

INCH-POUND
 MIL-PRF-49471/15B(CR)
 16 December 2002
 SUPERSEDING
 MIL-PRF-49471/15A(CR)
 30 November 2000

PERFORMANCE SPECIFICATION SHEET

**BATTERY, NON-RECHARGEABLE, LITHIUM MANGANESE DIOXIDE,
HIGH PERFORMANCE, BA-5347/U OR BA-7847/U**

This specification is approved for use within Army Communications Command, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product herein shall consist of this specification sheet 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-PRF-49471B(CR).

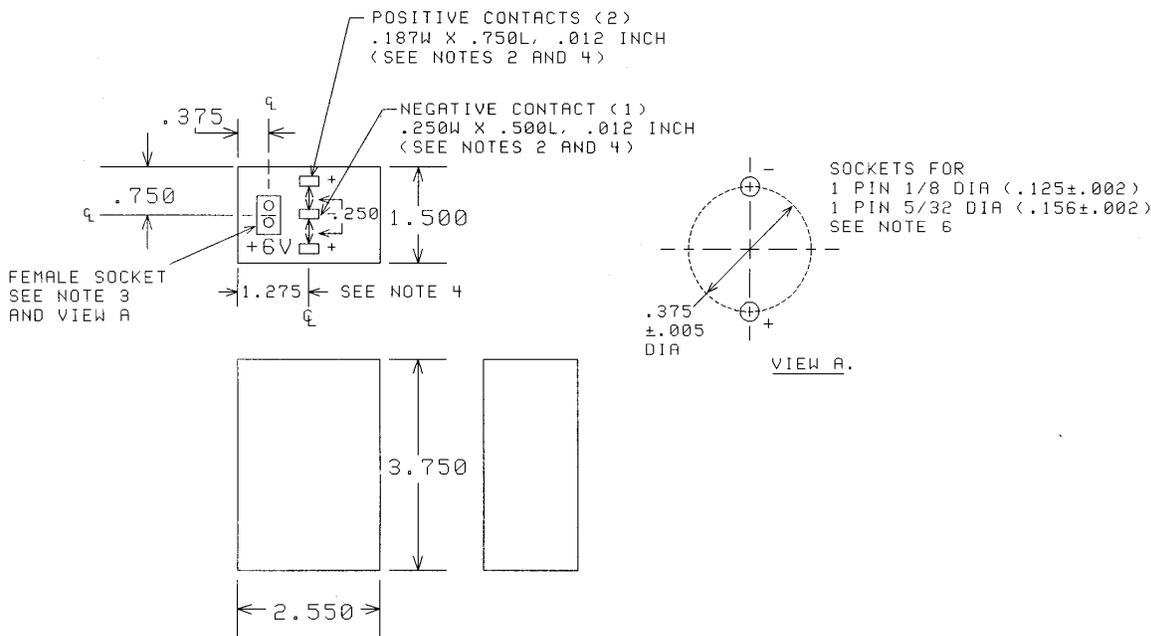


Figure 1. Battery dimensions and terminal markings.

NOTES:

1. All dimensions are in inches. The tolerance shall be ± 0.031 inch unless otherwise specified.
2. The dual connectors shall be wired in a parallel 6 volt circuit.
3. Type IV socket:
 - a. Pin circle center shall be on the battery center line.
 - b. Minimum depth of the socket well shall be $5/8$ inch.
 - c. Shall float $1/32$ inch minimum in all directions from the pin circle center.
 - d. Positive terminal shall be the $5/32$ inch dia. Socket (see Figure 1, View A).
4. Flat contacts:
 - a. The center negative contact shall be on both battery center lines.
 - b. Shall be supported and mounted so that the top surface shall not protrude above the outside surface of the battery jacket.
 - c. Shall not be more than $1/8$ inch below the outside surface of the battery jacket initially, during, and after contact is made with mating contact springs.
 - d. Shall not have a lateral displacement of more than $1/32$ inch during mating with contact springs.
5. Terminal polarity and voltage shall be as shown in Figure 1.
6. Insertion Force: 12 pounds MAX. Withdrawal Force: 3 pounds MIN.
7. Socket requirements to be certified in the First Article Test Report.
8. Both the BA-5347/U and BA-7847/U are lithium manganese dioxide batteries. Both shall meet the performance requirements of MIL-PRF-49471B and this specification sheet. The difference between them is that the BA-5347/U has cylindrical cells while the BA-7847/U has prismatic cells. See procurement documentation for which battery type is required.

REQUIREMENTS:

Dimensions and configuration: See Figure 1.

Maximum voltage: 6.60 volts.

Cut-off voltage for capacity: 4.00 volts.

Dual Terminals: Two (2) hole female socket per Figure 1, View A; three flat contacts as per Figure 1.

Weight (maximum): 0.86 pound (390 grams).

Battery short circuit test: Applicable.

Charge protection: Applicable.

High temperature protection: Applicable.

Complete discharge device: Applicable.

State of Charge Indicator: See procurement documentation.

Capacity tests: When the battery is tested in accordance with the methods of examination and tests of this specification, the minimum capacity test requirements shall be as specified below:

<u>Capacity Test</u>	<u>Minimum Capacity Requirements in Hours to 4.00 Volts</u>
I	4.0
L	4.0
H	4.0
HT	3.8
LT	3.8
IT	3.9
LR1	48.0 (to 1.0 volts)

Initial voltage delay: During all discharge tests, initial voltages below 4.00 volts cannot exceed a 5.0 second duration.

Cell series string short circuit protection: Applicable.

METHODS OF EXAMINATION AND TESTS:

Capacity tests:

- (1) Storage:

Details on storage conditions for all capacity tests are specified in the basic specification.

(2) Discharge:

Cells (forced discharge): Two cells shall be discharged at 2.0 amperes at $70 \pm 5^\circ\text{F}$ to 2.0 volts. Each discharged cell shall then be connected in series to one fresh cell. Each string shall be discharged at 2.0 amperes at $70 \pm 5^\circ\text{F}$ for a minimum of 3.0 hours.

Batteries: For the L and LT test, the batteries shall be discharged at 8 watts for 2 minutes, then continuously at 5 watts to 4.0 volts.

For the I and IT test, the batteries shall be discharged at 9 watts for 2 minutes, then continuously at 6.5 watts to 4.0 volts. For the I test, discharge shall continue to zero volts with a constant current load of 2.0 amperes.

For the H and HT, the batteries shall be discharged at 12 watts for 2 minutes, then continuously at 9 watts to 4.0 volts.

For the LR1 test, batteries shall be discharged at 135 milliamperes to 4.5 volts, then at 1.1 watts to 1 volt.

Forced Discharge: After discharge to zero volts on the I capacity test, batteries shall be force discharged at 2.0 amperes for a minimum of 5 minutes.

Overload test: Batteries shall be discharged at 4 amperes.

Abuse test pre-discharge: Designated samples shall be discharged at 7 watts for 2.0 hours.

Abuse test, pulse discharge: Batteries shall be discharged at 3.0 amperes for 1 minute followed by 2.1 amperes for 4 minutes, cycled continuously to cut-off voltage.

Closed circuit voltage test (battery and cell string): Load resistance of 2.0 ohms shall be used. Voltage shall be above 4.00 volts within 10 seconds.

Cell closed circuit voltage test: Load resistance of 1 ohm shall be used. Voltage shall be above 2.0 volts within 5 seconds.

Custodian:
Army - CR

Preparing activity:
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