

MIL-PRF-27/300D
w/AMENDMENT 2
20 June 2024
SUPERSEDING
MIL-PRF-27/300D
w/AMENDMENT 1
17 March 2017

PERFORMANCE SPECIFICATION SHEET

TRANSFORMERS, POWER, STEPDOWN

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and [MIL-PRF-27](#).

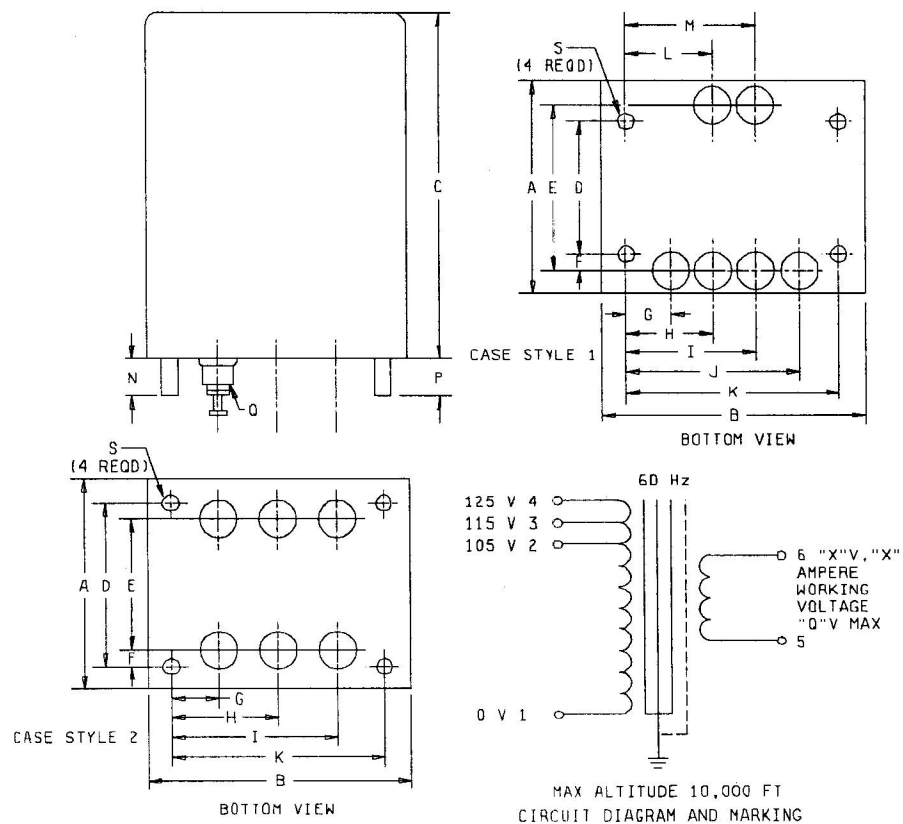


FIGURE 1. Dimensions and configurations.



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Dash number	Case style	A	B	C	D	E	F	G	H	I	J	K	L	M
-01	2	1.812	1.938	2.438	1.250	1.124	.063	.376	.688	1.000	N/A	1.375	N/A	N/A
-02	1	2.375	2.750	2.812	1.750	1.750	N/A	.500	.874	1.250	1.624	2.125	.874	1.250
-03	1	3.062	3.562	3.875	2.125	2.094	.156	.750	1.125	1.500	1.875	2.625	.844	1.781
-04	2	2.062	2.312	2.500	1.438	1.438	N/A	.469	.844	1.219	N/A	1.688	N/A	N/A
-05	1	2.625	3.062	3.188	1.859	1.984	.062	.586	.961	1.336	1.711	2.297	.961	1.336
-06	1	3.375	3.938	4.312	2.438	2.563	.156	.938	1.312	1.688	2.062	3.000	1.031	1.969
-07	2	2.062	2.312	2.500	1.438	1.438	N/A	.469	.844	1.219	N/A	1.688	N/A	N/A
-08	1	2.375	2.750	2.812	1.750	1.750	N/A	.500	.874	1.250	1.624	2.125	.874	1.250
-09	1	3.062	3.562	3.875	2.125	2.438	.156	.750	1.124	1.500	1.874	2.625	1.124	1.500
-10	1	3.375	3.938	4.312	2.438	2.594	.156	.938	1.312	1.688	2.062	3.000	1.188	1.812

FIGURE 1. Dimensions and configurations - Continued.

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Dash number M27/300	S	N	P	Q (see note 6)	Inches	mm	Inches	mm	Inches	mm
-01	.138-32 UNC-2A	.460	.375	18 AWG	.062	1.57	0.961	24.41	1.938	49.23
-02	.138-32 UNC-2A	.460	.375	18 AWG	.063	1.60	1.000	25.40	1.969	50.01
-03	.164-32 UNC-2A	(see note 7)	.375	(see note 7)	.138	3.51	1.031	26.19	1.984	50.39
-04	.138-32 UNC-2A	.460	.375	18 AWG	.156	3.96	1.124	28.55	2.062	52.37
-05	.164-32 UNC-2A	.460	.375	18 AWG	.164	4.17	1.125	28.58	2.094	53.19
-06	.190-32 UNF-2A	.460 (see note 7)	.500	16 AWG	.190	4.83	1.188	30.18	2.125	53.98
-07	.138-32 UNC-2A	.460	.375	18 AWG	.219	5.56	1.219	30.96	2.297	58.34
-08	.138-32 UNC-2A	.460	.375	18 AWG	.250	6.35	1.250	31.75	2.312	58.72
-09	.164-32 UNC-2A	.460	.375	18 AWG	.312	7.92	1.312	33.32	2.375	60.32
-10	.190-32 UNF-2A	.460 (see note 8)	.500	18 AWG	.375	9.52	1.336	33.93	2.438	61.93
					.376	9.55	1.375	34.92	2.500	63.50
					.460	11.68	1.438	36.53	2.562	65.07
					.469	11.91	1.500	38.10	2.563	65.10
					.500	12.70	1.624	41.25	2.594	65.89
					.586	14.88	1.688	42.88	2.625	66.68
					.625	15.88	1.711	43.46	2.750	69.85
					.688	17.48	1.750	44.45	2.812	71.42
					.719	18.26	1.781	45.24	3.000	76.20
					.750	19.05	1.812	46.02	3.062	77.77
					.844	21.44	1.859	47.22	3.188	80.98
					.874	22.20	1.874	47.60	3.375	85.72
					.938	23.83	1.875	47.62	3.875	98.42
									3.938	100.03
									4.312	109.52

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Tolerance on terminal position dimensions is $\pm .125$ (3.18 mm).
4. Unless otherwise specified, tolerance on case dimensions is $\pm .000$, $-.125$ (+.00, $-.3.18$ mm).
5. Electrical values shall be marked as specified in table II.
6. Solder lug wire size.
7. Terminals 5 and 6 are $1.250 \pm .00$, $-.625$ inches in height and $.625 \pm .062$ inch in diameter; terminals 1, 2, 3, and 4 are $.469 \pm .062$ inch in height and $.312 \pm .062$ inch in diameter.
8. Terminals 5 and 6 are $.719 \pm .00$, $-.125$ inch.

FIGURE 1. Dimensions and configurations - Continued.

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, 60 Hz ± 10 percent.

(1-2): 105 volts.

(1-3): 115 volts.

(1-4): 125 volts.

Secondary voltage: See table I.

Secondary current: See table I.

Primary working voltage: See table I.

Secondary working voltage: See table I.

Design and construction:

Dimensions and configurations: See figure 1.

Duty cycle: Continuous.

Case: Metal encased.

Material: Steel.

Terminals: Solder terminal Lundey #399E or equivalent.

Height: See figure 1.

Weight: See table I.

Operating temperature range: -55°C to $+105^{\circ}\text{C}$.

Dielectric withstanding voltage (at sea level): See table I.

Electrical characteristics:

No load: With 115 volts, 60 Hz across (1-3):

Current in (1-3): See table I.

Power in (1-3): See table I.

Voltage across (5-6): See table I.

Voltage across (1-2): 105 volts ± 1 percent.

TABLE I. Electrical characteristics.

1/ Dash number M27/300	Secondary voltage	Secondary current	Primary working voltage (Max)	Secondary working voltage (Max)	Primary DWV	Secondary DWV	No load			Rated load		Weight
							Primary power (Max)	Primary current (Max)	Secondary Voltage (Max)	Secondary current	Secondary voltage 2 %	
	<u>Volts</u>	<u>Amperes</u>	<u>Volts</u>	<u>Volts</u>	<u>Volts</u>	<u>Volts</u>	<u>Watts</u>	<u>Amperes</u>	<u>Volts</u>	<u>Amperes</u>	<u>Volts</u>	<u>Pounds</u>
-01	2.5	3	175	1000	1500	2500	0.85	.06	2.90	3	2.5	1.312
-02	2.5	10	175	1000	1500	2500	1.60	.12	2.85	10	2.5	2.375
-03	2.5	10	175	6300	1500	10000	3.60	.11	2.95	10	2.5	4.750
-04	5.0	3	175	1000	1500	2500	1.40	.11	5.86	3	5.0	1.750
-05	5.0	10	175	1000	1500	2500	2.90	.19	5.50	10	5.0	4.000
-06	5.0	10	175	6300	1500	10000	5.70	.25	5.60	10	5.0	7.500
-07	6.3	2	175	1000	1500	2500	1.40	.11	7.37	2	6.3	1.750
-08	6.3	5	175	1000	1500	2500	2.00	.15	6.98	5	6.3	2.750
-09	6.3	10	175	1000	1500	2500	5.50	.35	6.87	10	6.3	5.000
-10	6.3	20	175	1000	1500	2500	5.50	.50	6.72	20	6.3	8.000

1/ Qualification testing and approval to M27/300-01 shall be sufficient to grant qualification approval to M27/300-01 through M27/300-10, inclusive.

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Voltage across (1-4): 125 volts $\pm$ 1 percent.

Rated load: With 115 volts, 60 Hz across (1-3), and the current specified in table I in (5-6), the voltage across (5-6) shall be as specified in table I.

Electrostatic shielding: The voltage ratio shall be a minimum of 5 to 1 at 20 kHz.

Polarity: Additive, with terminals 4 and 5 connected.

Temperature rise: +40°C maximum with 105 volts, 54 Hz across (1-2) at an ambient temperature of +65°C.

Marking location: See figure 1.

Part or identifying number (PIN): M27/300-(dash number from table I).

Supersession data: See table II.

TABLE II. Supersession data.

MIL-PRF-27/300 PIN	Superseded PIN	Former MS PIN	MIL-PRF-27/300 PIN	Superseded PIN	Former MS PIN
M27/300-01	M27/104-01	MS90016-2	M27/300-06	M27/110-01	MS90025-2
M27/300-02	M27/105-01	MS90017-2	M27/300-07	M27/35-01	MS90020-2
M27/300-03	M27/34-01	MS90024-2	M27/300-08	M27/107-01	MS90021-2
M27/300-04	M27/106-01	MS90018-2	M27/300-09	M27/108-01	MS90022-2
M27/300-05	M27/12-01	MS90019-2	M27/300-10	M27/109-01	MS90023-2

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. This document references [MIL-PRF-27](#).

Custodians:

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

Preparing activity:

DLA - CC

Review activities:

Army - AR, CR4, MI
Navy – AS, CG, MC, OS, SH
Air Force - 19

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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>.