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INCH-POUND

MIL-PRF-27/318B
 19 January 1989
 SUPERSEDING
 MIL-T-27/318A
 14 January 1983

PERFORMANCE SPECIFICATION SHEET

TRANSFORMERS, POWER, 80 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.

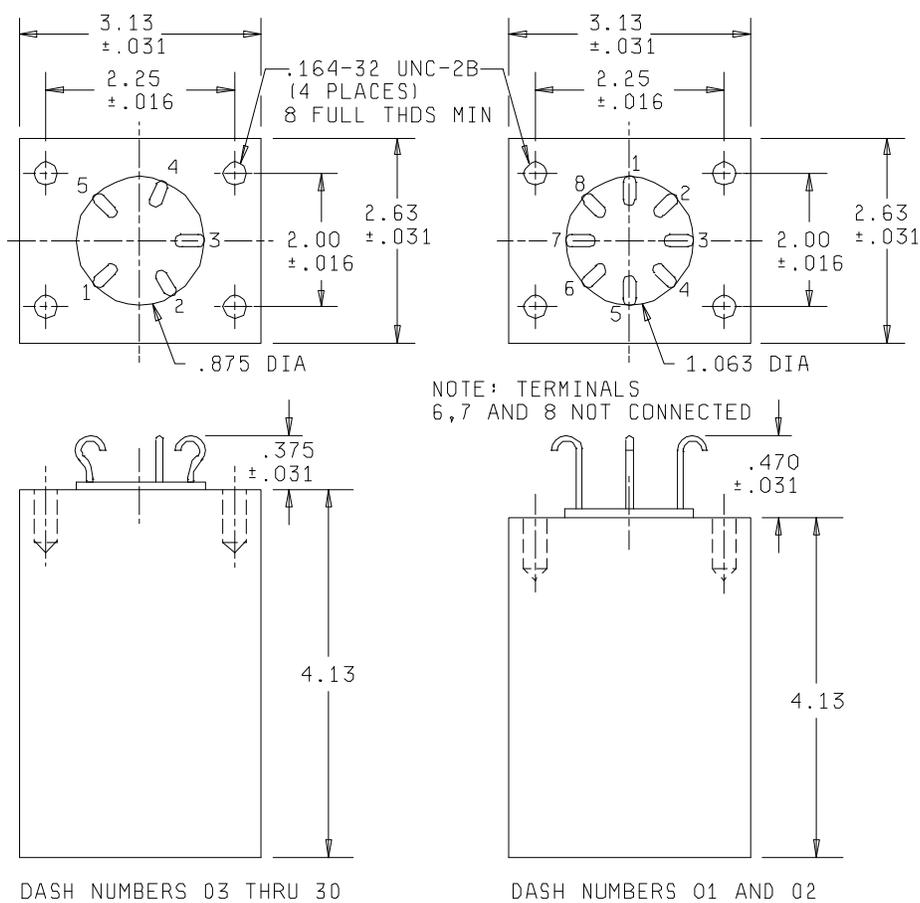
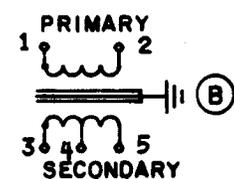
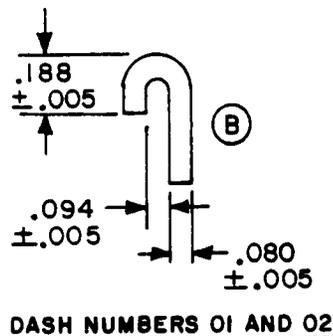
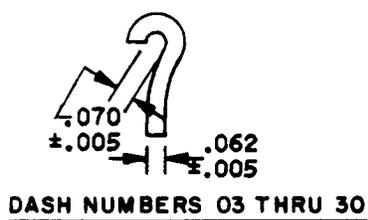


FIGURE 1. Dimensions and configurations.

(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 | 2.00 | 50.8 |
| .080 | 2.03 | 2.25 | 57.2 |
| .094 | 2.39 | 2.63 | 66.8 |
| .164 | 4.17 | 3.13 | 79.5 |
| .188 | 4.78 | 4.13 | 104.9 |

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: 3.7 ohms \pm 25 percent.

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

Volt-ampere rating: 80 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 and 02 | hook | 0.470 \pm .031 | 0.080 \pm .005 |
| | 03 through 30 | hook | 0.375 \pm .031 | 0.062 \pm .005 |

Weight: 5.0 pounds, maximum.

Operating temperature range: -55°C to +130°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°C with 115 volts ac, 60 hertz across (1-2) at an ambient temperature of +95°C, full load terminals (3-5).

Marking location: See figure 1.

Part or identifying number (PIN): M27/318-(dash number from table I).

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TABLE I. Electrical ratings.

| Dash number | Secondary (3-5) | | |
|-------------|-------------------------------|------------------------------------|-------------------------------------|
| | Voltage (volts) ±3 percent | Current ^{1/} (amperes) | DC resistance (ohms) ±25 percent |
| 01 | 5.0 | 16.00 | 0.011 |
| 02 | 6.3 | 12.70 | 0.016 |
| 03 | 8.0 | 10.00 | 0.037 |
| 04 | 10.0 | 8.00 | 0.050 |
| 05 | 12.6 | 6.35 | 0.070 |
| 06 | 14.0 | 5.72 | 0.100 |
| 07 | 16.0 | 5.00 | 0.120 |
| 08 | 18.0 | 4.44 | 0.160 |
| 09 | 20.0 | 4.00 | 0.190 |
| 10 | 22.0 | 3.64 | 0.25 |
| 11 | 25.0 | 3.20 | 0.30 |
| 12 | 28.0 | 2.86 | 0.40 |
| 13 | 31.0 | 2.58 | 0.45 |
| 14 | 35.0 | 2.28 | 0.50 |
| 15 | 39.0 | 2.05 | 0.70 |
| 16 | 43.0 | 1.85 | 0.94 |
| 17 | 48.0 | 1.63 | 1.00 |
| 18 | 55.0 | 1.46 | 1.50 |
| 19 | 63.0 | 1.27 | 1.70 |
| 20 | 70.0 | 1.14 | 2.40 |
| 21 | 80.0 | 1.00 | 2.70 |
| 22 | 90.0 | 0.890 | 3.80 |
| 23 | 100 | 0.800 | 4.20 |
| 24 | 110 | 0.726 | 5.70 |
| 25 | 123 | 0.650 | 6.50 |
| 26 | 138 | 0.580 | 9.50 |
| 27 | 157 | 0.510 | 10.5 |
| 28 | 175 | 0.457 | 14.8 |
| 29 | 200 | 0.400 | 17.0 |
| 30 | 220 | 0.364 | 23.0 |

^{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 M27/318-30 shall be sufficient to grant qualification approval M27/318-01 through M27/318-30.

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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