

INCH-POUND

MIL-B-18/7E  
1 March 2011  
SUPERSEDING  
MIL-B-18/7D  
21 May 1985

MILITARY SPECIFICATION SHEET

BATTERY, DRY, BA-27

INACTIVE FOR NEW DESIGN AFTER 6 JULY 1998

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-B-18.

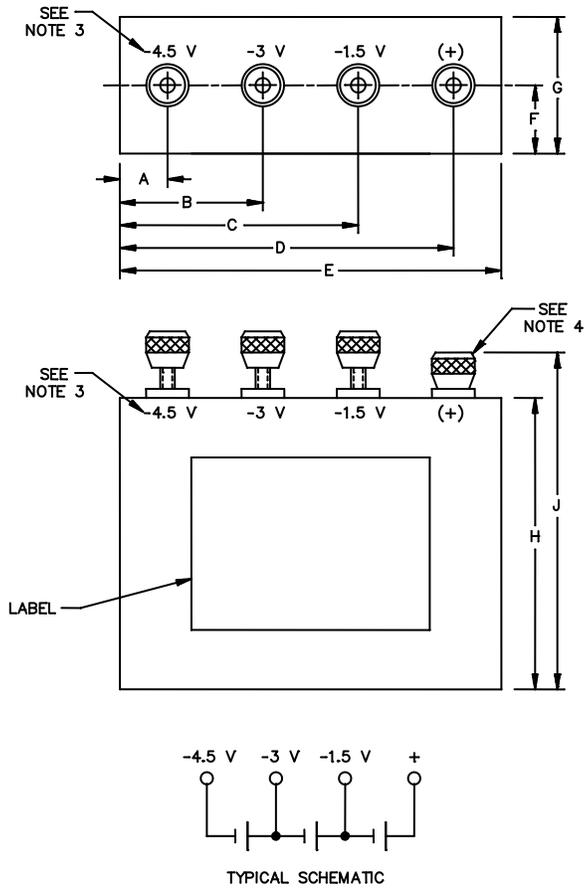


FIGURE 1. Interface and physical dimensions.

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Ltr	Inches		mm	
	Min	Max	Min	Max
A	.437	.563	11.10	14.30
B	1.437	1.563	36.50	39.70
C	2.437	2.563	61.90	65.10
D	3.437	3.563	87.30	90.50
E	3.937	4.063	100.00	103.20
F	.656	.782	16.66	19.86
G	1.375	1.500	34.93	38.10
H	3.000	3.126	76.20	79.34
J	---	3.563	---	90.50

NOTES:

1. All dimensions shown on figure 1 are in inches.
2. Metric equivalents specified in the table are for general information only.
3. Voltage and polarity markings may be placed either on the top or front face of the battery.
4. Unless otherwise specified, tolerance is  $\pm 0.062$  inch.
5. Provide insulated knurled nuts with brass inserts.

FIGURE 1. Interface and physical dimensions - Continued.

REQUIREMENTS:

Interface and physical dimensions: See figure 1.

Nominal voltage: -4.5 volts.

Tapped at: -3 volts.

Tapped at: -1.5 volts.

Usual number and type of cells: 3 "D" cells.

Usual cell connection: Series.

Terminals: Stud and nut.

Weight (maximum): 1 pound.

Capacity tests: When the battery is tested in accordance with the methods of examination and test of this specification, the minimum capacity-test requirements shall be not less than the minimum time specified for SLD or SLT.

First article inspection:

Visual and mechanical (external).

Battery voltage.

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Vibration test.

Mechanical-shock test in accordance with MIL-STD-202, method 213, test condition I.

Insulation resistance test in accordance with MIL-STD-202, method 302, test condition letter B, tolerance  $\pm 20$  volts.

Capacity, D (without storage).

Jacket integrity test.

Conformance inspection.

Visual and mechanical (external)

Battery voltage.

Insulation-resistance test in accordance with MIL-STD-202, method 302, test condition letter B, tolerance  $\pm 20$  volts.

Vibration test.

Mechanical-shock test in accordance with MIL-STD-202, method 213, test condition I.

Jacket integrity test.

Electrode leakage.

Capacity, D and T.

Methods of examination and test:

Capacity tests: See requirements for capacity specified herein.

Storage:	<u>Test</u>	<u>Period</u>
	D	12 months
	T	90 days

Open-circuit voltage: After completion of storage for D test specified, the open-circuit voltage shall be not less than 4.45 volts when measured at ambient storage conditions.

Discharge: The battery shall be discharged through 20 ohms for 4 minutes per hour, 10 hours per day, 5 days per week. This cycle shall be repeated continuously to a test-end voltage of 2.8 volts.

Closed circuit voltage: Use TS-183 ( )/U test per special marking or, with minimum permissible voltage as specified for TS-183 ( )/U, use a load resistant value of 19.95 ohms.

Special marking on each unit package:

TO TEST THIS BATTERY WITH TS-183 ( )/U:	
USE JACK NO	MINIMUM PERMISSIBLE VOLTAGE
7	4.00

Unless expressly authorized, this test information shall apply to Army and Air Force applications only.

Part or Identifying Number (PIN): BA-27, see 1.2 of [MIL-B-18](#).

Referenced documents. In addition to [MIL-B-18](#), this document references [MIL-STD-202](#).

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.

Custodians:

Army - CR  
Navy - SH  
Air Force - 99  
DLA - CC

Preparing activity:

DLA - CC

(Project 6135-2010-006)

Review activities:

Navy - MC

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.daps.dla.mil/>.