

MIL-PRF-27/338D
AMENDMENT 4
01 November 2023
SUPERSEDING
MIL-PRF-27/338D
AMENDMENT 3
10 September 2018

PERFORMANCE SPECIFICATION SHEET

TRANSFORMERS, POWER, 2 VOLT-AMPERES, 400 HERTZ

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-PRF-27](#).

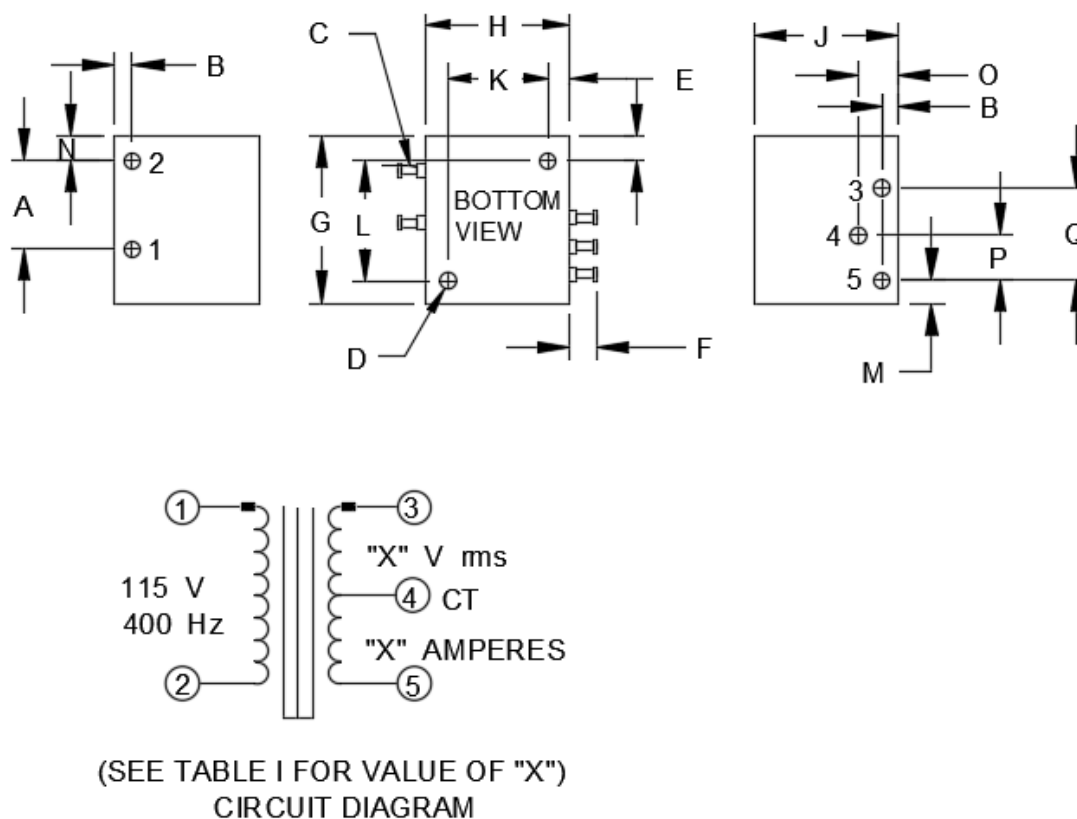


FIGURE 1. Dimensions and configurations.



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	Inches	mm
A	.250	6.35
B	.125	3.18
C	.062 $\pm$.010 DIA	1.57 $\pm$ 0.25
D	.116 $\pm$.005 DIA THRU HOLE 2 PLACES	2.95 $\pm$ 0.13 THRU HOLE 2 PLACES
E	.094	2.39
F	.169	4.29
G	.87 $\pm$.015	22.1 $\pm$ 0.38
H	.74 $\pm$.015	18.80 $\pm$ 0.38
J	.78 $\pm$.015	19.81
K	.55 $\pm$.015	13.97 $\pm$ 0.38
L	.68 $\pm$.015	17.27 $\pm$ 0.38
M	.187 $\pm$.031	4.75 $\pm$ 0.79
N	.187 $\pm$.031	4.75 $\pm$ 0.79
O	.250	6.35
P	.125	3.18
Q	.250	6.35

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Marking shall be on top and sides of the case.
4. Dimensional tolerance shall be $\pm$.031 unless otherwise specified.
5. Dimensions G and H to be measured at top of transformer.

FIGURE 1. Dimensions and configurations – Continued.

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

Electrical ratings:

Primary voltage (1-2): 115 volts rms, 400 $\pm$ 20 hertz.

Secondary voltage and current (3-6): See table I.

Volt-ampere rating: 2 volt-amperes.

Working voltage (1-2): 535 volts peak.

Design and construction:

Dimensions and configuration: See figure 1.

Duty cycle. Continuous.

Case: Encapsulated.

Material: Epoxy fiberglass or Diallyl phthalate.

Terminals: Turret type.

Terminal height: .169 inch, maximum.

Weight: .06 pound, maximum.

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

Altitude: 70,000 feet.

Terminal strength: [MIL-STD-202-211](#), test condition A, 2.0 pounds.

Dielectric withstanding voltage (each winding, secondary windings connected in series):

At sea level: 1,500 volts rms.

At reduced barometric pressure: 1.25 times the peak working voltage specified.

Electrical characteristics:

Rated load: With 115 volts rms and 400 Hz in (1-2), and rated current in secondary, the voltage across (3-5) shall be as specified in table I, $\pm$ 5 percent.

DC Resistance (1-2): 201 ohms $\pm$ 25 percent.

Temperature rise: 45°C with 115 volts rms, 400 hertz across (1-2) at an ambient temperature of 85°C, full load terminals (3-5).

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

Shall not exceed 10 percent.

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Polarity: Additive, with terminals 2 and 3 connected.

Marking location: See figure 1.

Part or Identification Number (PIN): M27/338-(dash number from table I).

VERIFICATION:

Extent of qualification:

Qualification testing and approval to M27/338-28 and M27/343-32 shall be sufficient to grant qualification approval to MIL-PRF-27/338 through MIL-PRF-27/343, inclusive, all parts.

Qualification testing and approval to M27/338-28 shall be sufficient to grant qualification approval M27/338-01 through M27/338-28.

TABLE I. Electrical ratings.

Dash number M27/338	Secondary voltage (3-5) (V rms) $\pm 5\%$ (CT)	Secondary current (3-5) (amperes)	Secondary DCR (3-5) (ohms) $\pm 25\%$
-01	5.0	0.400	0.60
-02	6.3	0.317	1.06
-03	8.0	0.250	1.63
-04	10.0	0.200	2.50
-05	12.6	0.158	4.10
-06	14.0	0.142	5.59
-07	16.0	0.125	6.69
-08	18.0	0.111	9.00
-09	20.0	0.100	10.9
-10	22.0	0.091	14.6
-11	25.0	0.080	20.4
-12	28.0	0.071	30.0
-13	31.0	0.064	25.6
-14	35.0	0.057	29.5
-15	39.0	0.051	38.6
-16	43.0	0.046	44.3
-17	48.0	0.041	57.0
-18	55.0	0.036	89.0
-19	63.0	0.031	100.0
-20	70.0	0.028	139.0
-21	80.0	0.025	163.0
-22	90.0	0.022	218.0
-23	100.0	0.020	283.0
-24	110.0	0.018	392.0
-25	123.0	0.016	495.0
-26	138.0	0.014	550.0
-27	26.0	0.077	21.22
-28	115.0	0.017	410.0

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Referenced documents. In addition to [MIL-PRF-27](#), this document references the following:

[MIL-STD-202-211](#)

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.

Custodians:

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

Preparing activity:

DLA - CC

(Project 5950-2023-032)

Review activities:

Army – AR, CR4
Navy - AS, MC, OS
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 the information above using the ASSIST Online database at <https://assist.dla.mil>.