the primary.

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

Insertion loss: At the specified power level (see table I), the insertion loss shall be a maximum of 3 dB.

Frequency response:  $\pm$ 3 dB at the rated source and load impedances (see table II) with 1 milliwatt level output and a reference frequency of 1 kilohertz.

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

Shock (specified pulse): MIL-STD-202, method 213, test condition I.

Marking location: See figure 1.

Part or Identifying Number (PIN): M27/363- (dash number from table I).

TABLE I. Electrical ratings.

Dash no.	Circuit diagram	Primary impedance (ohms) (1-3)	Secondary impedance (ohms) <u>1/</u>	Primary dc current (mA)	Power level at 1 kHz (max) (watts)	Primary dc resistance $\pm 25\%$ (ohms)	Secondary dc resistance $\pm 25\%$ (ohms)
01	B	150 CT	150 split (4-7)	8	2	12	16.5
02	B	150 CT	600 split (4-7)	8	2	12	66
03	B	600 CT	600 split (4-7)	4	2	48	66
04	A <u>2/</u>	600 CT	600 CT (5-7)	4	2	48	66
05	B	600 CT	1,200 split (4-7)	4	2	48	132
06	A <u>2/</u>	2,000 CT	2,000 split (5-7)	2.2	2	160	220
07	B	2,000 CT	8,000 split (4-7)	2.2	2	160	880
08	B	10,000 CT	10,000 split (4-7)	1	1	800	1100
09	A <u>2/</u>	10,000 CT	10,000 CT (5-7)	1	1	800	1100
10	B	15,000 CT	600 split (4-7)	.8	.66	1200	66
11	B	20,000 CT	1,000 split (4-7)	.7	.5	1600	110
12	B	100,000 CT	2,000 split (4-7)	.3	.1	8000	220

1/ Where windings are listed as SPLIT, one-fourth of the listed impedance is available by paralleling the windings.

2/ Includes electrostatic shield. Voltage ratio shall be 2 to 1 at 20 kHz.

VERIFICATION:

Extent of qualification:

Qualification testing and approval to M27/362-12 shall be sufficient to grant qualification approval to MIL-PRF-27/361 through MIL-PRF-27/363 inclusive, all parts.

Qualification testing and approval to M27/363-12 shall be sufficient to grant qualification approval to M27/363-01 through M27/363-12.

TABLE II. Electrical characteristics.

Dash no.	Frequency response: $\pm 3$ dB at 50 Hz to 30 kHz and 1 mW		Resonance, <sup>1/</sup> self resonant frequency kHz (min)	Polarity: Additive with terminals (below) connected
	$Z_S$ (ohms)	$Z_L$ (ohms)		
01	150 CT (1-3)	150 split (4-7)	440	(3-4) and (5-6)
02	150 CT (1-3)	600 split (4-7)	440	(3-4) and (5-6)
03	600 CT (1-3)	600 split (4-7)	220	(3-4) and (5-6)
04	600 CT (1-3)	600 CT (5-7)	220	3 and 5
05	600 CT (1-3)	1,200 split (4-7)	220	(3-4) and (5-6)
06	2,000 CT (1-3)	1,200 split (5-7)	115	3 and 5
07	2,000 CT (1-3)	8,000 split (4-7)	115	(3-4) and (5-6)
08	10,000 CT (1-3)	10,000 split (4-7)	70	(3-4) and (5-6)
09	10,000 CT (1-3)	10,000 CT (5-7)	70	3 and 5
10	15,000 CT (1-3)	600 split (4-7)	52	(3-4) and (5-6)
11	20,000 CT (1-3)	1,000 split (4-7)	45	(3-4) and (5-6)
12	100,000 CT (1-3)	2,000 split (4-7)	18	(3-4) and (5-6)

<sup>1/</sup> Self resonant frequency is measured with secondary's carrying the specified load and the secondary voltage observed.

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

MIL-PRF-27/361

MIL-PRF-27/362

Custodians:

Army - CR

Navy - EC

Air Force - 85

DLA - CC

Preparing activity:

DLA - CC

(Project 5950-2009-045)

Review activities

Army - AR, MI

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