

INCH-POUND  
MIL-PRF-94/3L  
16 February 2001  
SUPERSEDING  
MIL-PRF-94/3K  
6 August 1987

## PERFORMANCE SPECIFICATION

### RESISTORS, VARIABLE, COMPOSITION, STYLE RV6

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

#### 1. SCOPE

1.1 Scope. This specification covers the requirements for style RV6 composition, variable resistors.

#### 2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 3 and 4 of this specification, whether or not they are listed.

##### 2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, cited in the solicitation (see 6.2).

## SPECIFICATION

### DEPARTMENT OF DEFENSE

MIL-PRF-94 - Resistor, Variable, Composition, General Specification for.

(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Document Automation and Production Service, Building 4D (DPM-DODSSP), 700 Robbins Avenue, Philadelphia, PA 19111-5094).

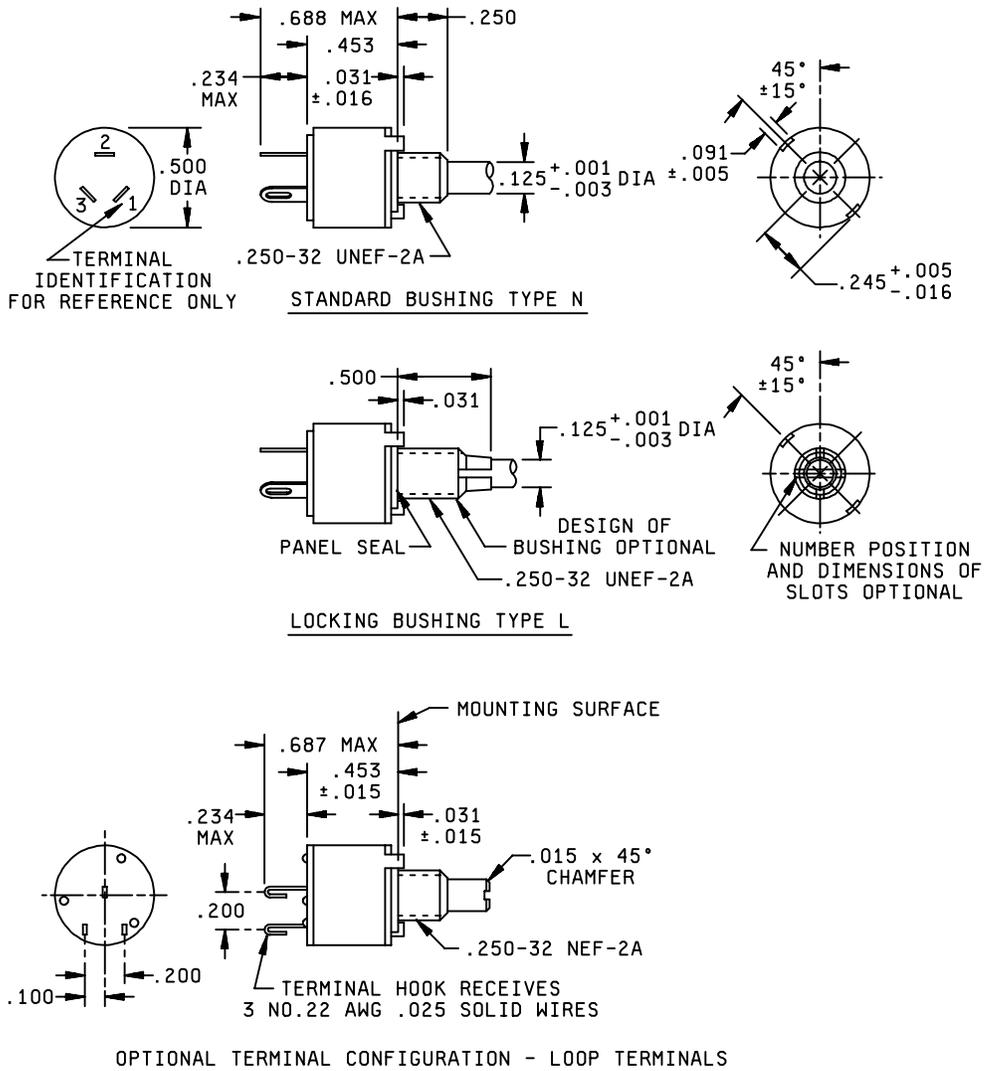
2.3 Order of precedence. In event of a conflict between the text of this document and the references cited herein (except for related associated specifications, specification sheets, or MS sheets), the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Defense Supply Center, Columbus, ATTN: DSCC-VAT, Post Office Box 3990, Columbus, OH 43216-5000 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

3. REQUIREMENTS

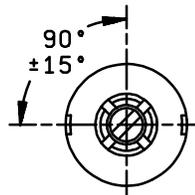
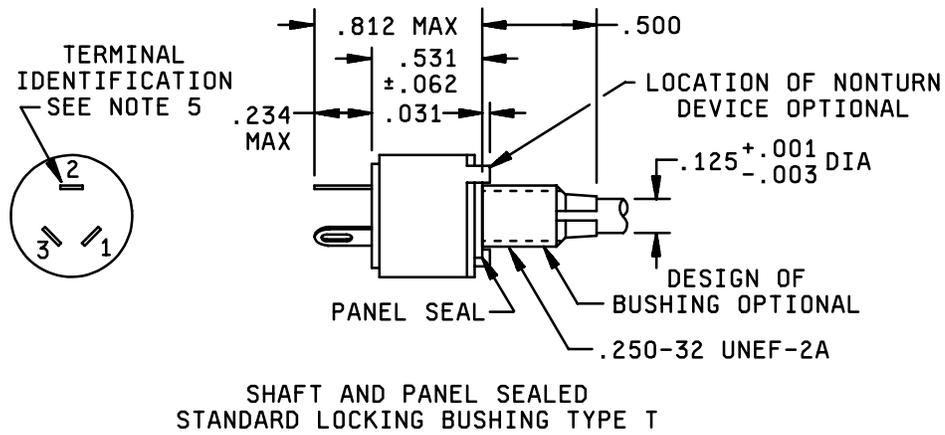
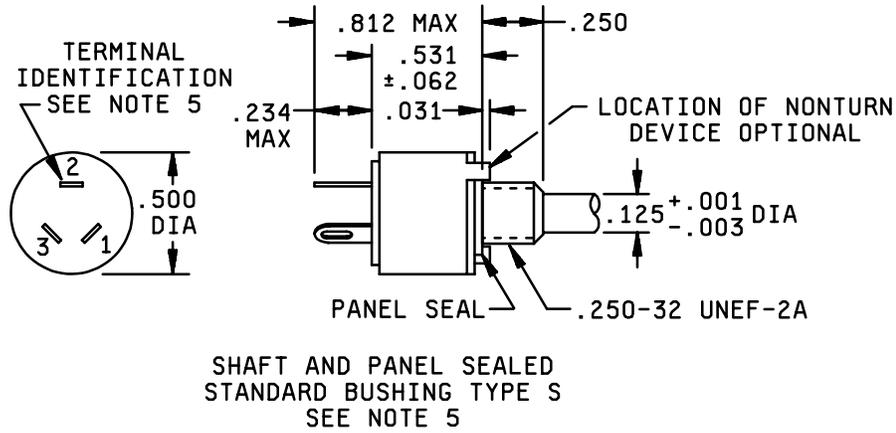
3.1 General. The requirements for acquiring the product described herein shall consist of this document and MIL-PRF-94.

3.2 Interface and physical dimensions. The resistors shall meet the interface and physical dimensions specified in figure 1.



Optional terminal configuration - loop terminals

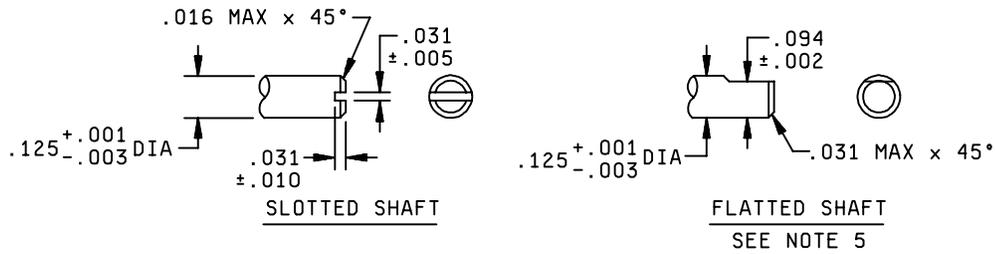
FIGURE 1. Style RV6.



OPTIONAL LOCATION OF NONTURN DEVICES

FIGURE 1. Style RV6 - Continued.

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Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
0.001	0.03	0.010	0.25	0.091	2.31	0.245	6.22	0.531	13.49
0.002	0.05	0.016	0.41	0.094	2.39	0.250	6.35	0.688	17.43
0.003	0.08	0.031	0.79	0.125	3.18	0.453	11.51	0.812	20.62
0.005	0.13	0.062	1.57	0.234	5.94	0.500	12.70		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information.
3. Unless otherwise specified, tolerance is  $\pm 0.016$  (0.41mm).
4. When terminals are located symmetrically, the contact terminal shall be identified on the unit. The identifying mark shall be at the option of the supplier.
5. Terminals shall be numbered when using the optional location of the nonturn device. When using the shaft and panel sealed standard bushing with optional location of the nonturn device, the flatted shaft shall not be used.

FIGURE 1. Style RV6 - Continued.

3.3 Nominal total resistance and rated continuous working voltages. The nominal total resistance and rated continuous working voltage (RCWV) shall be as specified in table I.

TABLE I. Nominal total resistance and rated continuous working voltage.

Nominal total resistance (in ohms)	RCWV 1/ (volts)		Nominal total resistance (in megohms)	RCWV 1/ (volts)	
	Taper A	Tapers C and F		Taper A	Tapers C and F
100	7	5	0.10	224	160
200 <u>2/</u>	10	7	0.20 <u>2/</u>	316	200
250	11	8	0.25	350	200
500	16	11	0.50	350	200
1,000	22	16	1.00	350	200
2,000	31	22	2.00	350	200
2,500	35	25	2.50	350	200
5,000	50	36	5.00	350	200
10,000	71	50			
20,000 <u>2/</u>	100	70			
25,000	112	80			
50,000	158	112			

1/ Rated for continuous working voltage at 70°C.  
2/ For replacement purposes only. Not for new design.

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3.4 Minimum resistance. The maximum value of minimum resistance shall be 15 ohms for total resistance values of 100 ohms to 500 ohms inclusive.

3.5 Shaft length. The length of the operating shaft shall be in accordance with table II.

TABLE II Shaft length. 1/

Symbol	Length of shafts from mounting surface of resistors, (nominal)		
	Flatted	Slotted	
	Bushings N and S (inches $\pm 0.313$ )	Bushings N and S (inches $\pm 0.313$ )	Bushings L and T (inches $\pm 0.313$ )
A		0.625	0.625
B		0.500	
D	0.875	0.875	0.875
L		0.375	

1/ For resistors with panel seals, the mounting surface shall be considered the metal face of the panel seal when the seal is firmly seated against the resistor body.

3.6 Mounting and locking nuts. The mounting nut shall be 0.078 inches thick and measure 0.313 inches across the hexagonal flats. The locking nut shall be 0.157 inches thick and shall measure 0.313 inches across the hexagonal flats. The thread size shall be 0.25-32 NEF-2B.

3.6.1 Internal tooth lockwasher. Internal tooth lockwasher of suitable size and when mounted, shall have a maximum thickness of 0.045 inches.

3.6.2 Retainer rings. If retainer rings are used, they shall have a maximum thickness of 0.032 inches.

3.7 Power rating. The power rating shall be 0.5 watts for taper A resistors and 0.25 watts for taper C and F.

3.8 Torque.

3.8.1 Operating torque. The torque required to effect rotation shall be 0.50 ounce-inch minimum and 6 ounce-inch maximum.

3.8.2 Stop torque. The torque applied to the operating shaft to the stops shall be 3 pound-inch.

3.8.3 Locking torque (as applicable). For the locking bushing type resistors, the locking nut shall be tightened with a torque of 8 pound-inches. After the locking nut is tightened, the contact arm shall not move when a torque of 20 ounce-inches is applied to the shaft.

3.9 Total mechanical rotation. The total mechanical rotation without a switch shall be within the limits of 292 degrees and 298 degrees.

3.10 Thermal cycling. The resistance shall not change in excess of 4 percent.

4. VERIFICATION

4.1 Sampling and inspection. Sampling and inspection shall be in accordance with MIL-PRF-94.

4.2 Dielectric withstanding voltage. In the dielectric withstanding voltage test, the applied potential shall be 750 volts rms at a atmospheric pressure, and 350 volts rms at reduced barometric pressure.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The intended use specified in MIL-PRF-94 is applicable to this specification.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, and date of this specification, and the complete PIN (see 1.2).
- b. Issue of DoDISS to be cited in the solicitation, and if required, the specific issue of the individual documents referenced (see 2.1).
- c. Packaging instructions (see 5.1).

6.3 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Custodians:  
Army - CR  
Navy - EC  
Air Force - 11

Preparing activity:  
DLA - CC

Review activities  
Army – AR, AT, CR4, MI  
Navy - AS, MC, OS  
Air Force – 19, 99

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