

INCH-POUND

MIL-T-27/129B
8 June 2012
SUPERSEDING
MIL-T-27/129A
13 March 1991

MILITARY SPECIFICATION SHEET

TRANSFORMER, POWER, STEP-DOWN AND STEP-UP

Inactive for new design after 13 March 1991.

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.

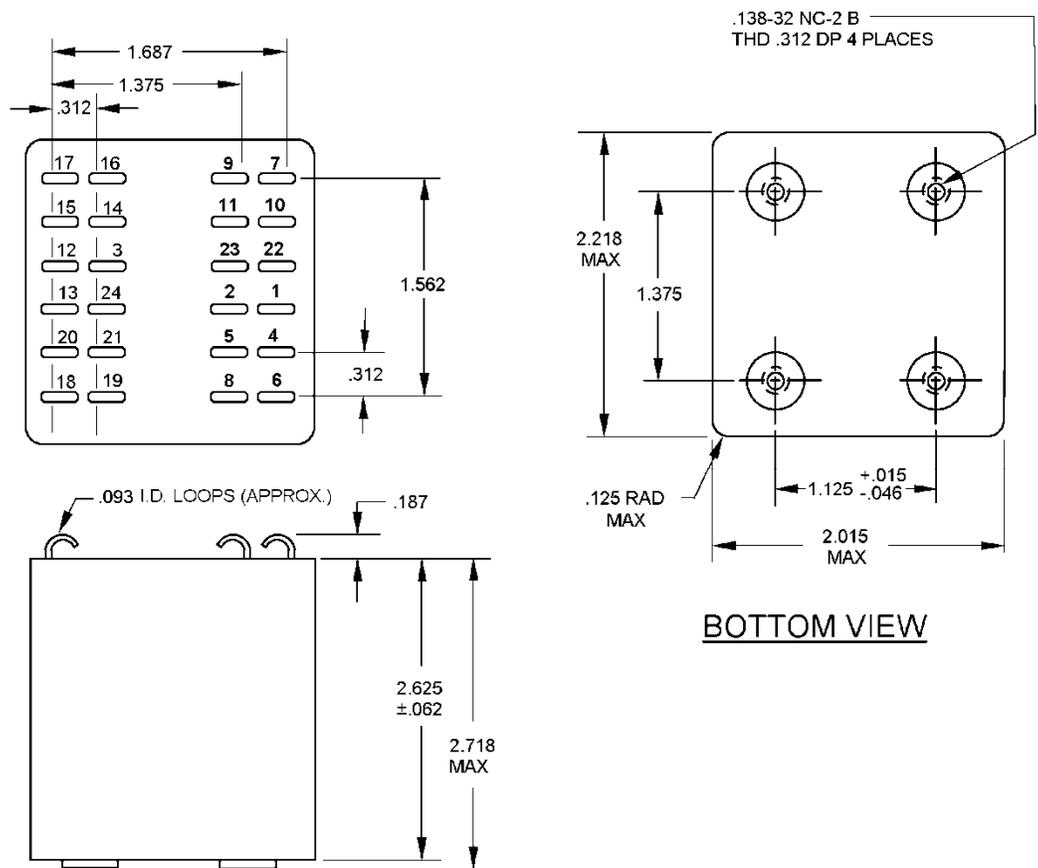
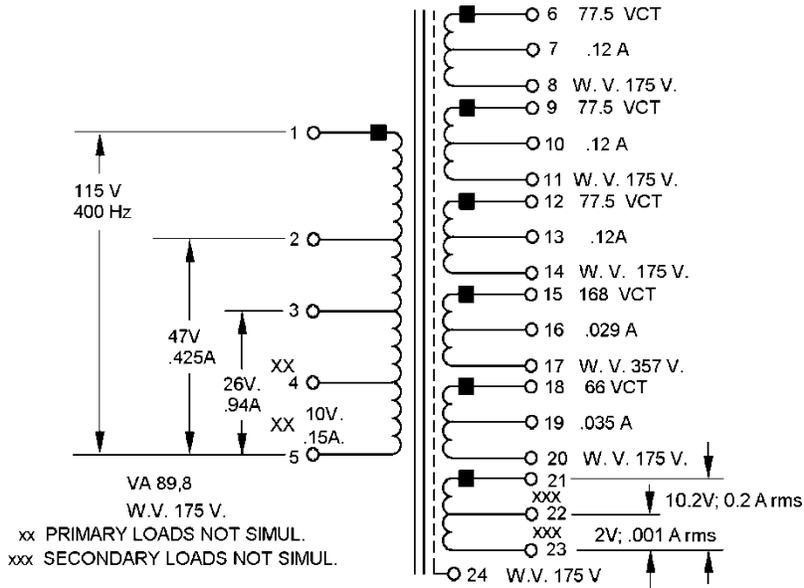


FIGURE 1. Dimensions and configurations.



MAX. ALT. 60,000 FT.

CIRCUIT DIAGRAM AND MARKING

Inches	mm	Inches	mm
.015	0.38	1.125	28.58
.046	1.17	1.375	34.92
.062	1.57	1.562	39.67
.093	2.36	1.687	42.85
.125	3.18	2.015	51.18
.138	3.50	2.218	56.34
.187	4.75	2.625	66.68
.312	7.92	2.718	69.14

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Tolerance on terminal position dimensions is ± 0.015 (0.40mm).
4. Marking shall be on the side of the case.

FIGURE 1. Dimensions and configurations - Continued.

REQUIREMENTS: (When numbers in parentheses, i.e., (1-3) are used, they indicate the winding and the extreme terminals of the windings.)

Electrical ratings:

Primary current: 0.78 ampere, maximum.

Volt-ampere: 89.8 VA.

Primary voltage:

(1-5): 115 V rms, 400 Hz.

(2-5): 47 V rms, 400 Hz, 0.425 ampere rms..

(3-5): 26 V rms, 400 Hz, 0.94 ampere rms.

(4-5): 10 V rms, 400 Hz, 0.15 ampere rms.

Secondary voltage:

(6-8), (9-11), and (12-14): 77.5 V rms center tap, 0.12 ampere rms, respectively.

(15-17): 168 V rms center tap, 0.029 ampere rms.

(18-20): 66 V rms center tap, 0.035 ampere rms.

(21-23): 10.2 V rms, 0.2 ampere rms.

(22-23): 2 V rms, 0.001 ampere rms.

DC resistance:

(1-5): 2.8 ohms, maximum.

(6-8): 15 ohms, maximum.

(9-11): 15.1 ohms, maximum.

(12-14): 16 ohms, maximum.

(15-17): 100 ohms, maximum.

(18-20): 43 ohms, maximum.

(21-23): 1.65 ohms, maximum.

Working voltage:

(1-5), (6-8), (9-11), (12-14), (18-20), and (21-23): 175 volts peak, respectively.

(15-17): 375 volts peak.

Design and construction:

Dimensions and configuration: See figure 1.

Duty cycle: Continuous.

Case: Epoxy molded.

Material: Epoxy.

Terminals: Solder type.

Terminal height: 0.562 inch.

Weight: 1.75 pounds, maximum.

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

Altitude: 60,000 feet, maximum.

Terminal strength: MIL-STD-202, method 211, test condition A, 5 pounds.

Dielectric withstanding voltage:

At sea level:

Primary: (1-5); 500 V rms.

Secondary: (6-8), (9-11), (12-14), (18-20), (21-23): 500 V rms, respectively.

Shield (24): 500 V rms.

(15-17): 1000 V rms.

At reduced barometric pressure:

Primary: (1-5); 300 V rms.

Secondary: (6-8), (9-11), (12-14), (18-20), (21-23): 300 V rms, respectively.

Shield (24): 300 V rms.

(15-17): 460 V rms.

Electrical characteristics:

No load: With 115 volts, 400 Hz across (1-5), current in (1-5) shall not exceed 175 mA maximum.

Voltage across:

(6-8), (9-11), and (12-14): 79.8 volts center tap, ± 2 percent, respectively.

(15-17): 169 volts center tap, ± 2 percent.

(18-20): 67.48 volts center tap, ± 2 percent.

(2-5): 47.5 volts, ± 2 percent.

(3-5): 26.5 volts, ± 2 percent.

(4-5): 10.33 volts.

(21-23): 10.67 volts, ± 2 percent.

(22-23): 2.066 volts.

Rated load: With 115 volts, 400 Hz across (1-5):

(6-8), (9-11), and (12-14): 77.5 volts center tap, ± 3 percent at 0.12 ampere rms, respectively.

(15-17): 168 volts center tap, ± 2 percent at 0.029 ampere rms.

(18-20): 66 volts center tap, ± 3 percent at 0.035 ampere rms.

(2-5): 47 volts, ± 3 percent at 0.425 ampere rms.

(3-5): 26 volts, ± 2 percent at 0.94 ampere rms.

(4-5): 10 volts at 0.15 ampere rms.

(21-23): 10.2 volts, ± 2 percent at 0.2 ampere rms.

(22-23): ± 2 percent at 0.001 ampere rms.

Electrostatic shielding: The voltage ratio shall be a minimum of 5 to 1 at 200 kHz.

Polarity: Additive with terminals 5, 6, 8, 9, 11, 12, 14, 15, 17, 18, 20 and 21 connected.

Temperature rise: 16°C maximum with 115 volts, 400 Hz across (1-5) at an ambient temperature of 114°C.

VERIFICATION:

Qualification inspection: Not applicable for this specification sheet.

Conformance inspection: Groups A and B tests of MIL-PRF-27 shall be applicable.

Marking location: See figure 1.

Part or Identifying Number (PIN): M27/129-01.

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-STD-202

Custodians:

Army – CR

Navy – EC

Air Force – 85

DLA - CC

Preparing activity:

DLA – CC

(Project 5950-2009-086)

Review activities:

Army – AR, CR4, MI

Navy – AS, MC, OS, SH

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 this information above using the ASSIST Online database at <https://assist.daps.dla.mil>.