

INCH-POUND

MIL-PRF-27/331C
29 September 2009
SUPERSEDING
MIL-PRF-27/331B
2 April 1984

PERFORMANCE SPECIFICATION SHEET

TRANSFORMERS, POWER, 160 VA and 170 VA

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

The requirements for acquiring the transformer described herein shall consist of this specification sheet and MIL-PRF-27.

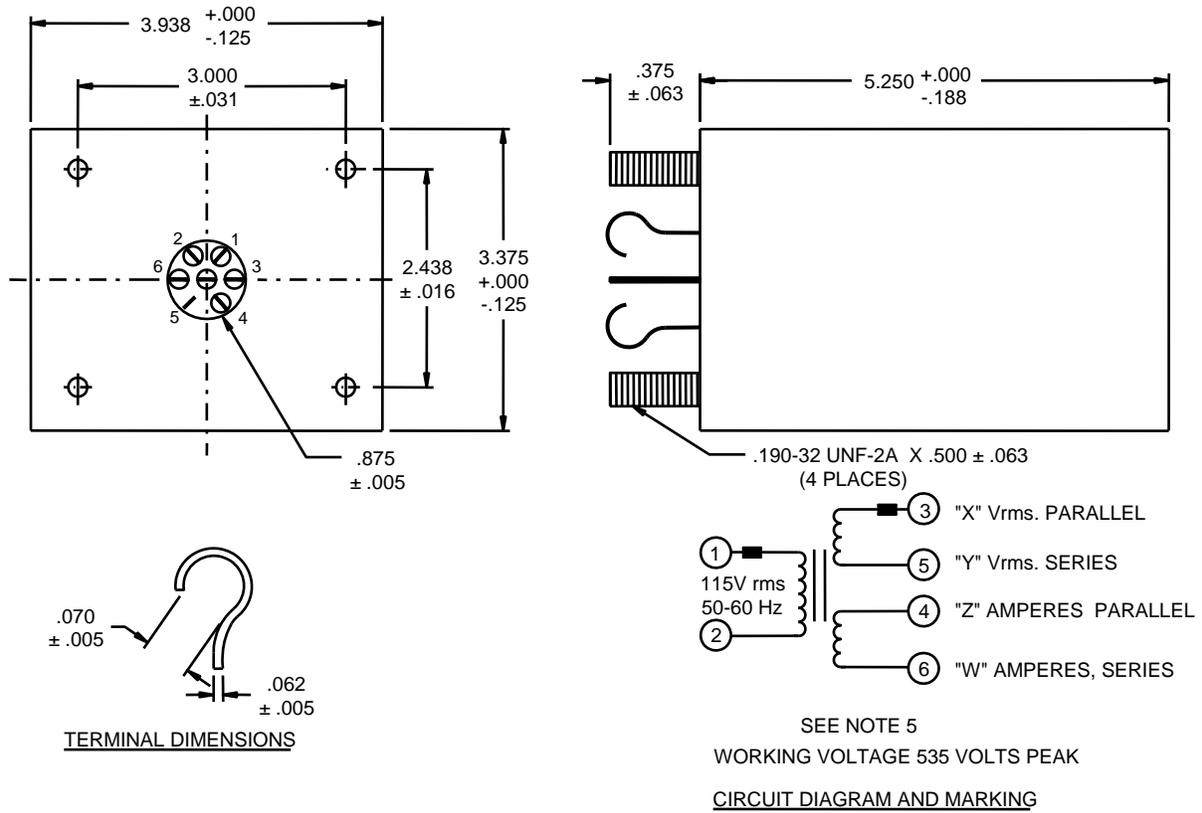


FIGURE 1. Dimensions and configurations.

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Inches	mm	Inches	mm
.005	0.13	.375	9.53
.031	0.79	.500	12.70
.062	1.57	.875	22.23
.063	1.60	2.438	61.93
.070	1.78	3.000	76.20
.125	3.18	3.375	85.73
.188	4.78	3.938	100.03
.190	4.83	5.250	133.35

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Marking shall be on the sides of the case. Terminal identification shall be as shown on the figure.
4. Electrical values shall be marked as specified in table I.
5. For series output connect terminals 4 and 5 together. For parallel output connect pins 3 to 4 and 5 to 6.

FIGURE 1. Dimensions and configurations - Continued.

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

Electrical ratings:

Primary voltage (1-2): 115 volts rms, 50 to 65 Hz.

Primary dc resistance: 1.08 ohms \pm 25 percent.

Secondary: See table I.

Volt-ampere:

160 VA (dash number 01).

170 VA (dash number 02 through 08).

Working voltage: 535 volts peak.

Design and construction:

Dimensions and configuration: See figure 1.

Duty cycle. Continuous.

Case: Metal enclosed.

Material: Steel.

Terminals: Solderable hook terminals.

Height: .375 \pm .063 inch (9.53 \pm 1.60 mm).

Diameter: .062 \pm .005 inch (1.57 \pm 0.13 mm).

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Weight: 10.5 pounds, maximum.

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

Altitude: 10,000 feet.

Terminal strength: Method 211, MIL-STD-202, test condition A, 2.0 pounds.

Dielectric withstanding voltage (each winding, secondary winding shall be connected in parallel):

At sea level: 1,500 volts rms.

Electrical characteristics:

Rated load: With 115 volts rms and 60 Hz in (1-2), and rated current in secondary, secondary voltage shall be as specified in table I within ±3 percent.

$$\text{Regulation: } \frac{\text{Voltage (no load)} - \text{Voltage (rated load)}}{\text{Voltage (rated load)}} \times 100$$

Shall not exceed 10 percent.

Polarity: Additive, with terminals 2 and 3 connected and 5 and 4 connected.

Temperature rise: 40°C with 115 volts rms, 60 hertz across (1-2) at an ambient temperature of 90°C.

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

Marking location: See figure 1.

Part or Identification Number (PIN): M27/331-(dash number from table I).

TABLE I. Electrical ratings.

Dash number	Secondary voltage (series) volts rms (3-6)	Secondary current (series) amperes (3-6)	Secondary voltage (parallel) volts rms (3-5)	Secondary current (parallel) amperes (3-5)	Secondary dc resistance each winding ohms ±25%
-01	16.0	10.00	8.0	20.00	0.0163
-02	20.0	8.50	10.0	17.00	0.0256
-03	24.0	7.08	12.0	14.16	0.039
-04	34.0	5.00	17.0	10.00	0.088
-05	40.0	4.25	20.0	8.50	0.13
-06	56.0	3.03	28.0	6.06	0.196
-07	88.0	1.93	44.0	3.86	0.53
-08	120.0	1.41	60.0	2.82	0.92

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VERIFICATION:

Extent of qualification:

Qualification testing and approval to M27/326-10 and M27/331-08 shall be sufficient to grant qualification approval to MIL-PRF-27/326 through MIL-PRF-27/331, inclusive, all parts.

Qualification testing and approval to M27/331-08 shall be sufficient to grant qualification approval M27/331-01 through M27/331-08.

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-PRF-27/326](#) [MIL-PRF-27/327](#) [MIL-PRF-27/328](#) [MIL-PRF-27/329](#) [MIL-PRF-27/330](#) [MIL-STD-202](#)

Custodians:

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

Preparing activity:

DLA - CC
(Project 5950-2009-035)

Review activities:

Army – AR, CR4
Navy - AS, MC, OS
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 <http://assist.daps.dla.mil>.