

MIL-PRF-27/39C
W/AMENDMENT 3
24 March 2022
SUPERSEDING
MIL-PRF-27/39C
W/AMENDMENT 2
10 July 2020

PERFORMANCE SPECIFICATION SHEET

TRANSFORMERS, POWER, 3 VOLT AMPERES, 400 HZ

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.

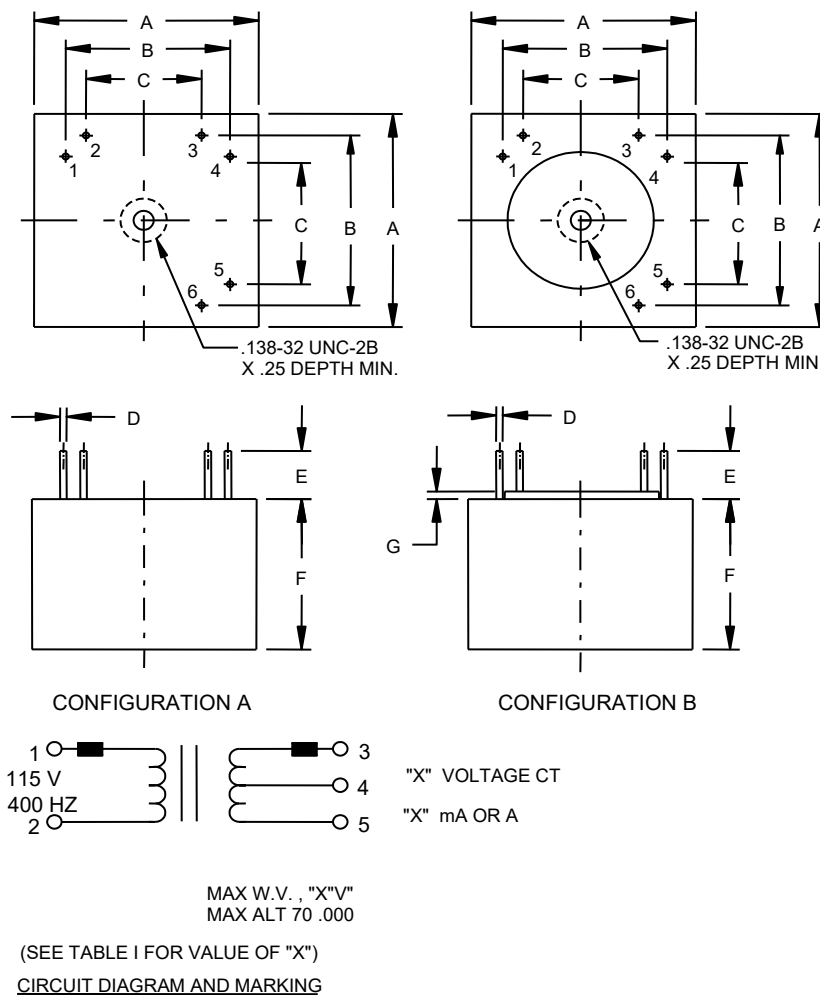


FIGURE 1. Dimensions and configurations



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Dim	Inches	Millimeters
A	1.09 Max	27.2
B	.800	20.32
C	.600	15.24
D	.032 $\pm$.002 TYP	0.81 $\pm$ 0.05 TYP
E	.25	6.4
	.13	3.3
F	.59 Max	15.0
G	.03	0.8
	.02	0.5

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Tolerance on terminal position dimensions is $\pm$.005 (0.13 mm).
4. Marking shall be on the side of the case.
5. A white dot shall be marked on the side opposite the terminals, over terminal 1, in addition to the terminal marking shown.
6. Secondary electrical values shall be marked as specified in table I, as applicable.

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: See table I.

Primary voltage (1-2): 115 volts ± 10 percent, 400 Hz ± 5 percent.

Design and construction:

Dimensions and configuration: See figure 1.

Weight: 1.1 ounces, maximum.

Duty cycle: Continuous.

Case: Plastic encapsulated.

Material: Plastic.

Altitude: 70,000 feet, maximum.

Operating temperature range: -55°C to $+130^{\circ}\text{C}$, maximum.

Terminals: Printed circuit pins – tinned brass.

Terminal strength: [MIL-STD-202-211](#), test condition A, 2 pounds.

Dielectric withstanding voltage:

At sea level: 2.8 times the maximum working voltage specified in table I.

At reduced barometric pressure: 1.25 times the maximum working voltage specified in table I.

Electrical characteristics:

No load: With 115 volts rms, 400 Hz across (1-2): Current in (1-2) shall not exceed 3 mA rms.

Rated load: With 115 volts, 400 Hz across (1-2) and a resistive load with current as specified in table I in (3-5), the voltage across (3-5) shall be as specified in table I.

Efficiency: 75 percent minimum at rated load.

Polarity: Additive with terminals 2 and 3 connected.

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

shall not exceed 18 percent.

Phase shift: 1.0 electrical degree between primary and secondary voltage at rated load, maximum.

Temperature rise: 20°C , maximum.

Vibration: [MIL-STD-202-204](#), test condition D.

Marking location: See figure 1.

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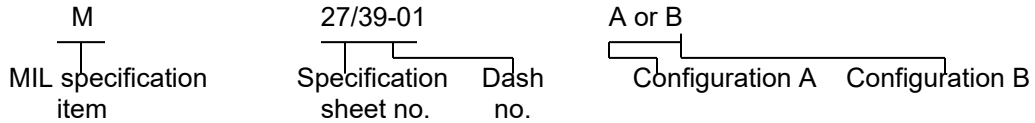
VERIFICATION

Extent of qualification

Qualification testing and approval to M27/37-44 A or B, M27/42-44 A or B, and M27/46-44 A or B shall be sufficient to grant qualification approval to [MIL-PRF-27/37](#) through [MIL-PRF-27/47](#) inclusive, all parts.

Qualification testing and approval to M27/39-44 shall be sufficient to grant qualification approval to M27/39-01 through M27/39-44.

Part or Identification Number (PIN): M27/39-01 A or B.



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TABLE I. Electrical ratings.

Dash No.	Type Designation	Secondary voltage (3-5) (V rms) $\pm 3\%$	Secondary current (3-5) (amps rms)	Working voltage (V rms) (MAX)
01 A or B	488	6	0.500	325
02 A or B	489	6.3	0.476	325
03 A or B	490	7	0.429	325
04 A or B	491	7.5	0.400	325
05 A or B	492	8	0.375	325
06 A or B	493	9	0.333	325
07 A or B	494	10	0.300	325
08 A or B	495	11	0.273	325
09 A or B	496	12	0.250	325
10 A or B	497	12.6	0.238	325
11 A or B	498	13	0.231	325
12 A or B	499	15	0.200	325
13 A or B	500	16	0.188	325
14 A or B	501	18	0.167	325
15 A or B	502	20	0.150	325
16 A or B	503	22	0.136	325
17 A or B	504	24	0.125	325
18 A or B	505	26	0.115	325
19 A or B	506	28	0.107	325
20 A or B	507	30	0.100	325
21 A or B	508	33	0.091	325
22 A or B	509	36	0.083	325
23 A or B	510	39	0.077	325
24 A or B	511	43	0.070	325
25 A or B	512	47	0.064	325
26 A or B	513	51	0.059	325
27 A or B	514	56	0.054	325
28 A or B	515	62	0.048	325
29 A or B	516	68	0.044	325
30 A or B	517	75	0.040	325
31 A or B	518	82	0.037	325
32 A or B	519	91	0.033	325
33 A or B	520	100	0.030	325
34 A or B	521	110	0.027	325
35 A or B	522	115	0.026	325
36 A or B	523	120	0.025	325
37 A or B	524	130	0.023	325
38 A or B	525	150	0.020	325
39 A or B	526	180	0.017	325
40 A or B	527	200	0.015	440
41 A or B	528	220	0.014	440
42 A or B	529	240	0.013	440
43 A or B	530	270	0.011	580
44 A or B	531	300	0.010	580

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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.

Referenced documents. In addition to MIL-PRF-27, this document references the following:

MIL-PRF-27/37,	MIL-PRF-27/38,	MIL-PRF-27/40,	MIL-PRF-27/41
MIL-PRF-27/42,	MIL-PRF-27/43	MIL-PRF-27/44,	MIL-PRF-27/45,
MIL-PRF-27/46,	MIL-PRF-27/47,	MIL-STD-202-204,	MIL-STD-202-211

Custodians:

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

Preparing activity:
DLA - CC

(Project 5950-2022-019)

Review Activities:

Army – CR4, MI
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>.