

INCH-POUND

MIL-PRF-32052/8(CR)

7 December 1999

PERFORMANCE SPECIFICATION SHEET

BATTERY, RECHARGEABLE, NICKEL CADMIUM, SEALED, BB-586/U

This specification sheet is approved for use by the U. S. Army CECOM, 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 described 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-32052.

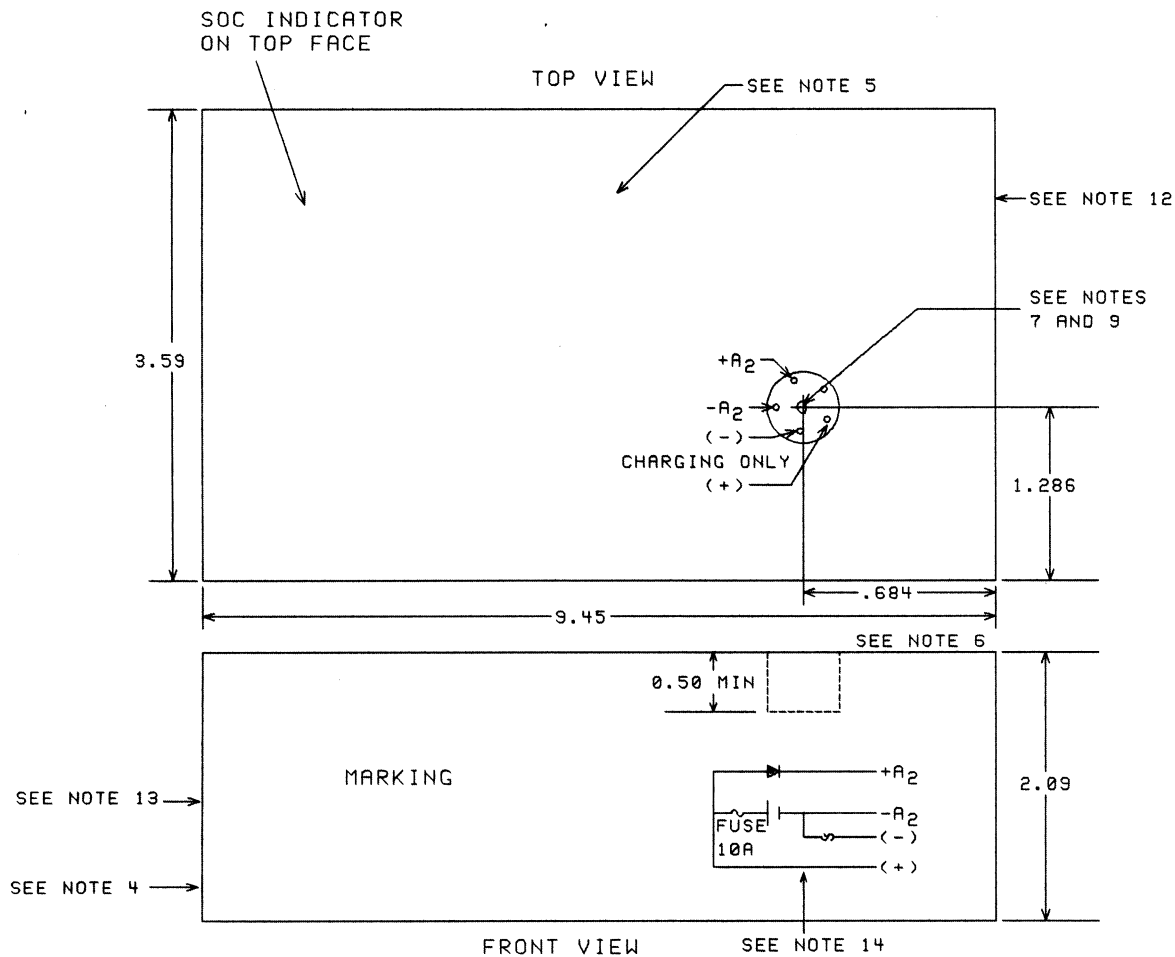


FIGURE 1. BB-586/U BATTERY.

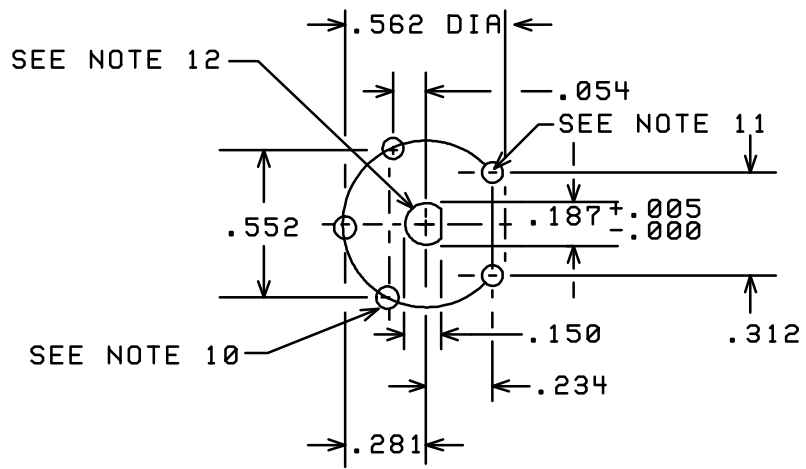


FIGURE 2. TERMINAL DIMENSIONS

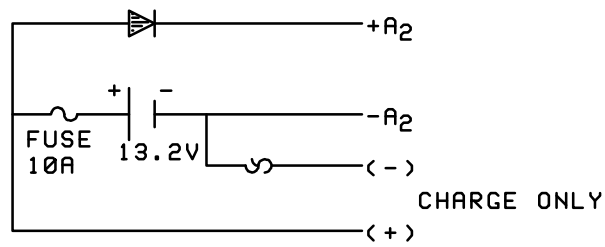


FIGURE 3. WIRING SCHEMATIC.

DRAWING NOTES

1. All dimensions are in inches.
2. Tolerance on two place (.00) decimals: $\pm .03$ inch unless otherwise specified. Tolerance on three place (.000) decimals: $\pm .005$ inch unless otherwise specified.
3. A pressure relief mechanism shall be located in the case, with the preferred location under the connector. It shall release gas before case damage is incurred. It shall not permit the entry of liquid into the battery case.
4. Stencil (or equivalent) identification as shown. Manufacturer must fill in applicable information in parenthesis. Marking color shall be white.
5. Stencil (or equivalent) charging instructions in the location shown. Color marking white. Text of instructions must be submitted for approval.
6. The socket shall be supported and mounted so that the top surface of the socket shall not protrude above the adjacent outside surface of case, nor be more than 1/16 inch below the adjacent outside surface of the case both before and after all testing.
7. Pin-circle center.
8. Socket must float $3/32 \pm 1/32$ inch in all directions from the specified pin center location in the planes of the socket.
9. Five holes to fit 1/8 inch pins, 7/16 inch in length on male plug, per drawing SM-C-447075.
10. Socket insert contact not required in this hole.
11. "D" hole for plug positioning.
12. Fuse location, if required, this face of battery. Fuse holder shall be flush with battery case.
13. Spare fuse location, if required, this face of battery. Fuse holder shall be flush with battery case. Stencil (or equivalent) legend "spare fuse." Marking color shall be white.
14. Stencil (or equivalent) wiring schematic (see Figure 3) in location shown on Figure 1. Color marking shall be white.
15. State of charge interpretation shall be clearly marked on the battery.

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REQUIREMENTS:

Rated capacity (C/5): 4.4 AH.

Voltage (Nominal): 13.2 Volts.

Weight (Maximum): 1.8 Kg (4 lbs).

Connector: Floating socket type (see Figure 2).

Charge rate for testing
 and on battery (C/2 for 2-3 hrs): 2.2 amps. minimum
 or when permitted per para. 4.7.1.2

<u>Discharge Rates</u>	<u>5 Second Voltage(V)</u>	<u>Final Voltage(V)</u>	<u>Current (Amps)</u>
C/5	-	11.0	0.8
C ₅	-	10.0	4.0
2.5C ₅	12.1	10.0	10.0

<u>Test</u>	<u>Discharge Current (amps)</u>	<u>Minimum Capacity Requirement(AH)</u>
Full Capacity Discharge:	4.0	4.0
Cycle Life, 224 cycles:	4.0	3.2
Overcharge, 24 hours:	4.0	4.0
High Rate Discharge:	10.0	3.0
Low Temperature Discharge at -18°C (0°F):	4.0	3.0
Retention of Charge 7 days at 50°C (122°F):	4.0	2.4
Pulse Discharge:	Not applicable	-
Vibration	0.8	4.4

NOTES - 1. Unless otherwise specified, all values are minimum.
2. All charges and discharges shall be performed on fully assembled batteries through the terminals.

REQUIREMENT:

Mounting screws for connectors. Not applicable.

Over temperature protection. Batteries shall contain a thermal cutout device designed to prevent charging at temperatures above 50°C (122°F). Charging shall not be inhibited at temperatures between 0 and 45°C (32 and 103°F).

Reversal protection. Batteries shall contain a schottky type diode in the discharge line to prevent charging through the discharge circuitry. The diode shall be capable of conducting up to 10A continuously without failure or excessive voltage drops.

Overload protection. The battery shall be protected from physical and electrical damage from any overload conditions (including a direct short circuit), in either the charge or discharge connections by the use of fuses or circuit breakers. Fuses or breakers shall carry a minimum of 10 amps for 17 minutes without opening. If fuses are used, at least one spare shall be provided.

Electrical leakage. No potential shall be obtained between terminals +A2 and -A2, and between the + and - charge terminals. Voltage readings shall be taken between terminals +A2 and -A2, and the + and - charge terminals after the fuses or circuit breaker is removed.

Connector. The battery connector shall be a floating type which shall be capable of withstanding a minimum of 500 coupling and uncoupling with charging cable with no breakage, distortion or loss of electrical performance.

TESTS:

Overcharge test. The battery shall be charged per 4.7.1 at 1.0 amperes for 24 hours. The battery voltage and temperature shall be recorded. The thermal cutout device shall meet the over temperature protection requirements specified. The battery shall meet the Overcharge Test requirements specified on the applicable specification sheet.

High rate discharge test. The battery shall be charged per 4.7.1 and discharged at 10 amperes and meet the requirements specified for the High Rate Discharge Test. The fuse or circuit breaker and diode shall meet the requirements specified for the overload protection and the reversal protection respectively.

Reversal protection test: Apply a 32 ± 1 volt charging source to the +A2 and -A2 terminals for a period of 1 minute. A milliammeter in the circuit shall be read at the end of one minute to determine that no current in excess of 2.0 milliamperes flows.

CONCLUDING MATERIAL:

Custodian:
Army - CR

Preparing Activity:
Army - CR

(Project 6140-A913-08)