

NOTE: The document identifier and heading have been changed on this page to reflect that this is a performance specification. There are no other changes to this document. The document identifier on subsequent pages has not been changed, but will be changed the next time this document is revised.

INCH-POUND

MIL-PRF-27/319B  
 19 January 1989  
 SUPERSEDING  
 MIL-T-27/319A  
 14 January 1983

PERFORMANCE SPECIFICATION SHEET

TRANSFORMERS, POWER, 120 VOLT-AMPERES, 60 HERTZ, TF4S03YY

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 and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation: MIL-T-27.

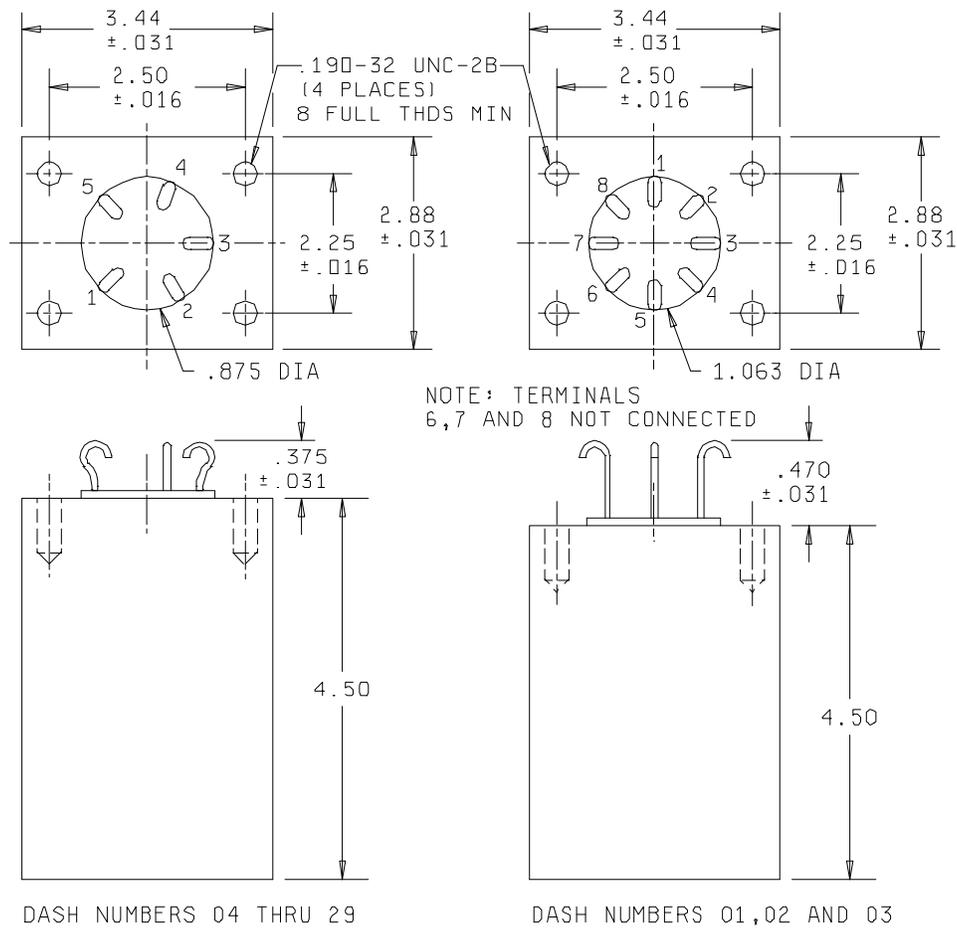
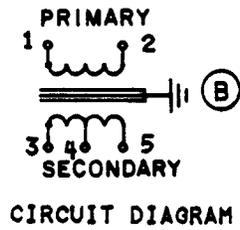
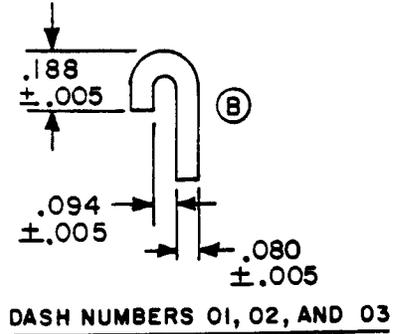
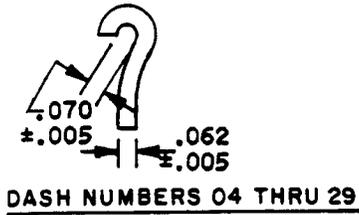


FIGURE 1. Dimensions and configuration.

(B) denotes change



Inches	mm	Inches	mm
.005	0.13	.375	9.52
.016	0.41	.470	11.94
.031	0.79	.875	22.22
.062	1.57	1.063	27.00
.070	1.78	2.25	57.2
.080	2.03	2.50	63.5
.094	2.39	2.88	73.2
.188	4.78	3.44	87.4
.190	4.83	4.50	114.3

**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.
4. Unless otherwise specified, tolerance is  $\pm .063$  (1.60 mm).
5. Electrical values shall be marked as specified in table I.

**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 ac, 50 to 60 hertz.

Primary dc resistance: 1.9 ohms  $\pm$ 25 percent.

Secondary voltage (3-5): See table I.

Volt-ampere rating: 120 volt-amperes.

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

Design and construction:

Dimensions and configuration: See figure 1.

Duty cycle: Continuous.

Case: Metal enclosed.

Material: Steel.

Terminals: Solderable terminals.

<u>Dash numbers</u>	<u>Terminal type</u>	<u>Height (inches)</u>	<u>Diameter (inches)</u>
01, 02, and 03	hook	0.470 $\pm$ .031	0.080 $\pm$ .005
04 through 29	hook	0.375 $\pm$ .031	0.062 $\pm$ .005

Weight: 6.5 pounds, maximum.

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

Altitude: 10,000 feet.

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

Dielectric withstanding voltage (each winding) (at sea level): 1,500 volts rms.

Electrical characteristics:

Rated load: With 115 volts ac and 60 Hz across (1-2), and rated current in secondary, the voltage across (3-5) shall be as specified in table I.

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.

Temperature rise:  $+35^{\circ}\text{C}$  with 115 volts ac, 60 hertz across (1-2) at an ambient temperature of  $+95^{\circ}\text{C}$ , full load terminals (3-5).

Marking location: See figure 1.

Part or identifying number (PIN): M27/319-(dash number from table I).

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TABLE I. Electrical ratings.

Dash number	Secondary (3-5)		
	Voltage (volts) ±3 percent	Current <u>1/</u> (amperes)	DC resistance (ohms) ±25 percent
01	6.3	19.00	.012
02	8.0	15.00	.018
03	10.0	12.00	.031
04	12.6	9.53	.041
05	14.0	8.59	.055
06	16.0	7.50	.072
07	18.0	6.68	.080
08	20.0	6.00	0.120
09	22.0	5.45	0.125
10	25.0	4.80	0.182
11	28.0	4.29	0.205
12	31.0	3.87	0.310
13	35.0	3.43	0.350
14	39.0	3.07	0.342
15	43.0	2.79	0.480
16	48.0	2.50	0.660
17	55.0	2.18	0.820
18	63.0	1.91	1.11
19	70.0	1.72	1.20
20	80.0	1.50	1.43
21	90.0	1.34	1.96
22	100	1.20	2.75
23	110	1.09	3.05
24	123	0.970	4.35
25	138	0.870	4.85
26	157	0.760	5.45
27	175	0.685	7.60
28	200	0.600	8.80
29	220	0.546	12.1

1/ For 50 Hz operation, reduce secondary current by 10 percent.

## QUALITY ASSURANCE PROVISIONS:

## Extent of Qualification:

Qualification testing and approval to M27/312-26, M27/316-30, and M27/322-24 shall be sufficient to grant qualification approval to MIL-T-27/312 through MIL-T-27/322, inclusive, all parts.

Qualification testing and approval to M27/319-29 shall be sufficient to grant qualification approval M27/319-01 through M27/319-29.

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CONCLUDING MATERIAL

Custodians:  
Army - ER  
Navy - EC  
Air Force - 85

Review activities:  
Army - AR  
Navy - OS, SH  
Air Force - 11, 17, 99  
DLA - ES

User activities:  
Army - ME  
Navy - AS, MC  
Air Force - 19

Preparing activity:  
Army - ER

Agent:  
DLA - ES

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