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American National Standard

ANSI C18.1M-1992

Dry Cells and Batteries—Specifications

National Electrical Manufacturers Association
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American National Standard

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ANSI®
C18.1M-1992
Revision of
ANSI C18.1-1986

American National Standard for Dry Cells and Batteries-Specifications

Secretariat

National Electrical Manufacturers Association
American National Standards Institute, Inc

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Foreword (This Foreword is not part of American National Standard C18.1M-1992.)

In 1912 a committee of the American Electrochemical Society recommended standard methods to be used in testing dry cells. Their recommendations were followed 5 years later when the National Bureau of Standards prepared specifications that included cell sizes, arrangement of cells within batteries, service tests and required performance.

The need for continued revision to the specification led to the authorization, by the American Engineering Standards committee, of a permanent sectional committee on dry cells. This Committee, C18, representing battery users, manufacturers, and government agencies, has remained active since that time. The C18 committee prepared the first edition of this specification in 1928 under the sponsorship of the National Bureau of Standards, which sponsored subsequent editions until 1966. In 1967, the National Electrical Manufacturers Association (NEMA) accepted sponsorship.

This thirteenth edition includes additional efforts to harmonize with the International Electrotechnical Commission (IEC) Publication 86-1 and 86-2 Primary Batteries. Numerous changes in dimensions, discharge test loads and test schedules were made to ensure common specifications. Test changes were determined by market studies and electronic characterization of popular classes of appliances. The specification sheets were improved by the addition of new charts and drawings and the text section includes the amendments issued in supplement C18.1a-1989 as well as changes to sections 3,4 and 14.

Suggestions for improvement of this standard will be welcome. They should be sent to the National Electrical Manufacturers Association, 2101 L Street, NW, Washington, DC 20037.

This standard was processed and approved for submittal to ANSI by the Accredited Standards Committee on Dry Cells and Batteries, C18. Committee approval of the standard does not necessarily imply that all committee members voted for its approval. At the time it approved this standard, the C18 committee had the following members:

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F. Ciliberti, Jr., Vice-Chair
G. Winchester, Secretary

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Institute of Electronic Engineers	Woodward Eicke, Jr.
National Association of Photographic Manufacturers, Inc.	Richard Hittner
	Henry Heirigs
	Jaroslaw Petryk
National Electrical Manufacturers Association	Michael Babiak
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American National Standard for Dry Cells and Batteries - Specifications

1 Scope and purpose

1.1 Scope

This standard for primary (dry) unit cell and multicell batteries includes nomenclature, sizes, tests, safety, handling, and performance for the following:

(1) Carbon zinc batteries (LeClanche and zinc-chloride types)

(2) Alkaline manganese dioxide batteries

(3) Mercuric oxide batteries

(4) Silver oxide batteries

(5) Zinc air batteries

The tests specified are designed to evaluate the performance of the cells and batteries under simulated service conditions. The battery types listed, although not intended to be all inclusive, do represent most of those available to the consumer and, therefore, merit consideration in future designs of equipment.

1.2 Purpose

The purpose of this standard is to maintain conformation of the different types of batteries. Primary (dry) unit cell and multicell batteries shall be nonrechargeable, nonrefillable, have a nonspillable electrolyte, and be useable in any position.

2 Referenced American National Standards

This standard is intended to be used in conjunction with the American National Standard Metric Practice, ANSI/IEEE 268. When this standard is superseded by a revision approved by the American National Standards Institute, Inc., the revision shall apply.

3 Definitions

alkaline manganese dioxide cell: A cell system comprised of a manganese dioxide positive electrode, a zinc negative electrode, and an alkaline electrolyte.

battery: One or more electrically connected cells assembled in a single container having terminals.

capacity: The performance of a cell or battery expressed in terms of service life using a given load, schedule, and to a specified end point voltage.

carbon zinc cell: A cell system comprised of a manganese dioxide positive electrode, a zinc negative electrode, and an electrolyte of zinc chloride alone or in combination with ammonium chloride.

cell: An electrochemical device that generates electric current by converting chemical energy to electrical energy.

closed circuit voltage: The voltage across the terminals of a cell or battery when it is on discharge.

discharge: Operation during which a cell or battery delivers current to an external load.

dry: A term used to describe the electrolyte as being immobilized or rendered unspillable.

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electrolyte: A substance that will provide ionic conductivity between positive and negative electrodes of a cell.

end-point voltage: A specified closed-circuit or on-load voltage at which the discharge is considered completed.

impedance: The total combination of resistance and reactance that a battery offers to the flow of alternating current (ac) or any other varying current at a particular frequency.

internal resistance: The resistance a battery offers to the flow of direct current (dc).

jacket: The external covering of a battery made of metal, plastic, paper, or other suitable material.

leakage: The escape of electrolyte from a cell.

LeClanche cell. See *Carbon Zinc Cell.*

mercuric oxide cell. A cell system comprised of a positive electrode of mercuric oxide alone or in combination with manganese dioxide, a negative electrode of zinc, and an alkaline electrolyte.

nominal voltage: A suitable approximate value of voltage used to identify a battery system.

open circuit voltage: The voltage across the terminals of a cell or battery when essentially no external current is flowing.

polarity: Electrical term used to denote the relative voltage relationship between battery or cell terminals.

primary: A cell or battery intended to be used until exhausted and then discarded, and is not designed to be recharged.

rating test: A discharge test used to measure the capacity of a battery.

silver oxide cell: A cell system comprised of a silver oxide positive electrode, a zinc negative electrode, and an alkaline electrolyte.

terminal: A conductive part of a cell or battery to which the external load is connected.

typical performance: That level of service expected when a battery is tested in accordance with Section 12.

zinc air cell: A cell comprised of an atmospheric oxygen positive electrode, a zinc negative electrode, and an alkaline electrolyte.

zinc-chloride cell: *See Carbon Zinc Cell.*

4 Nomenclature

Batteries are listed by their National Electronic Distributors Association (NEDA) battery cross reference guide numbers and letter suffixes. Definitions of the letters are:

A	Alkaline
AC	Alkaline Industrial
AP	Alkaline Photographic
C	Industrial
CD	Industrial Heavy Duty
CS	Industrial Super Heavy Duty
D	Heavy Duty
F	General Purpose
M	Mercuric Oxide
MD	Mercuric Oxide Premium
MP	Mercuric Oxide Photographic
P	Photographic
SO	Silver Oxide
SOP	Silver Oxide Photographic
Z	Zinc Air
ZD	Zinc Air Heavy Duty
No Suffix	Carbon Zinc

5 Chemical systems and nominal voltages

Chemical System	Nominal Voltage
Carbon zinc	1.5
Alkaline manganese dioxide	1.5
Mercuric oxide	1.35
Mercuric oxide (with manganese dioxide)	1.4
Silver oxide	1.5
Zinc air	1.4

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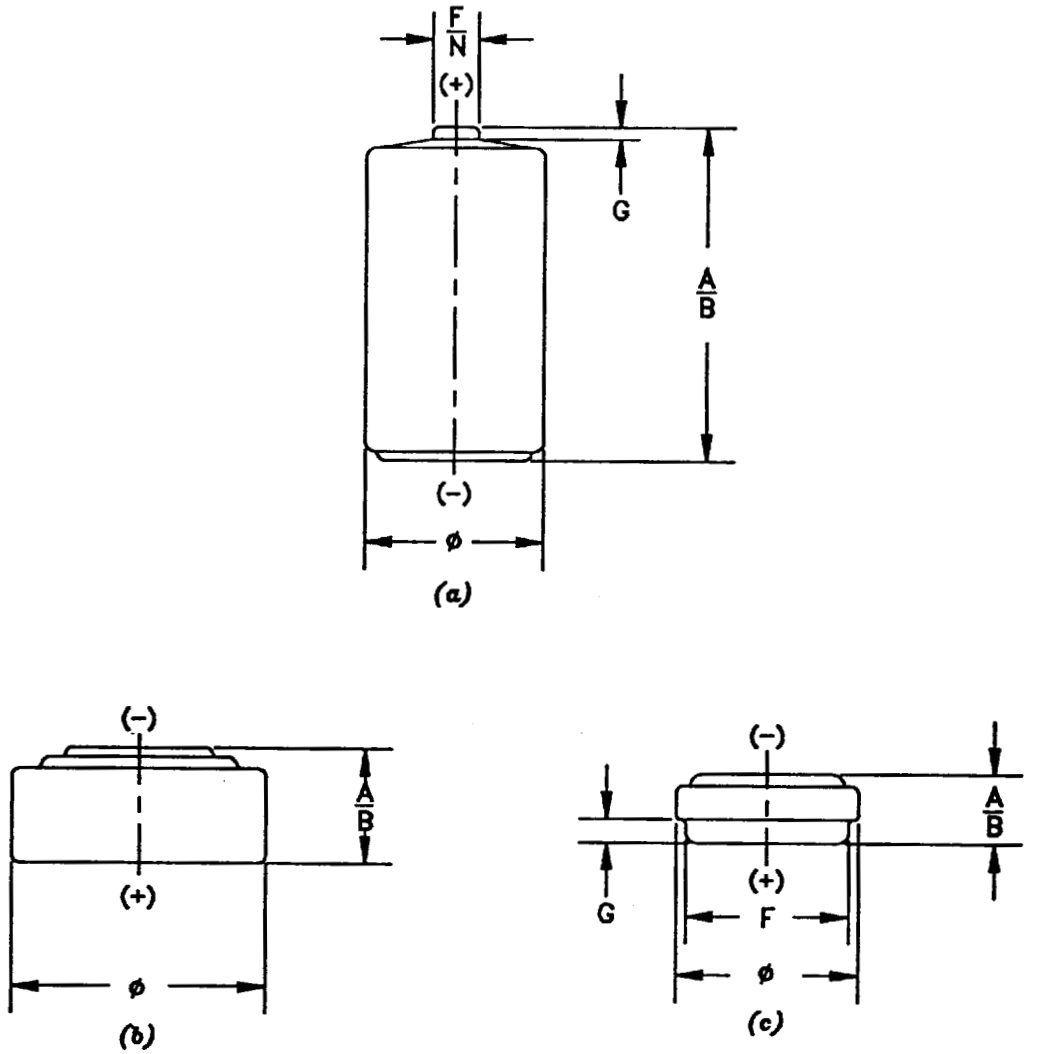


Figure 1
Battery Shapes

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6 Performance and dimensions

6.1 Performance

To determine performance, a battery shall be discharged as specified in the individual battery specification sheet until the voltage on load drops for the first time below the specified endpoint.

6.2 Dimensions

The symbols used to denote the various dimensions on the individual battery specification sheets are as follows:

A = Maximum overall height of the battery
B = Minimum distance between the flats of the positive and negative contacts
F = Maximum diameter of the positive contact within the specified projection height
G = Minimum projection of the flat positive contact
N = Minimum diameter of the flat positive contact
ϕ = Maximum and minimum diameters of the battery

6.2.1 The dimensions specified use the International System of Units (SI) according to ANSI/IEEE 268.

6.2.2 Examples of the definitions of some shapes of batteries are given in Figure 1.

7 Safety and reliability

7.1 General

Measures shall be taken as necessary to enhance the safety of the battery including electrical insulation of metal jackets from the battery components, provision for safety vents when required, and the insulation of exposed terminals where short-circuiting or discharge during shipment or normal display could present a hazard or result in loss of capacity.

7.2 Dimensional limits

Batteries shall conform in size to specified dimensional limits as set forth on the individual battery specification sheets.

7.3 Leakage

During their useful life and under test and storage conditions, as specified in 12.2.1, 12.2.2 and 12.2.3, batteries shall be free of visible liquid leakage or salts that would interfere with electrical contact. Normally, a battery must be effectively discharged before it is prone to leak. Most batteries are provided with an outer jacket to contain leakage. However, users are strongly advised to remove batteries from instruments and equipment as soon as the batteries have completed their useful life or whenever the instruments and equipment are to be stored for long periods.

7.4 Recharging

7.4.1 Batteries/cells

The batteries described herein *are not* designed for recharging for rejuvenation. They are intended to be used until exhausted, and then discarded. Charging or recharging may cause leakage, swelling, and possible rupture. For this reason, only batteries marked "rechargeable" should be recharged.

7.4.2 Batteries/cells in equipment

Much equipment is designed to operate with alternative power supplies(such as mains or additional batteries). This is particularly relevant to memory-backup applications of the primary battery. In these situations the circuitry of the equipment should be designed either to:

(1) Prevent charging of the primary battery, or

(2) Include protective devices of the primary battery, for example, a diode, such that the charging (leakage) current from the protective device or devices to which the primary battery would be subjected does not exceed that recommended by the battery manufacturer.

Any intended protective device-circuit should be so selected as to be appropriate to the type and electrochemical system of the primary battery concerned, and should preferably not be subject to single-component failure. It is recommended that equipment designers obtain advice from the battery manufacturer concerning protection-device circuits for the memory-backup applications of the primary battery.

Failure to observe these precautions could lead to shortened service, leakage or possible explosion of the primary battery.

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7.5 User guidelines

The safe and reliable production of electricity within batteries depends on the careful control of chemical reactions so that the generation of products such as gases is minimized. Although batteries are basically trouble-free products, conditions of abuse or misuse can cause the generation of excess gases and liquids to be generated within a battery faster than its cell-venting system can handle them. As a result, leakage or rupture can occur. The following suggestions should be followed to ensure the trouble-free, safe performance of batteries:

7.5.1 Use only the type of battery recommended by the equipment manufacturer.

7.5.2 All batteries in a unit shall be replaced at the same time. Although in some cases electrical equipment will operate with one discharged battery and several fresh batteries, the discharged battery will not provide useful equipment life and may generate gases that cause increased internal battery pressure and result in leakage, or rupture.

7.5.3 Do not mix batteries of various chemical systems, ages, applications, types, or manufacturers. Doing so can result in imbalances owing to different cell capacities, voltages, or both. Such imbalance may result in poor device performance and possibly battery leakage or rupture.

7.5.4 It is important to note that you should never try to recharge a battery unless it is specifically marked "rechargeable". Attempting to recharge a non-rechargeable battery is unsafe as it could cause it to leak or rupture (see 7.4).

7.5.5 When inserting batteries into equipment, the proper polarity or battery insertion direction shall be observed. Reverse insertion of batteries may cause charging, which may result in leakage or rupture. It is recommended that battery compartments be designed to prevent improper battery insertion, and that compartments for swallowable-sized batteries be made childproof to minimize the risk of inadvertent ingestion. This is especially important in toys and in appliances that have appeal to small children.

7.5.6 Users should be aware that devices using primary batteries that operate on either household current or battery power may subject batteries to a charging current which may cause leakage, swelling and possible rupture.

7.5.7 Do not attempt to rejuvenate batteries by heating, puncturing, or disassembling them in order to add chemicals. A battery contains a strongly acidic or alkaline electrolyte that, if released, could burn or irritate human tissue on contact.

7.5.8 Do not store batteries or battery-powered equipment in high-temperature areas, such as the glove compartment or rear deck of a car. The shelf life of batteries may be extended by storing them in a cool place.

7.5.9 Do not dispose of batteries in fire.

7.5.10 Consideration should be given to the reclamation of mercuric oxide and silver oxide batteries.

7.5.11 Equipment designed to be powered by zinc air batteries shall have provisions for air access. Designers' attention is drawn to the importance of making positive electrical contact on the side of the battery so that air access holes are not blocked.

7.5.12 Designers of air-tight devices should be aware of the normal evolution of gas from batteries. This gas, primarily hydrogen, shall either be absorbed with a hydrogen adsorption device, or allowed to escape from the device. Failure to do this may result in device deformation, fire and/or explosion due to hydrogen build-up.

7.5.13 Keep batteries away from small children. If swallowed, promptly see a doctor for recommended treatment.

8 Marking

8.1 Outside jacket

The following information shall be printed on the outside of the jacket of unit cell and multicell batteries. When necessary, some of this information may be applied to the unit package.

(1) The name or trade name of the manufacturer or supplier

(2) The ANSI/NEDA number or some other identifying designation

(3) Year and month, week or day of manufacture, which may be code, or the expiration of a guarantee period, in a clear readable form

(4) The nominal voltage

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(5) Terminal polarity

(6) Warnings or cautionary notes where applicable

8.2 Printed Matter

All printed matter placed on the jacket or packaging shall be in compliance with regulatory agency requirements and regulations.

9 Closure for unit cell and multicell batteries

The sealing compound (such as asphalt) used for closing unit cell and multicell batteries shall be aninsulating material that will not flow at a temperature of 113°F (45°C) during a static test in which the sealed surface is held vertical for a period of 24 hours.

10 Terminals

10.1 General

Each battery shall be supplied with terminals as specified in the appropriate battery specification sheet and according to the following general comments.

10.1.1 Knurled-Nut and screw terminals

These terminals shall be of brass or other suitable material.

10.1.2 Cap and case

This type of terminal is used for batteries that have their dimensions specified according to Figures 1(b) or 1(c). The cylindrical side of the battery forms part of the positive terminal.

10.1.3 Cap and base

This type of terminal is used for batteries that have their dimensions specified according to Figure 1(a), and also those that have the cylindrical side insulated from the terminals. The metal cap on the center electrode and the bottom of the battery serve as the terminals. The bottom construction shall be such as to ensure good electrical contact when the battery is placed on a flat metal surface. If the bottom is not flat, any recessed portion shall be such that when two or more batteries are placed in series, the cap of one battery will not project within the recess in the bottom of the adjacent battery to a degree that will cause the effective height of the battery, measured contact-point-to-contact-point, to be outside the limits specified for these dimensions.

10.1.4 Spiral-Spring terminals

These shall consist of spirally wound wire in a form suitable to provide a pressure contact. They shall be made of spring brass or other suitable metal.

10.1.5 "Plug-In" sockets

This type of terminal shall consist of a suitable assem
bly of metal contacts, mounted in an insulating housing or holder and adapted to receive corresponding pins of a mating plug in such a manner as to ensure good electrical contact. The metal contacts shall be of tinned brass or other suitable metal.

10.1.6 Snap terminals

This type of terminal consists of a combination comprised of a stud for the positive and a socket for the negative terminal. These shall be made from nickel-plated steel or other suitable material. They shall be designed in such a way as to provide a secure physical and electrical connection when fitted with similar corresponding parts for connection to an electrical circuit.

10.1.7 Flat contact terminals

These shall be essentially flat metal surfaces adapted to make electrical contact by suitable contacting mechanisms bearing against them. These shall be made from nickel-plated steel or other suitable material.

10.2 Terminal connections

The terminals fitted to batteries shall make and maintain good electrical connection at all times when tested in accordance with this standard.

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11 Voltage tests

11.1 Temperature requirements

Voltage tests are intended to apply to fresh batteries and shall be made within 30 days after shipment by the manufacturer. The samples shall have been subjected to a temperature of 70°F ± 2°F (21°C ± 1°C) for a long enough period (usually 24 hours) to have become stabilized at this temperature before the measurements are made.

11.2 Voltmeter requirements

The voltmeter used shall meet the following requirements: The accuracy of the voltage measurement shall be within 0.01 volt on a unit cell basis. The resistance of the voltmeter shall be at least 10 times greater than the discharge resistance with a minimum resistance of 1000 ohms per volt.

11.3 Maximum open-circuit voltage

When measured under the conditions specified in 11.1 and 11.2, the maximum open-circuit voltage of the battery shall not exceed nominal voltage plus 20% for the silver-oxide system and plus 15% for all other systems.

12 Capacity tests

12.1 General requirements

The size and type of primary batteries and the conditions of use determine the test to be applied. The test that best represents any particular use is that which most nearly duplicates the load, schedule, and end-point voltage of the battery when in actual use.

12.2 Test requirements

12.2.1 "Initial" tests intended to show the conditions of fresh batteries shall be started within 30 days after shipment by the manufacturer.

12.2.2 "Twelve-month" tests are intended to measure the keeping quality of (shelf life) batteries. Batteries subjected to this test shall be stored on open circuit at the standard temperature and humidity (see 12.2.3) for the period of 12 months. Zinc air cells shall be stored with air access holes sealed until tested. The 12-month storage time shall be measured from the time of shipment by the manufacturer.

12.2.3 The standard temperature and humidity for tests is 70°F ± 2°F (21°C ± 1°C) and 50% ± 5% relative humidity.

12.2.4 The resistance of the discharge circuit, including all components of the external circuit, shall be within ± 0.5% of the specified value.

12.2.5 In making capacity tests, a reading of the closed-circuit voltage shall be taken with a voltmeter conforming to the requirements of 11.2.

12.2.6 To determine compliance with this standard, those tests shall be applied for which typical performance data is given on the individual battery specification sheets.

12.2.7 All tests are on a seven-day-per-week schedule unless otherwise indicated. The daily discharge schedules shall not vary from day to day, so that the duration of overnight rest periods shall be constant for any given test.

12.2.8 In all discharge tests, initial open and closed circuit voltages shall be read at the beginning of each test. Sufficient closed-circuit voltage readings shall be taken during the discharge to determine with accuracy the end of the test.

12.2.9 When formulating new tests, whenever possible the resistive load in ohms shall be:

1.01.11.21.31.51.61.82.0
2.22.42.73.03.33.63.94.3
4.75.15.66.26.87.58.29.1

together with their decimal multiples or submultiples.

12.2.10 The on-load and off-load periods shall be as specified in the individual battery specification sheets. When formulating new tests, whenever possible, one of the following periods starting at 24-hour intervals shall be adopted.

1 min/24 hrs
5 mins/24 hrs
30 mins/24 hrs
1 hr/24 hrs
4 hrs/24 hrs
12 hrs/24 hrs
16 hrs/24 hrs
24 hrs continuous
4 mins/hr; 8 hr/24 hrs

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13 Specification sheet numbering

The battery specification sheets found in this standard are arranged by class and identifier utilizing a 10-digit numbering system. For example:

Class - Identifier
XX-XXXX-XXXX

13.1 Class

The first two digits are used to classify the batteries into one of the classes shown below.

10 = Unit cell round batteries with a height of 0.400 inch (10.16mm)
20 = Unit cell round batteries having a height greater than 0.400 inch (10.16mm)
30 = Multicell round batteries having a variety of terminal configurations with no limit on diameter or height
40 = Multicell non-round batteries having a variety of terminal configurations

13.2 Identifiers

The next eight digits are used to identify the battery within the class.

For class 10, 20, and 30 batteries, the first four digits will be the maximum diameter and the last four digits will be the maximum height in inches X 10^3.

For class 40 batteries, the first four digits will be the maximum height and the last four digits will be used to show differences between batteries having the same height. If batteries contain other than flat contacts, the body dimension shall be considered the height.

14 Specification sheet reference

ANSI/NEDA number	IEC number	Former ANSI number	Volts	Specification sheet number	Page
13A	LR20	L90	1.50	20-1346-2421	49
13AC	LR20	L90	1.50	20-1346-2421	49
13C	R20S	D	1.50	20-1346-2421	50
13CD	R20C	D	1.50	20-1346-2421	50
13D	R20C	D	1.50	20-1346-2421	50
13F	R20S	D	1.50	20-1346-2421	50
14A	LR14	L70	1.50	20-1031-1969	47
14AC	LR14	L70	1.50	20-1031-1969	47
14C	R14S	C	1.50	20-1031-1969	48
14CD	R14C	C	1.50	20-1031-1969	48

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ANSI/NEDA number	IEC number	Former ANSI number	Volts	Specification sheet number	Page
14D	R14C	C	1.50	20-1031-1969	48
14F	R14S	C	1.50	20-1031-1969	48
15A	LR6	L40	1.50	20.0571-1988	43
15AC	LR6	L40	1.50	20-0571-1988	43
15C	R6S	AA	1.50	20-0571-1988	44
15CD	R6C	AA	1.50	20-0571-1988	44
15D	R6C	AA	1.50	20-0571-1988	44
15F	R6S	AA	1.50	20-0571-1988	44
24A	LR03	L30	1.50	20-0413-1752	38
24AC	LR03	L30	1.50	20-0413-1752	38
24F	RO3	AAA	1.50	20-0413-1752	39
210	20F20	-	30.00	40-2559-0000	63
215	15F20	-	22.50	40-2000-1000	62
221	15F15	-	22.50	40-2000-0000	61
900	-	-	1.50	40-4063-1000	64
903	-	-	7.50	40-5874-0000	69
904	-	-	9.00	40-5902-0000	70
905	R40	6	1.50	20-2638-6722	51
906	R40	6	1.50	20-2638-6722	51
907	-	-	6.00	40-6815-0000	71
908	-	-	6.00	40-4063-3000	66
908A	-	-	6.00	40-4063-3000	66
908AC	-	-	6.00	40-4063-3000	66
908C	-	-	6.00	40-4063-3000	66
908CD	-	-	6.00	40-4063-3000	66
908D	-	-	6.00	40-4063-3000	66
910A	LR1	L20	1.50	20-0472-1189	42
910M	-	N35	1.40	20-0470-1140	40
915	-	-	6.00	40-4063-2000	65
915A	-	-	6.00	40-4063-2000	65
915AC	-	-	6.00	40-4063-2000	65
915C	-	-	6.00	40-4063-2000	65
915D	-	-	6.00	40-4063-2000	65
918	4R25-2	-	6.00	40-4488-0000	68
918A	-	-	6.00	40-4488-0000	68
918AC	-	-	6.00	40-4488-0000	68
918D	4R25-2	-	6.00	40-4488-0000	68
922	-	-	12.00	40-6815-1000	72
926	-	-	12.00	40-4438-1000	67
926AC	-	-	12.00	40-4438-1000	67
1100M	NR50	N40	1.40	20-0625-0661	46
1105M	NR52	N30	1.40	20-0625-0440	45
1107SOP	SR44	S15	1.50	10-0457-0213	33
1109M	MR50	-	1.35	20-0625-0661	46
1110MP	MR50	-	1.35	20-0625-0661	46
1114MP	MR9	-	1.35	10-0630-0244	36
1117M	-	-	1.35	20-0470-1140	40
1118M	-	-	1.40	20-0472-1145	41
1118MD	-	-	1.40	20-0472-1145	41

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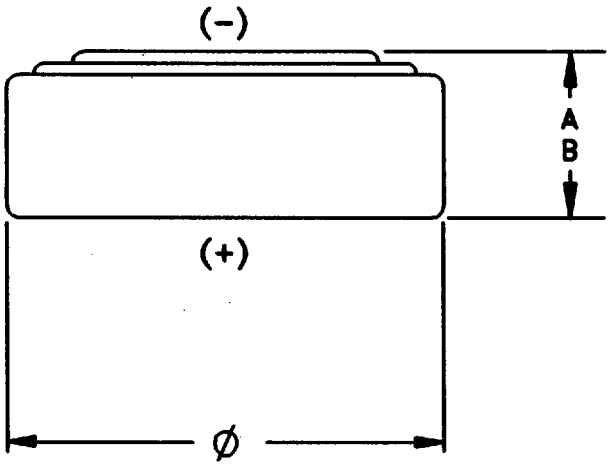
ANSI/NEDA number	IEC number	Former ANSI number	Volts	Specification sheet number	Page
1123M	MR9	-	1.35	10-0630-0244	36
1124MP	MR9	-	1.35	10-0630-0244	36
1126MP	MR52	-	1.35	20-0625-0440	45
1127M	NR44	-	1.40	10-0457-0213	33
1127MD	NR44	-	1.40	10-0457-0213	33
1128MP	MR44	-	1.35	10-0457-0213	32
1129AP	LR53	L15	1.50	10-0913-0240	37
1130SO	-	-	1.50	10-0457-0220	34
1131SO	SR44	-	1.50	10-0457-0213	33
1132SO	SR43	-	1.50	10-0457-0165	31
1133SO	SR43	-	1.50	10-0457-0165	31
1134SO	SR41	-	1.50	10-0311-0142	21
1135SO	SR41	-	1.50	10-0311-0142	22
1136SO	SR48	-	1.50	10-0311-0213	23
1137SO	SR48	-	1.50	10-0311-0213	23
1138SO	SR54/TR54	-	1.50	10-0457-0120	28
1139SO	SR42	-	1.50	10-0457-0142	29
1152M	MR44	-	1.35	10-0457-0213	32
1153M	MR43	-	1.35	10-0457-0165	30
1154M	MR42	-	1.35	10-0457-0142	29
1155M	MR41	-	1.35	10-0311-0142	21
1158SO	SR58/TR58	-	1.50	10-0311-0083	19
1160SO	SR55/TR55	-	1.50	10-0457-0083	27
1162SO	SR57/TR57	-	1.50	10-0374-0106	25
1163SO	SR59	-	1.50	10-0311-0102	20
1164SO	SR59	-	1.50	10-0311-0102	20
1165SO	SR57/TR57	-	1.50	10-0374-0106	25
1166A	LR44	-	1.50	10-0457-0213	32
1167A	LR43	-	1.50	10-0457-0165	30
1168A	LR54	-	1.50	10-0457-0120	28
1169A	LR55	-	1.50	10-0457-0083	27
1170SO	SR55/TR55	-	1.50	10-0457-0083	27
1175SO	SR60/TR60	-	1.50	10-0268-0085	18
1177SO	-	-	1.50	10-0457-0063	26
1178M	NR41	-	1.40	10-0311-0142	21
1179SO	SR41	-	1.50	10-0311-0142	21
1180M	NR48	-	1.40	10-0311-0213	23
1181SO	SR48	-	1.50	10-0311-0213	23
1182M	-	-	1.40	10-0457-0165	30
1183SO	SR43	-	1.50	10-0457-0165	31
1184SO	SR44	-	1.50	10-0457-0213	33
1191SO	-	-	1.50	10-0228-0085	16
1306AP	-	-	4.50	30-0664-2004	54
1306M	-	-	4.20	30-0664-2004	54
1314M	-	-	4.05	30-0664-2004	55
1404M	-	-	5.60	30-0662-1780	53
1406SOP	4SR44	-	6.00	30-0512-0992	52
1412AP	4LR61	-	6.00	40-1909-0000	60
1414A	4LR44	-	6.00	30-0512-0992	52
1604	6F22	-	9.00	40-1827-0000	59
1604A	6LR61	-	9.00	40-1827-0000	59
1604AC	6LR61	-	9.00	40-1827-0000	59
1604C	6F22	-	9.00	40-1827-0000	59

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ANSI/NEDA number	IEC number	Former ANSI number	Volts	Specification sheet number	Page
1604CD	6F22	-	9.00	40-1827-0000	59
1604D	6F22	-	9.00	40-1827-0000	59
1604M	-	-	8.40	40-1650-0000	58
1604MC	-	-	8.40	40-1650-0000	58
1801M	-	-	11.20	30-1031-2900	57
1810M	-	-	12.60	30-1000-2130	56
7000ZD	PR48	-	1.40	10-0311-0213	24
7001ZD	PR43	-	1.40	10-0457-0165	31
7002ZD	PR41	-	1.40	10-0311-0142	22
7003ZD	PR44	-	1.40	10-0457-0213	33
7004Z	-	-	8.40	40-1650-0000	58
7005ZD	PR70	-	1.40	10-0228-0142	17
7007Z	-	-	1.40	10-0613-0245	35

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ANSI C18.1M-1992	BATTERY SPECIFICATION	10-0228-0085



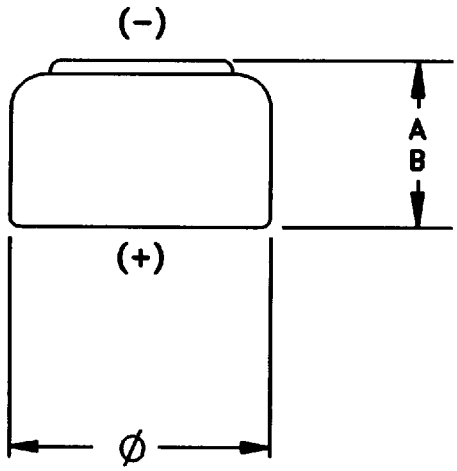
DIMENSION	MILLIMETERS	INCHES
A	2.15	.085
B	1.9	.075
Ø	5.8	.228
	5.55	.219

TERMINALS: CAP & CASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
SILVER OXIDE 1.5 VOLTS							
1191SO		68K	24 HRS/DAY	1.2	410 HRS	380 HRS	RATING TEST

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ANSI C18.1M-1992	BATTERY SPECIFICATION	10-0228-0142



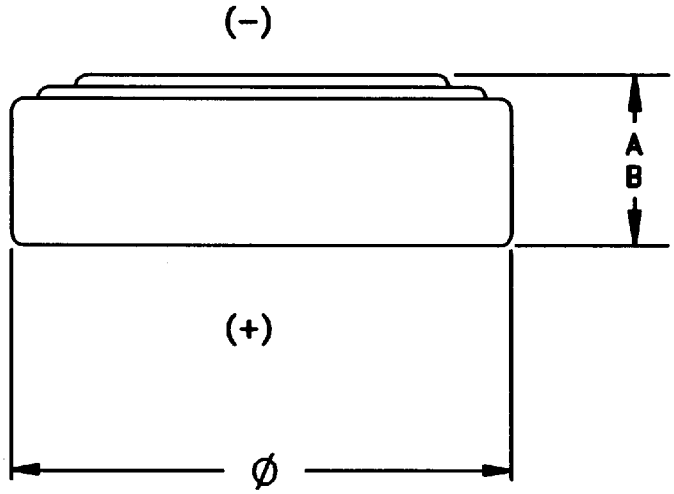
DIMENSION	MILLIMETERS	INCHES
A	3.6	.142
B	3.3	.130
Ø	5.8	.228
	5.6	.220

TERMINALS: CAP & CASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
ZINC AIR 1.4 VOLTS							
7005ZD	PR70	3K	12 HRS/DAY	0.9	115 HRS	105 HRS	HEARING AID

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ANSI C18.1M-1992	BATTERY SPECIFICATION	10-0268-0085



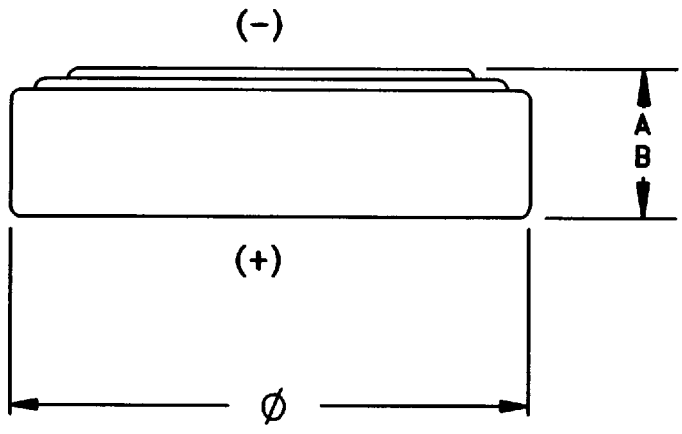
DIMENSION	MILLIMETERS	INCHES
A	2.15	.085
B	1.9	.075
Ø	6.8	.268
	5.5	.256

TERMINALS: CAP & CASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
SILVER OXIDE 1.5 VOLTS							
1175S0	SR60 TR60	68K	24 HRS/DAY	1.2	685 HRS	620 HRS	RATING TEST
		750K	24 HRS/DAY	1.2	290 DAYS	260 DAYS	WATCH

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ANSI C18.1M-1992	BATTERY SPECIFICATION	10-0311-0083



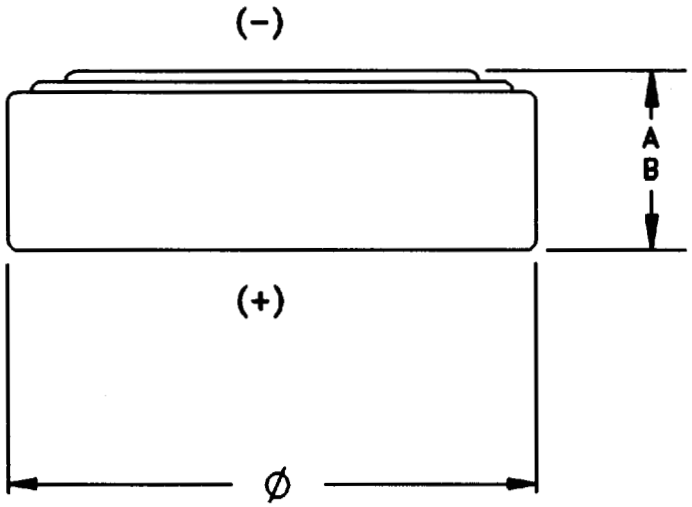
DIMENSION	MILLIMETERS	INCHES
A	2.1	.083
B	1.85	.073
Ø	7.9	.311
	7.55	.297

TERMINALS: CAP & CASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
SILVER OXIDE 1.5 VOLTS							
1158SO	SR58 TR58	68K	24 HRS/DAY	1.2	750 HRS	680 HRS	RATING TEST
		750K	24 HRS/DAY	1.2	340 DAYS	310 DAYS	WATCH

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ANSI C18.1M-1992	BATTERY SPECIFICATION	10-0311-0102



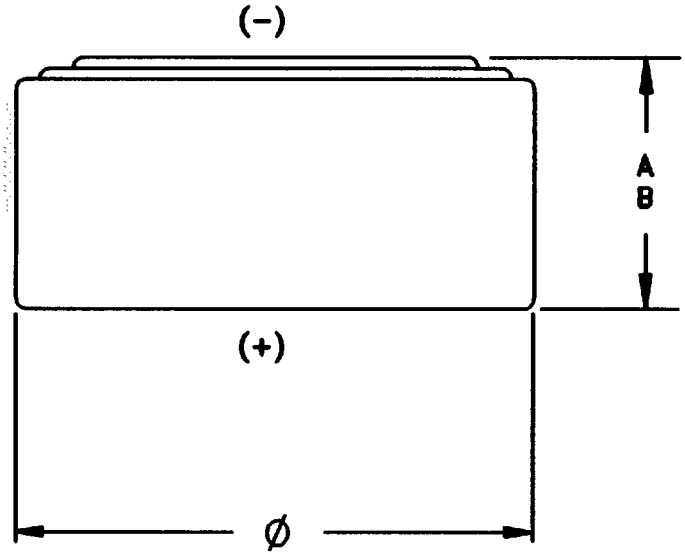
DIMENSION	MILLIMETERS	INCHES
A	2.6	.102
B	2.3	.091
Ø	7.9	.311
	7.55	.297

TERMINALS: CAP & CASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
SILVER OXIDE 1.5 VOLTS							
1163S0	SR59	47K	24 HRS/DAY	1.2	850 HRS	760 HRS	RATING TEST
1164S0		680K	24 HRS/DAY	1.2	490 DAYS	440 DAYS	WATCH

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ANSI C18.1M-1992	BATTERY SPECIFICATION	10-0311-0142



DIMENSION	MILLIMETERS	INCHES
A	3.6	.142
B	3.25	.128
Ø	7.9 7.55	.311 .297

TERMINALS: CAP & CASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
MERCURIC OXIDE 1.35 VOLTS							
1155M	MR41	15K	24 HRS/DAY	1.2	500 HRS	460 HRS	RATING TEST
		250K	24 HRS/DAY	1.2	380 DAYS	340 DAYS	WATCH
MERCURIC OXIDE 1.4 VOLTS WITH MANGANESE DIOXIDE							
1178M	NR41	1.5K	12 HRS/DAY	0.9	50 HRS	45 HRS	HEARING AID
SILVER OXIDE 1.5 VOLTS							
1179SO	SR41	1.5K	12 HRS/DAY	0.9	35 HRS	30 HRS	HEARING AID
1134SO	SR41	15K	24 HRS/DAY	1.2	370 HRS	330 HRS	RATING TEST
		500K	24 HRS/DAY	1.2	540 DAYS	490 DAYS	WATCH

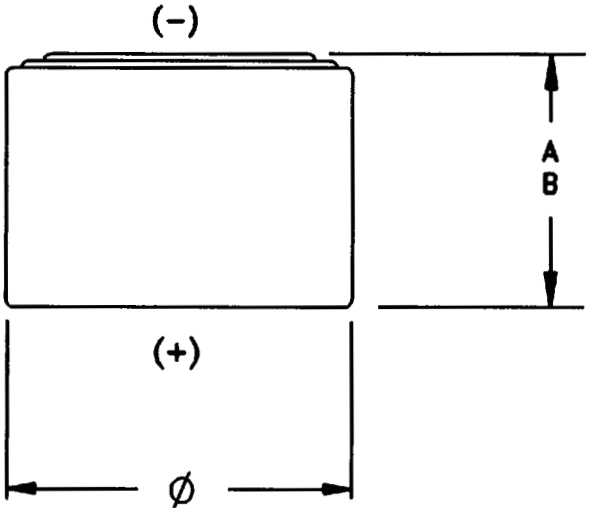
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ANSI C18.1M-1992	BATTERY SPECIFICATION	10-0311-0142

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
SILVER OXIDE 1.5 VOLTS							
1135SO	SR41	15K	24 HRS/DAY	1.2	370 HRS	330 HRS	RATING TEST
		270K	24 HRS/DAY	1.2	280 DAYS	250 DAYS	WATCH
ZINC AIR 1.4 VOLTS							
7002ZD	PR41	1.5K	12 HRS/DAY	0.9	80 HRS	77 HRS	HEARING AID

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ANSI C18.1M-1992	BATTERY SPECIFICATION	10-0311-0213



DIMENSION	MILLIMETERS	INCHES
A	5.4	.213
B	5	.197
Ø	7.9 7.55	.311 .297

TERMINALS: CAP & CASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
MERCURIC OXIDE 1.4 VOLTS WITH MANGANESE DIOXIDE							
1180M	NR48	1.5K	12 HRS/DAY	0.9	90 HRS	85 HRS	HEARING AID
SILVER OXIDE 1.5 VOLTS							
1181SO	SR48	1.5K	12 HRS/DAY	0.9	70 HRS	60 HRS	HEARING AID
1137SO	SR48	15K	24 HRS/DAY	1.2	720 HRS	650 HRS	RATING TEST
		150K	24 HRS/DAY	1.2	300 DAYS	270 DAYS	WATCH
1136SO	SR48	15K	24 HRS/DAY	1.2	580 HRS	520 HRS	RATING TEST
		270K	24 HRS/DAY	1.2	400 DAYS	360 DAYS	WATCH

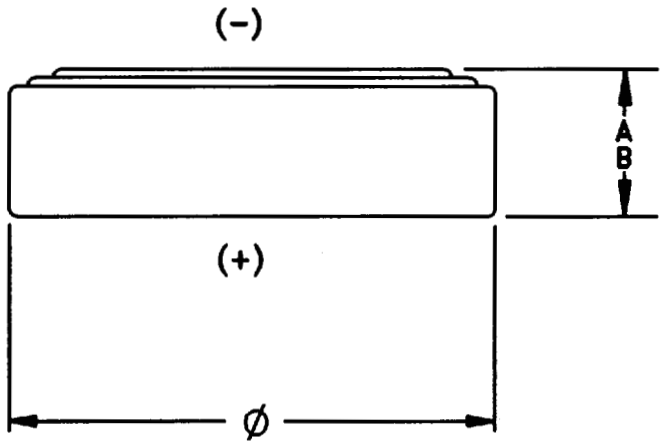
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ANSI C18.1M-1992	BATTERY SPECIFICATION	10-0311-0213

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
ZINC AIR 1.4 VOLTS							
7000ZD	PR48	1.5K	12 HRS/DAY	0.9	195 HRS	190 HRS	HEARING AID

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ANSI C18.1M-1992	BATTERY SPECIFICATION	10-0374-0106



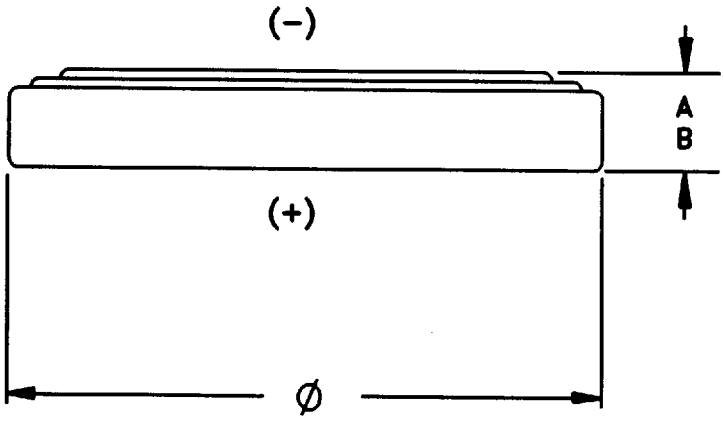
DIMENSION	MILLIMETERS	INCHES
A	2.7	.106
B	2.4	.094
Ø	9.5	.374
	9.15	.360

TERMINALS: CAP & CASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
SILVER OXIDE 1.5 VOLTS							
1162SO	SR57 TR57	22K	24 HRS/DAY	1.2	500 HRS	450 HRS	RATING TEST
		360K	24 HRS/DAY	1.2	380 DAYS	340 DAYS	WATCH
1165SO	SR57 TR57	22K	24 HRS/DAY	1.2	640 HRS	575 HRS	RATING TEST
		360K	24 HRS/DAY	1.2	380 DAYS	340 DAYS	WATCH

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ANSI C18.1M-1992	BATTERY SPECIFICATION	10-0457-0063



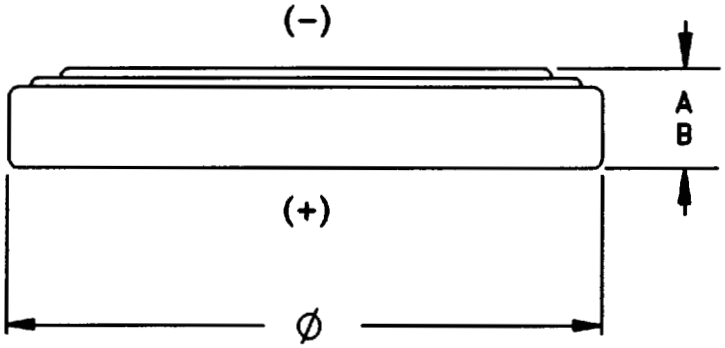
DIMENSION	MILLIMETERS	INCHES
A	1.6	.063
B	1.35	.053
Ø	11.6	.457
	11.25	.443

TERMINALS: CAP & CASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
SILVER OXIDE 1.5 VOLTS							
1177SO		30K	24 HRS/DAY	1.2	570 HRS	510 HRS	RATING TEST
		510K	24 HRS/DAY	1.2	410 DAYS	370 DAYS	WATCH

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ANSI C18.1M-1992	BATTERY SPECIFICATION	10-0457-0083



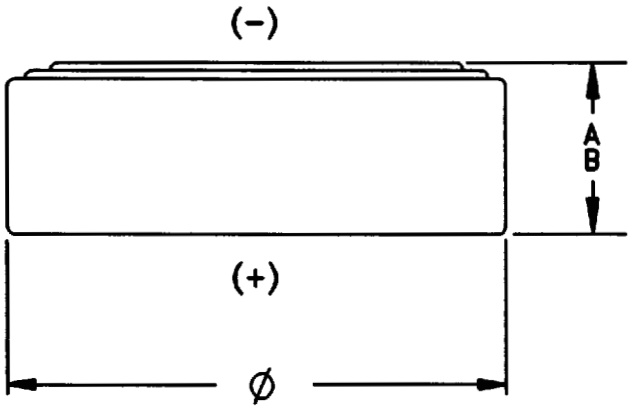
DIMENSION	MILLIMETERS	INCHES
A	2.1	.083
B	1.85	.073
Ø	11.6 11.25	.457 .443

TERMINALS: CAP & CASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
SILVER OXIDE 1.5 VOLTS							
1160SO	SR55 TR55	15K	24 HRS/DAY	1.2	410 HRS	370 HRS	RATING TEST
		270K	24 HRS/DAY	1.2	320 DAYS	290 DAYS	WATCH
1170SO	SR55 TR55	30K	24 HRS/DAY	1.2	790 HRS	710 HRS	RATING TEST
		270K	24 HRS/DAY	1.2	290 DAYS	260 DAYS	WATCH
ALKALINE MANGANESE DIOXIDE 1.5 VOLTS							
1169A	LR55	15K	24 HRS/DAY	0.9	400 HRS	360 HRS	RATING TEST
		270K	24 HRS/DAY	0.9	290 DAYS	260 DAYS	WATCH

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ANSI C18.1M-1992	BATTERY SPECIFICATION	10-0457-0120



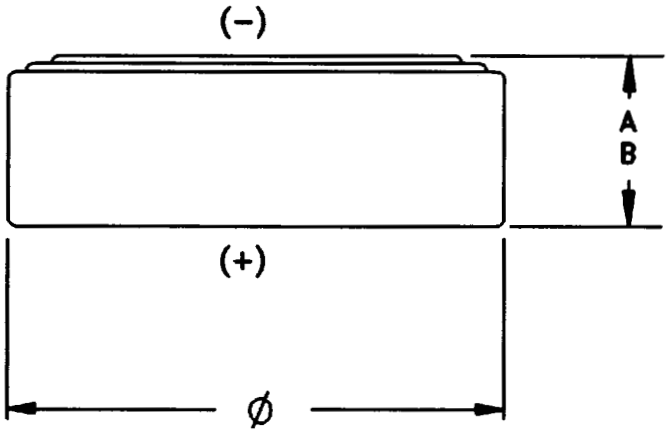
DIMENSION	MILLIMETERS	INCHES
A	3.05	.120
B	2.75	.108
Ø	11.6	.457
	11.25	.443

TERMINALS: CAP & CASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
SILVER OXIDE 1.5 VOLTS							
1138SO	SR54 TR54	15K	24 HRS/DAY	1.2	820 HRS	740 HRS	RATING TEST
		150K	24 HRS/DAY	1.2	335 DAYS	300 DAYS	WATCH
ALKALINE MANGANESE DIOXIDE 1.5 VOLTS							
1168A	LR54	15K	24 HRS/DAY	0.9	760 HRS	680 HRS	RATING TEST
		150K	24 HRS/DAY	0.9	300 DAYS	270 DAYS	WATCH

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ANSI C18.1M-1992	BATTERY SPECIFICATION	10-0457-0142



DIMENSION	MILLIMETERS	INCHES
A	3.6	.142
B	3.3	.130
Ø	11.6 11.25	.457 .443

TERMINALS: CAP & CASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
MERCURIC OXIDE 1.35 VOLTS							
1154M	MR42	15K	24 HRS/DAY	1.2	1200 HRS	1100 HRS	RATING TEST
		150K	24 HRS/DAY	1.2	400 DAYS	360 DAYS	WATCH
SILVER OXIDE 1.5 VOLTS							
1139SO	SR42	15K	24 HRS/DAY	1.2	700 HRS	600 HRS	RATING TEST
		150K	24 HRS/DAY	1.2	270 DAYS	230 DAYS	WATCH

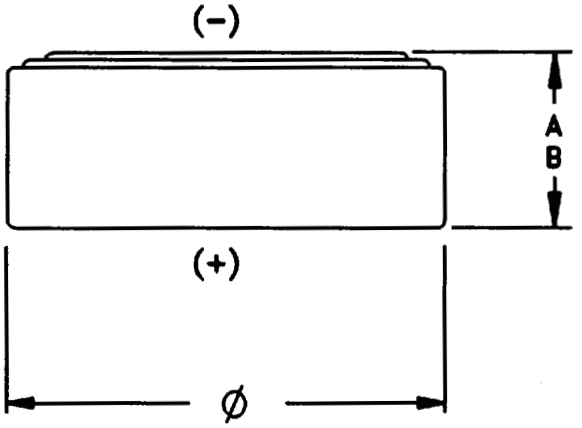
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ANSI C18.1M-1992	BATTERY SPECIFICATION	10-0457-0165

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
SILVER OXIDE 1.5 VOLTS							
1183SO	SR43	1K	12 HRS/DAY	0.9	75 HRS	70 HRS	HEARING AID
1132SO	SR43	15K	24 HRS/DAY	1.2	980 HRS	880 HRS	RATING TEST
		150K	24 HRS/DAY	1.2	370 DAYS	330 DAYS	WATCH
1133SO	SR43	15K	24 HRS/DAY	1.2	1100 HRS	990 HRS	RATING TEST
		150K	24 HRS/DAY	1.2	450 DAYS	400 DAYS	WATCH
ZINC AIR 1.4 VOLTS							
7001ZD	PR43	1K	12 HRS/DAY	0.9	245 HRS	240 HRS	HEARING AID

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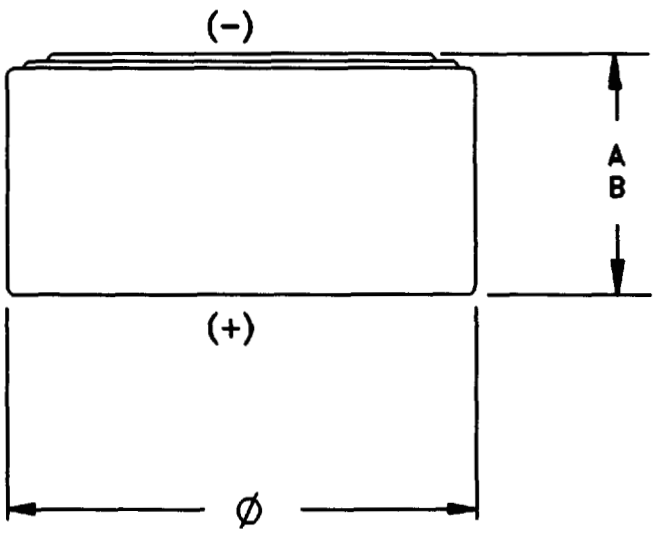
DIMENSION	MILLIMETERS	INCHES
A	4.2	.165
B	3.8	.150
Ø	11.6	.457
	11.25	.443

TERMINALS: CAP & CASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
ALKALINE MANGANESE DIOXIDE 1.5 VOLTS							
1167A	LR43	15K	24 HRS/DAY	0.9	1000 HRS	940 HRS	RATING TEST
		150K	24 HRS/DAY	0.9	430 DAYS	390 DAYS	WATCH
MERCURIC OXIDE 1.35 VOLTS							
1153M	MR43	15K	24 HRS/DAY	0.9	1680 HRS	1510 HRS	RATING TEST
		150K	24 HRS/DAY	0.9	460 DAYS	420 DAYS	WATCH
MERCURIC OXIDE WITH MANGANESE DIOXIDE 1.4 VOLTS							
1182M		1K	12 HRS/DAY	0.9	110 HRS	100 HRS	HEARING AID

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ANSI C18.1M-1992	BATTERY SPECIFICATION	10-0457-0213



DIMENSION	MILLIMETERS	INCHES
A	5.4	.213
B	5	.197
Ø	11.6	.457
	11.25	.443

TERMINALS: CAP & CASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
ALKALINE MANGANESE DIOXIDE 1.5 VOLTS							
1166A	LR44	15K	24 HRS/DAY	0.9	1370 HRS	1230 HRS	RATING TEST
		150K	24 HRS/DAY	0.9	570 DAYS	510 DAYS	WATCH
MERCURIC OXIDE 1.35 VOLTS							
1152M	MR44	6.8K	24 HRS/DAY	0.9	1000 HRS	900 HRS	RATING TEST
		56K	24 HRS/DAY	0.9	380 DAYS	340 DAYS	WATCH
1128MP	MR44	1.3K	24 HRS/DAY	0.9	180 HRS	160 HRS	RATING TEST

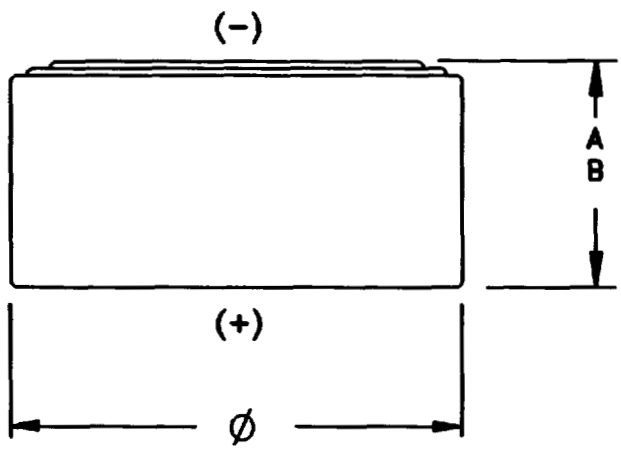
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ANSI C18.1M-1992	BATTERY SPECIFICATION	10-0457-0213

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
MERCURIC OXIDE WITH MANGANESE DIOXIDE 1.4 VOLTS							
1127M	NR44	620	12 HRS/DAY	0.9	90 HRS	80 HRS	HEARING AID
1127MD	NR44	620	12 HRS/DAY	0.9	100 HRS	90 HRS	HEARING AID
SILVER OXIDE 1.5 VOLTS							
1107SOP 1184SO	SR44	6.8K	24 HRS/DAY	1.2	700 HRS	630 HRS	RATING TEST
		620	12 HRS/DAY	0.9	65 HRS	60 HRS	HEARING AID
1131SO	SR44	6.8K	24 HRS/DAY	1.2	800 HRS	720 HRS	RATING TEST
		100K	24 HRS/DAY	1.2	490 DAYS	440 DAYS	WATCH
ZINC AIR 1.4 VOLTS							
7003ZD	PR44	620	12 HRS/DAY	0.9	195 HRS	190 HRS	HEARING AID

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ANSI C18.1M-1992	BATTERY SPECIFICATION	10-0457-0220



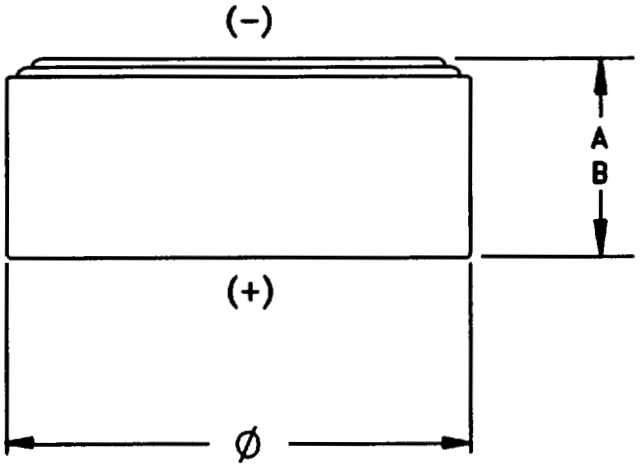
DIMENSION	MILLIMETERS	INCHES
A	5.6	.220
B	5.03	.198
Ø	11.6 11.25	.457 .443

TERMINALS: CAP & CASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
SILVER OXIDE 1.5 VOLTS							
1130SO		6.8K	24 HRS/DAY	1.2	680 HRS	620 HRS	RATING TEST
		100K	24 HRS/DAY	1.2	410 DAYS	370 DAYS	WATCH

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ANSI C18.1M-1992	BATTERY SPECIFICATION	10-0613-0245



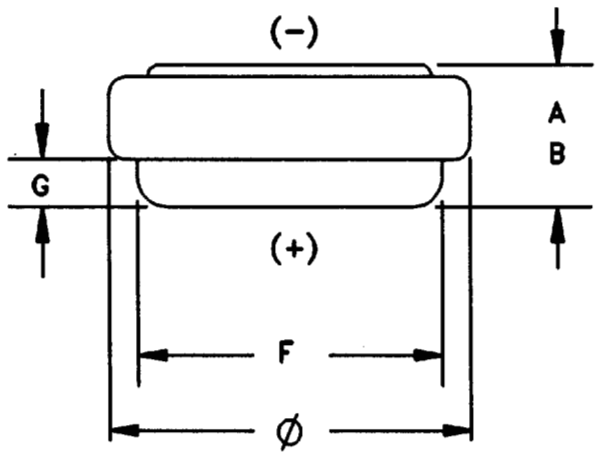
DIMENSION	MILLIMETERS	INCHES
A	6.22	.245
B	5.84	.230
Ø	15.57	.613
	15.42	.607

TERMINALS: CAP & CASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
ZINC AIR 1.4 VOLTS							
7007Z		330	24 HRS/DAY	1.0	230 HRS	200 HRS	PAGER

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ANSI C18.1M-1992	BATTERY SPECIFICATION	10-0630-0244



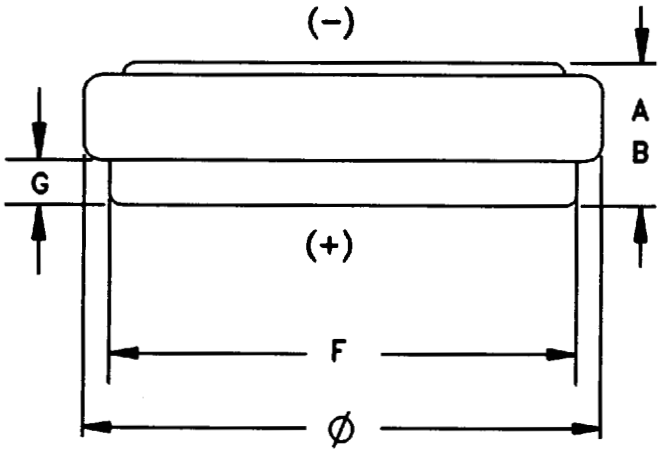
DIMENSION	MILLIMETERS	INCHES
A	6.2	.244
B	5.6	.220
F	13.5 MAX	.531 MAX
G	2 MIN	.079 MIN
Ø	16	.630
	15	.591

TERMINALS: CAP & CASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
MERCURIC OXIDE 1.35 VOLTS							
1114MP 1124MP 1123M	MR9	620	24 HRS/DAY	0.9	100 HRS	90 HRS	RATING TEST
		2400	24 HRS/DAY	0.9	450 HRS	400 HRS	ELECTRONIC

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ANSI C18.1M-1992	BATTERY SPECIFICATION	10-0913-0240



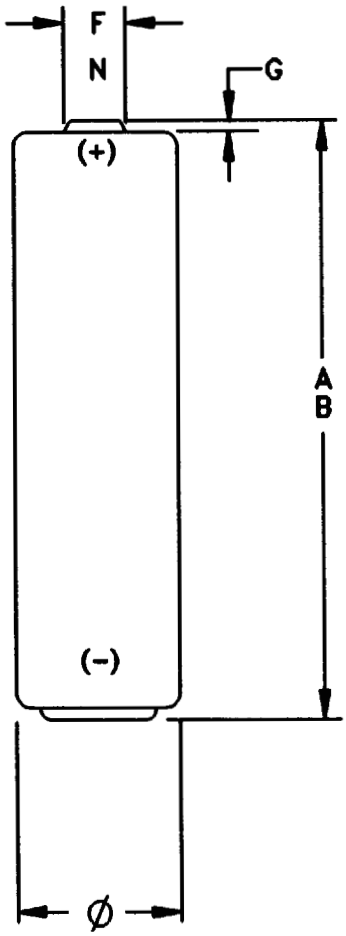
DIMENSION	MILLIMETERS	INCHES
A B	6.1 5.4	.240 .213
F	20.9 MAX	.822 MAX
G	2.1 MIN	.083 MIN
Ø	23.2 22.6	.913 .890

TERMINALS: CAP & CASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
ALKALINE MANGANESE DIOXIDE 1.5 VOLTS							
1129AP	LR53	150	24 HRS/DAY	0.9	16 HRS	13 HRS	RATING TEST

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DIMENSION	MILLIMETERS	INCHES
A B	44.5 42.5	1.752 1.673
F N	3.8 2	.150 .079
G MIN	0.8	.031
Ø	10.5 9.5	.413 .374

TERMINALS: CAP & BASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
ALKALINE MANGANESE DIOXIDE (1.5 VOLTS)							
24A 24AC	LR03	3.6	15 SEC/MIN 24 HRS	0.9	450 PULSES	405 PULSES	PULSE TEST (PHOTO)
		5.1	4 MIN/HR 8 HRS/DAY	0.9	125 MIN	112 MIN	PORTABLE LIGHTING
		10	1 HR/DAY	0.9	5.5 HRS	5 HRS	PERSONAL TAPE RECORDER & CASSETTE PLAYER
		75	4 HRS/DAY	0.9	48 HRS	43 HRS	TRANSISTOR RADIO

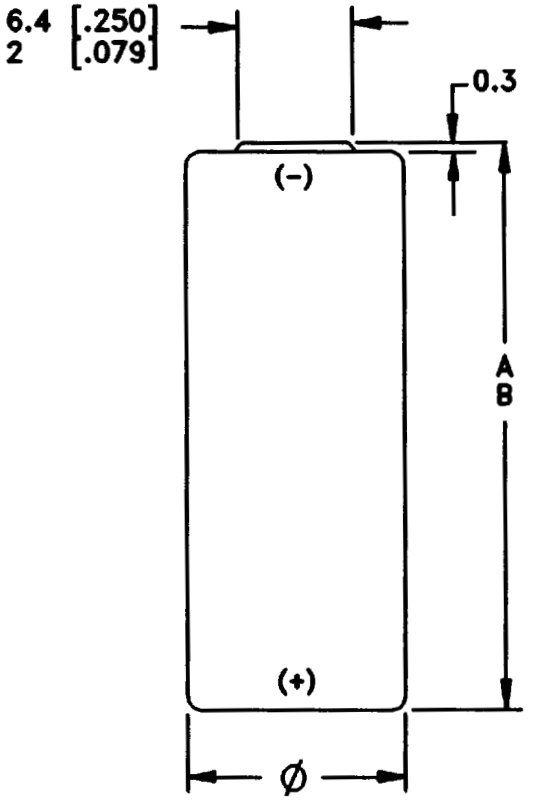
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ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
CARBON ZINC (1.5 VOLTS)							
24F	R03	3.6	15 SEC/MIN 24 HRS	0.9	170 PULSES	136 PULSES	PULSE TEST (PHOTO)
		5.1	4 MIN/HR 8 HRS/DAY	0.9	60 MIN	48 MIN	PORTABLE LIGHTING
		10	1 HR/DAY	0.9	1.6 HRS	1.3 HRS	PERSONAL TAPE RECORDER & CASSETTE PLAYER
		75	4 HRS/DAY	0.9	24 HRS	19.2 HRS	TRANSISTOR RADIO

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ANSI C18.1M-1992	BATTERY SPECIFICATION	20-0470-1140



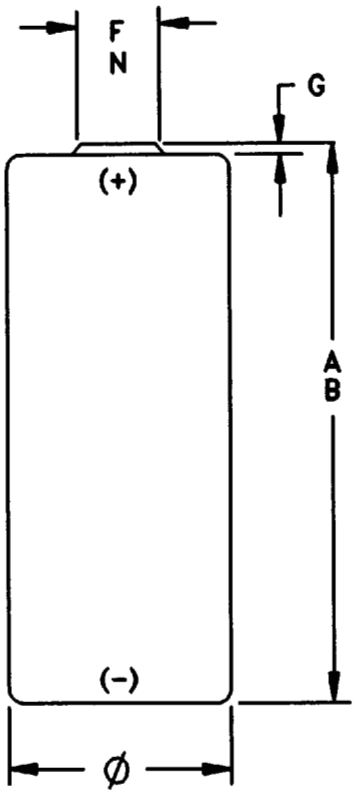
DIMENSION	MILLIMETERS	INCHES
A	28.95	1.140
B	28	1.102
Ø	11.94 11.2	.470 .440

TERMINALS: CAP & BASE (SEE 10.1.3)
MILLIMETERS [INCHES]

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
MERCURIC OXIDE WITH MANGANESE DIOXIDE (1.4 VOLTS)							
910M		51	24 HRS/DAY	0.9	29 HRS	27 HRS	ELECTRONIC
		82	24 HRS/DAY	0.9	44 HRS	40 HRS	ELECTRONIC
		300	24 HRS/DAY	0.9	180 HRS	170 HRS	HEARING AID
MERCURIC OXIDE (1.35 VOLTS)							
1117M		51	24 HRS/DAY	0.9	29 HRS	27 HRS	ELECTRONIC
		82	24 HRS/DAY	0.9	44 HRS	40 HRS	ELECTRONIC

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ANSI C18.1M-1992	BATTERY SPECIFICATION	20-0472-1145



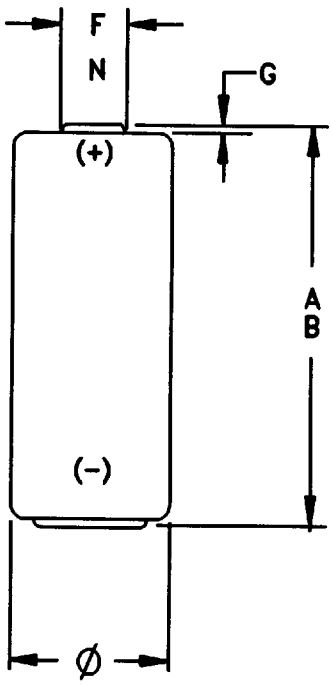
DIMENSION	MILLIMETERS	INCHES
A	29.1	1.145
B	28	1.102
F	4.5	.177
N	2	.079
G MIN	0.3	.012
Ø	12	.472
	10.7	.421

TERMINALS: CAP & BASE (SEE 10.1.3)

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
MERCURIC OXIDE WITH MANGANESE DIOXIDE (1.4 VOLTS)							
1118M 1118MD		51	24 HRS/DAY	0.9	38 HRS	35 HRS	ELECTRONIC

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ANSI C18.1M-1992	BATTERY SPECIFICATION	20-0472-1189



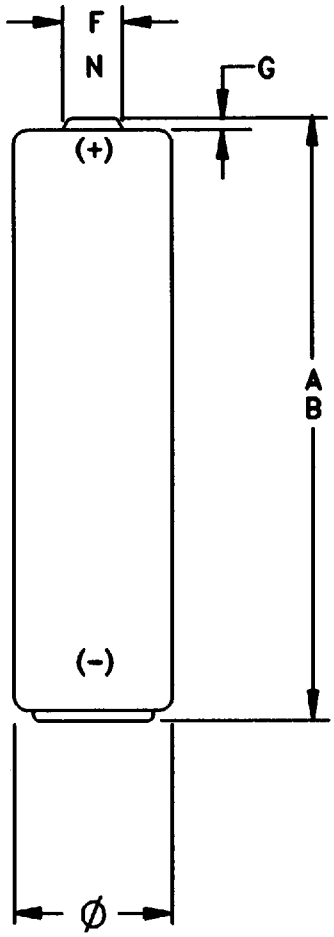
DIMENSION	MILLIMETERS	INCHES
A	30.2	1.189
B	28	1.102
F	4.5	.177
N	2	.079
G MIN	0.3	.012
Ø	12	.472
	10	.421

TERMINALS: CAP & BASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
ALKALINE MANGANESE DIOXIDE (1.5 VOLTS)							
910A	LR1	5.1	5 MIN/DAY	0.9	120 MIN	108 MIN	PORTABLE LIGHTING
		300	12 HR/DAY	0.9	130 HRS	117 HRS	HEARING AID

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ANSI C18.1M-1992	BATTERY SPECIFICATION	20-0571-1988



DIMENSION	MILLIMETERS	INCHES
A	50.5	1.988
B	49	1.929
F	5.5	.217
N	4.2	.165
G MIN	1	.039
Ø	14.5	.571
	13.5	.531

TERMINALS: CAP & BASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
ALKALINE MANGANESE DIOXIDE (1.5 VOLTS)							
15A 15AC	LR6	1.8	15 SEC/MIN, 24 HRS/DAY	0.9	360 PULSES	324 PULSES	PULSE TEST (PHOTO)
		3.9	1 HR/DAY	0.8	5 HRS	4.5 HRS	MOTOR & TOYS
		10	1 HR/DAY	0.9	13.5 HRS	12 HRS	PERSONAL TAPE RECORDER & CASSETTE PLAYER
		75	4 HRS/DAY	0.9	115 HRS	104 HRS	TRANSISTOR RADIO

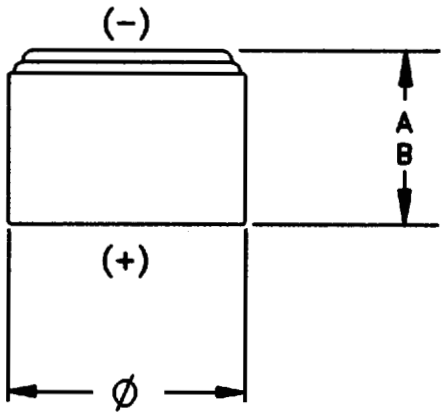
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ANSI C18.1M-1992	BATTERY SPECIFICATION	20-0571-1988

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
CARBON ZINC (1.5 VOLTS)							
15CD 15D	R6C R6P	1.8	15 SEC/MIN, 24 HRS/DAY	0.9	50 PULSES	40 PULSES	PULSE TEST (PHOTO)
		3.9	1 HR/DAY	0.8	1.2 HRS	1.0 HRS	MOTOR & TOYS
		10	1 HR/DAY	0.9	4.3 HRS	3.4 HRS	PERSONAL TAPE RECORDER & CASSETTE PLAYER
		75	4 HRS/DAY	0.9	52 HRS	42 HRS	TRANSISTOR RADIO
15C 15F	R6S	1.8	15 SEC/MIN, 24 HRS/DAY	0.9	25 PULSES	20 PULSES	PULSE TEST (PHOTO)
		3.9	1 HR/DAY	0.8	.5 HRS	.4 HRS	MOTOR & TOYS
		10	1 HR/DAY	0.9	2.5 HRS	2 HRS	PERSONAL TAPE RECORDER & CASSETTE PLAYER
		75	4 HRS/DAY	0.9	40 HRS	32 HRS	TRANSISTOR RADIO

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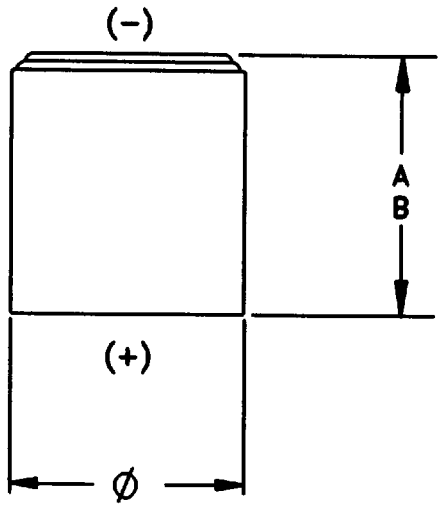
DIMENSION	MILLIMETERS	INCHES
A	11.18	.440
B	10.6	.417
Ø	15.88	.625
	15.5	.610

TERMINALS: CAP & CASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
MERCURIC OXIDE 1.35 VOLTS							
1126MP	MR52	270	24 HRS/DAY	0.9	100 HRS	90 HRS	RATING TEST
		1300	24 HRS/DAY	0.9	500 HRS	450 HRS	ELECTRONIC
MERCURIC OXIDE WITH MANGANESE DIOXIDE 1.4 VOLTS							
1105M	NR52	51	24 HRS/DAY	0.9	20 HRS	18 HRS	ELECTRONIC
		330	24 HRS/DAY	0.9	130 HRS	120 HRS	ELECTRONIC

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ANSI C18.1M-1992	BATTERY SPECIFICATION	20-0625-0661



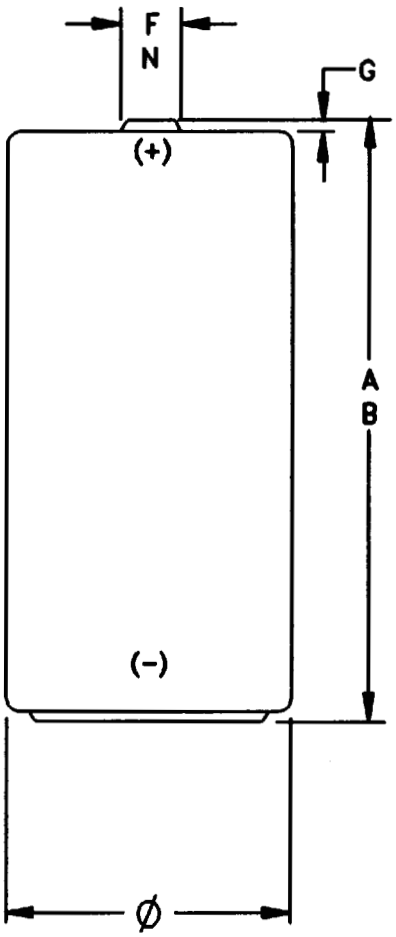
DIMENSION	MILLIMETERS	INCHES
A	16.8	.661
B	16	.630
Ø	15.88	.625
	15.5	.610

TERMINALS: CAP & CASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
MERCURIC OXIDE 1.35 VOLTS							
1109M	MR50	27	24 HRS/DAY	0.9	18 HRS	16 HRS	RATING TEST
		220	24 HRS/DAY	0.9	180 HRS	160 HRS	ELECTRONIC
1110MP	MR50	1300	24 HRS/DAY	0.9	900 HRS	850 HRS	RATING TEST
MERCURIC OXIDE WITH MANGANESE DIOXIDE 1.4 VOLTS							
1100M	NR50	27	24 HRS/DAY	0.9	18 HRS	16 HRS	RATING TEST
		220	24 HRS/DAY	0.9	180 HRS	160 HRS	ELECTRONIC

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ANSI C18.1M-1992	BATTERY SPECIFICATION	20-1031-1969



DIMENSION	MILLIMETERS	INCHES
A B	50 48.5	1.969 1.909
F N	7.5 5.5	.295 .217
G MIN	1.5	.059
Ø	26.2 24.7	1.031 .972

TERMINALS: CAP & BASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
ALKALINE MANGANESE DIOXIDE (1.5 VOLTS)							
14A 14AC	LR14	3.9	4 MIN/HR, 8 HRS/DAY	0.9	830 MIN	737 MIN	PORTABLE LIGHTING
		3.9	1 HR/DAY	0.8	14.5 HRS	13 HRS	TOYS
		6.8	1 HR/DAY	0.9	24 HRS	22 HRS	TAPE RECORDER
		39	4 HRS/DAY	0.9	160 HRS	144 HRS	TRANSISTOR RADIO

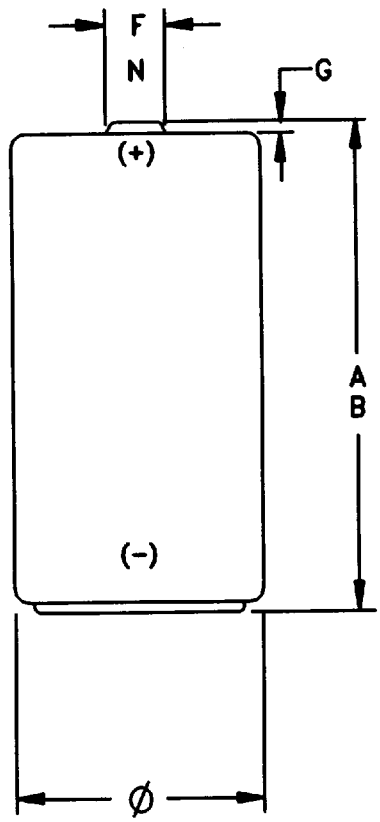
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ANSI C18.1M-1992	BATTERY SPECIFICATION	20-1031-1969

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
CARBON ZINC (1.5 VOLTS)							
14CD 14D	R14P R14C	3.9	4 MIN/HR, 8 HRS/DAY	0.9	300 MIN	240 MIN	PORTABLE LIGHTING
		3.9	1 HR/DAY	0.8	4.8 HRS	3.8 HRS	TOYS
		6.8	1 HR/DAY	0.9	8 HRS	6.4 HRS	TAPE RECORDER
		39	4 HRS/DAY	0.9	70 HRS	56 HRS	TRANSISTOR RADIO
14C 14F	R14S	3.9	4 MIN/HR, 8 HRS/DAY	0.9	120 MIN	96 MIN	PORTABLE LIGHTING
		3.9	1 HR/DAY	0.8	1.5 HRS	1.2 HRS	TOYS
		6.8	1 HR/DAY	0.9	3 HRS	2.4 HRS	TAPE RECORDER
		39	4 HRS/DAY	0.9	50 HRS	40 HRS	TRANSISTOR RADIO

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ANSI C18.1M-1992	BATTERY SPECIFICATION	20-1346-2421



DIMENSION	MILLIMETERS	INCHES
A B	61.5 59.5	2.421 2.343
F N	9.5 7.8	.374 .307
G MIN	1.5	.059
Ø	34.2 32.2	1.346 1.268

TERMINALS: CAP & BASE

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
ALKALINE MANGANESE DIOXIDE (1.5 VOLTS)							
13A 13AC	LR20	2.2	4 MIN/HR, 8 HRS/DAY	0.9	800 MIN	720 MIN	PORTABLE LIGHTING
		2.2	1 HR/DAY	0.8	15.5 HRS	13.9 HRS	TOYS
		3.9	1 HR/DAY	0.9	26 HRS	23.5 HRS	TAPE RECORDER
		39	4 HRS/DAY	0.9	375 HRS	338 HRS	TRANSISTOR RADIO

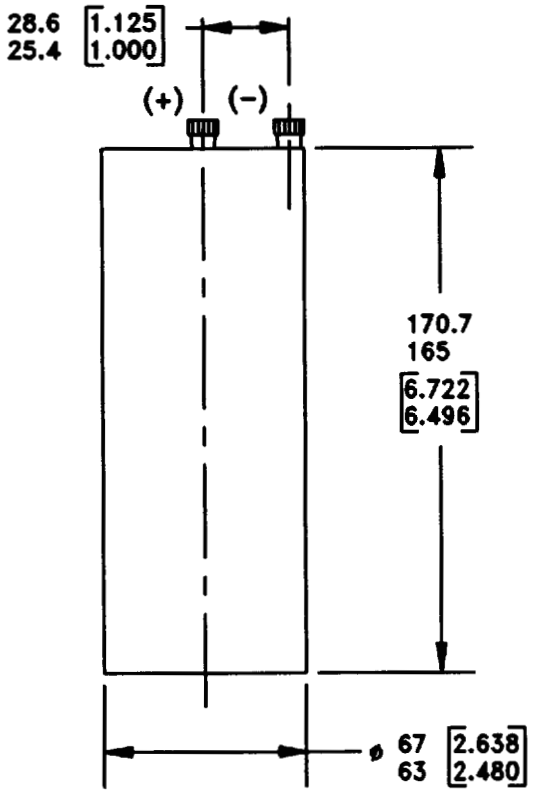
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ANSI C18.1M-1992	BATTERY SPECIFICATION	20-1346-2421

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
CARBON ZINC (1.5 VOLTS)							
13CD 13D	R20C R20P	2.2	4 MIN/HR, 8 HRS/DAY	0.9	300 MIN	240 MIN	PORTABLE LIGHTING
		2.2	1 HR/DAY	0.8	4 HRS	3.2 HRS	TOYS
		3.9	1 HR/DAY	0.9	8 HRS	6.4 HRS	TAPE RECORDER
		39	4 HRS/DAY	0.9	170 HRS	136 HRS	TRANSISTOR RADIO
13C 13F	R20S	2.2	4 MIN/HR, 8 HRS/DAY	0.9	110 MIN	88 MIN	PORTABLE LIGHTING
		2.2	1 HR/DAY	0.8	1.5 HRS	1.2 HRS	TOYS
		3.9	1 HR/DAY	0.9	2.5 HRS	2 HRS	TAPE RECORDER
		39	4 HRS/DAY	0.9	120 HRS	96 HRS	TRANSISTOR RADIO

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ANSI C18.1M-1992	BATTERY SPECIFICATION	20-2638-6722



TERMINALS: No. 8-32 KNURLED NUT AND SCREW (SEE 10.1.1)

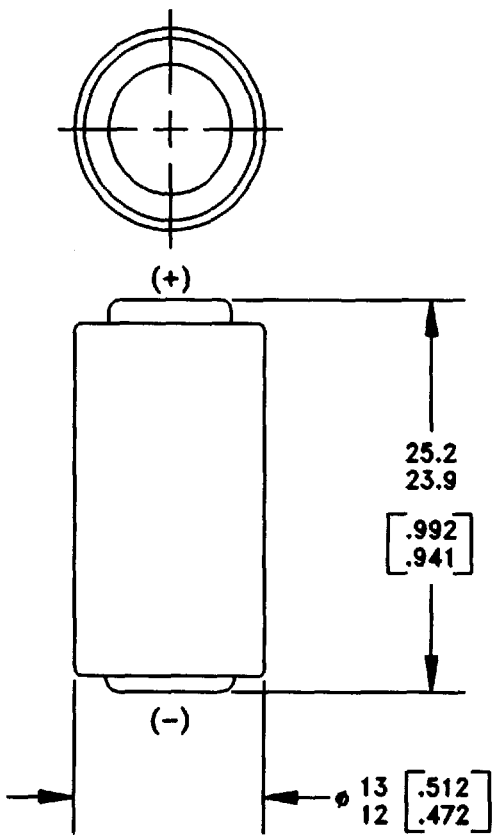
MILLIMETERS [INCHES]

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
CARBON ZINC (1.5 VOLTS)							
905	R40	2.7	1 hr on, 6 hrs off, 1 hr on, 16 hrs off/day.	0.85	60 hrs	54 hrs	Telephone
906	R40	6.8	4 mins/hr. 10 hrs/day.	0.93	200 days	–	Telephone
		2.7	1 hr on, 6 hrs off, 1 hr on, 16 hrs off/day.	0.85	90 hrs	80 hrs	Telephone

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ANSI C18.1M-1992	BATTERY SPECIFICATION	30-0512-0992

TERMINALS: FLAT



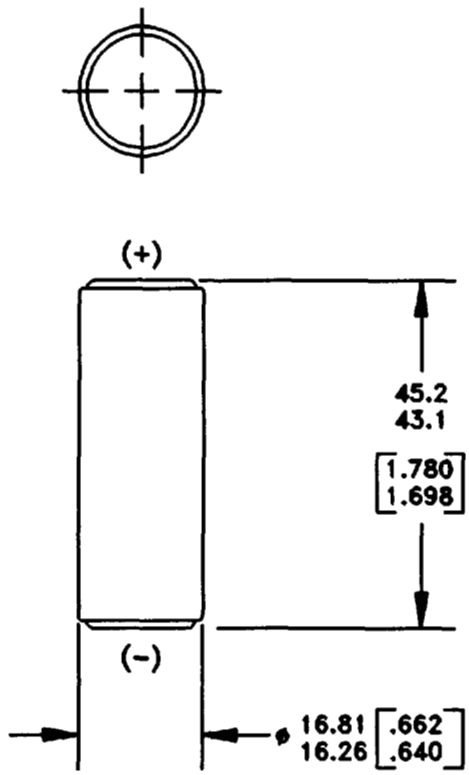
MILLIMETERS [INCHES]

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
SILVER OXIDE 6 VOLTS							
1406SOP	4SR44	30K	24 HRS/DAY	3.6	800 HRS	700 HRS	RATING TEST
ALKALINE MANGANESE DIOXIDE 6 VOLTS							
1414A	4LR44	30K	24 HRS/DAY	3.6	700 HRS	650 HRS	RATING TEST

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ANSI C18.1M-1992	BATTERY SPECIFICATION	30-0662-1780

TERMINALS: FLAT



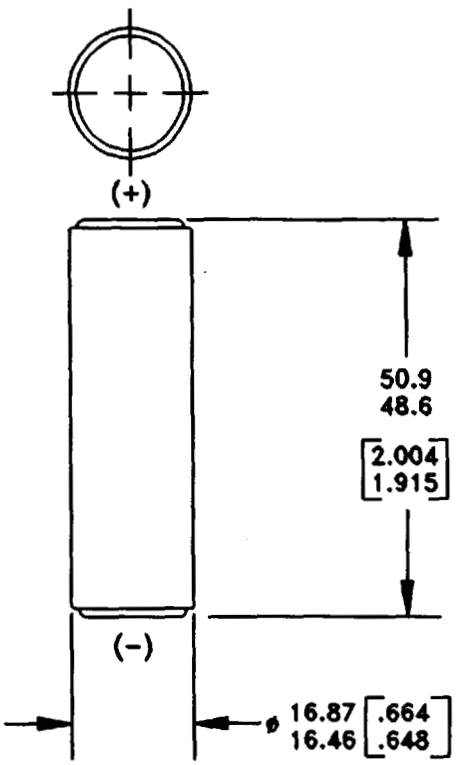
MILLIMETERS [INCHES]

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
MERCURIC OXIDE WITH MANGANESE DIOXIDE 5.6 VOLTS							
1404M		200	24 HRS/DAY	3.6	20 HRS	18 HRS	RATING TEST
		1300	24 HRS/DAY	3.6	130 HRS	120 HRS	ELECTRONIC

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ANSI C18.1M-1992	BATTERY SPECIFICATION	30-0664-2004

TERMINALS: FLAT



MILLIMETERS [INCHES]

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
ALKALINE MANGANESE DIOXIDE 4.5 VOLTS							
1306AP		270	4 HRS/DAY	2.7	30 HRS	25 HRS	ELECTRONIC
MERCURIC OXIDE WITH MANGANESE DIOXIDE 4.2 VOLTS							
1306M		82	24 HRS/DAY	2.7	18 HRS	16 HRS	ELECTRONIC
		680	24 HRS/DAY	2.7	180 HRS	170 HRS	ELECTRONIC

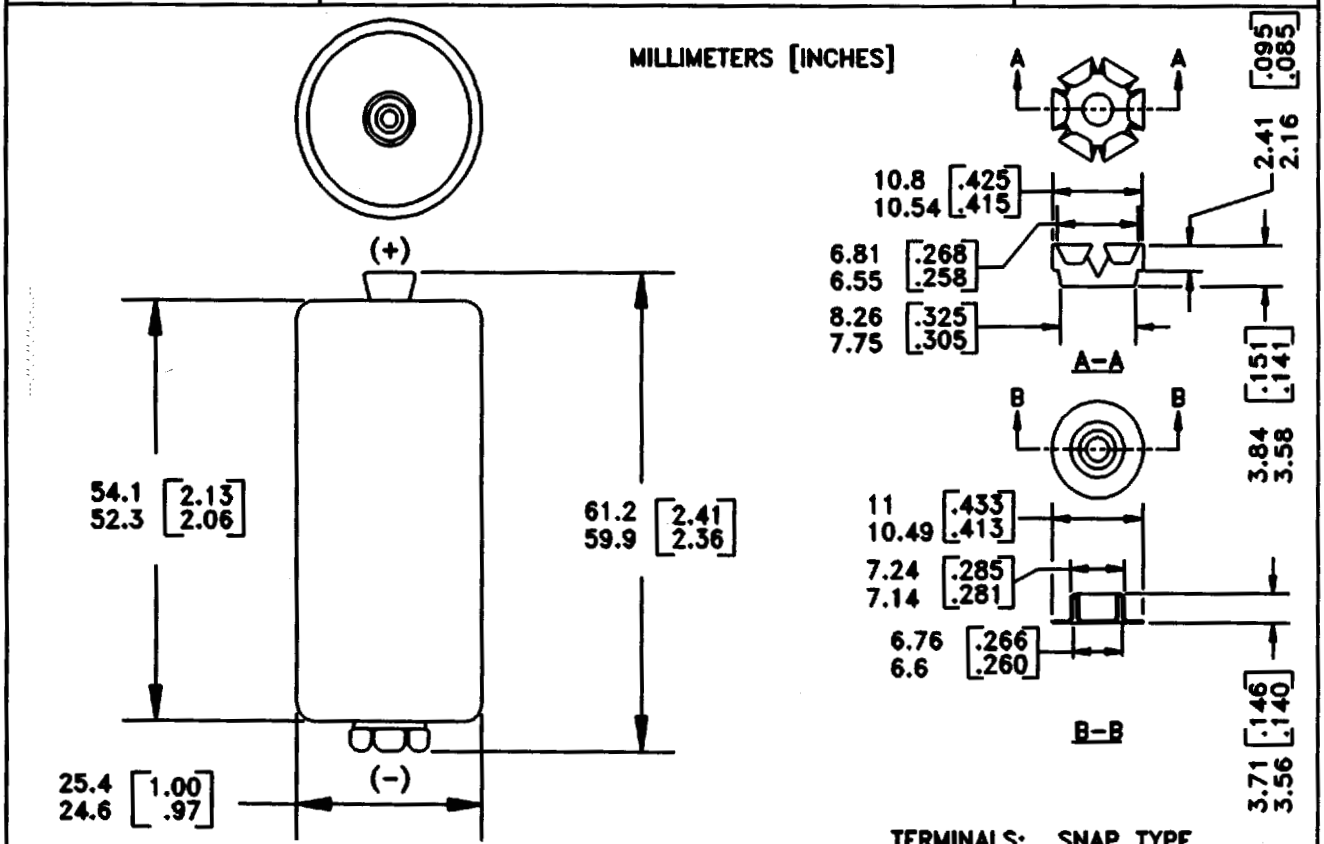
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ANSI C18.1M-1992	BATTERY SPECIFICATION	30-0664-2004

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
MERCURIC OXIDE 4.05 VOLTS							
1314M		82	24 HRS/DAY	2.7	18 HRS	16 HRS	ELECTRONIC
		680	24 HRS/DAY	2.7	180 HRS	170 HRS	ELECTRONIC

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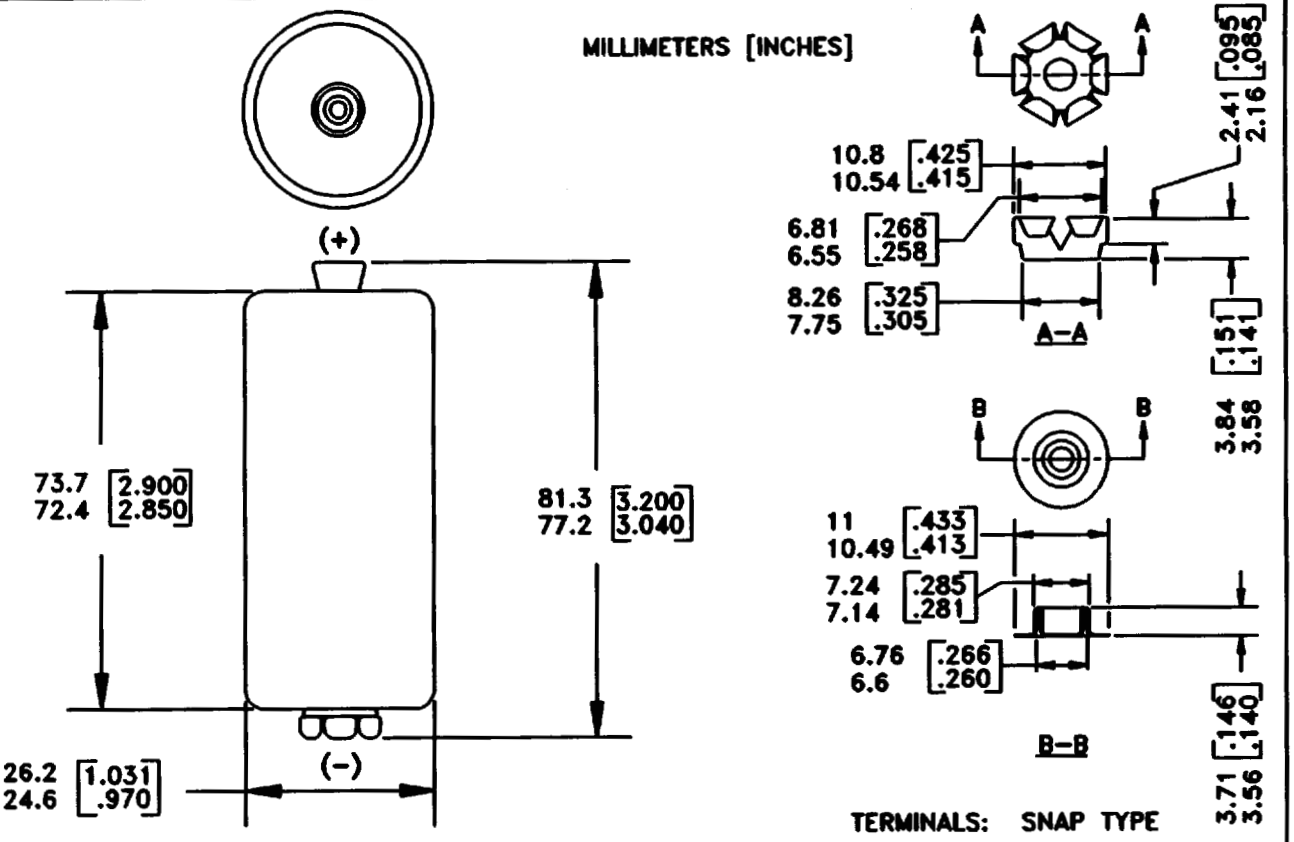
ANSI C18.1M–1992	BATTERY SPECIFICATION	30–1000–2130



ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
MERCURIC OXIDE WITH MANGANESE DIOXIDE 12.6 VOLTS							
1810M		750	24 HRS/DAY	8.1	45 HRS	40 HRS	ELECTRONIC

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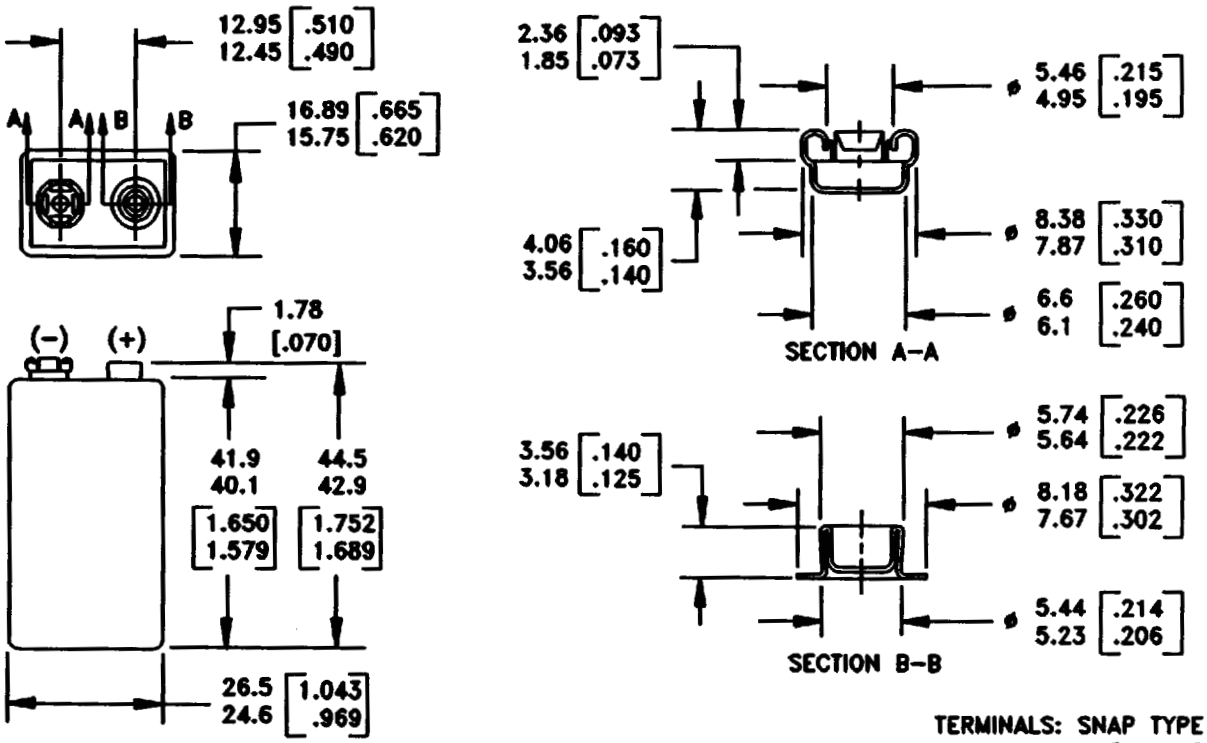
ANSI C18.1M-1992	BATTERY SPECIFICATION	30-1031-2900



ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
MERCURIC OXIDE WITH MANGANESE DIOXIDE 11.2 VOLTS							
1801M		200	24 HRS/DAY	7.2	18 HRS	16 HRS	ELECTRONIC

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ANSI C18.1M–1992	BATTERY SPECIFICATION	40–1650–0000

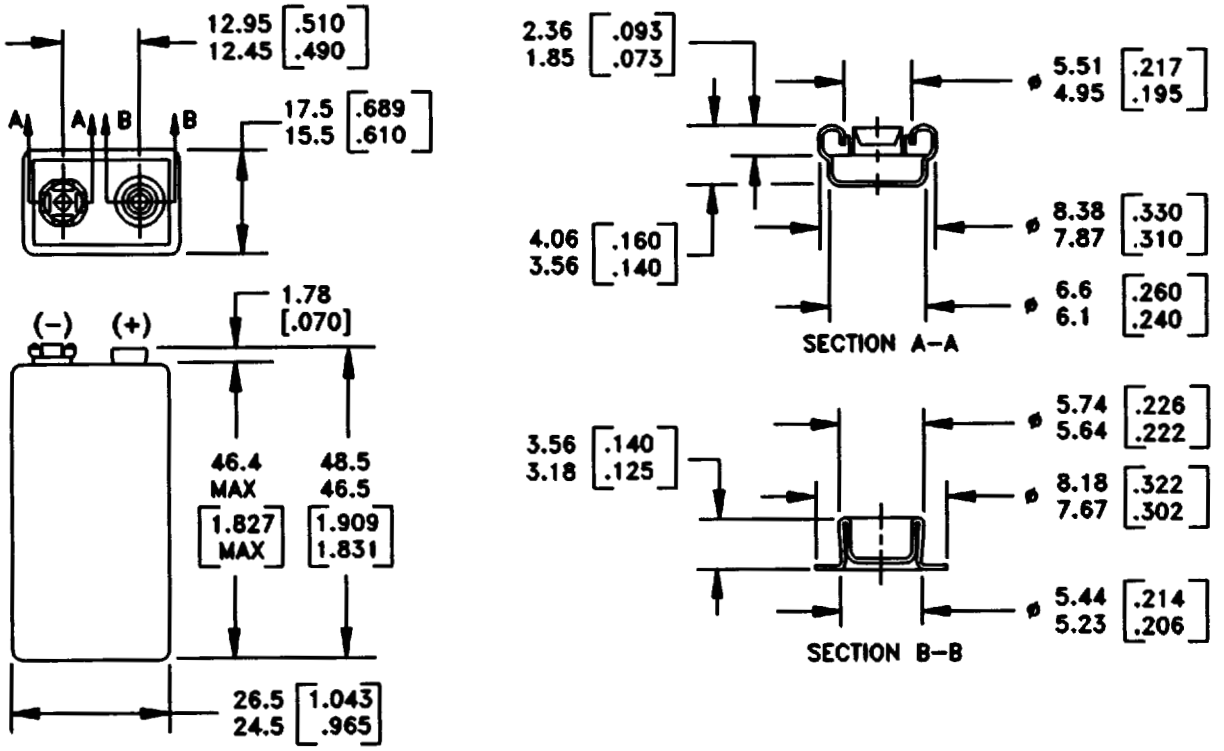


TERMINALS: SNAP TYPE
MILLIMETERS [INCHES]

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
MERCURIC OXIDE WITH MANGANESE DIOXIDE (8.4 VOLTS)							
1604M 1604MC		510	24 HRS/DAY	5.4	35 HRS	30 HRS	ELECTRONIC
ZINC AIR (8.4 VOLTS)							
7004Z		1300	24 HRS/DAY	6.0	150 HRS	130 HRS	ELECTRONIC

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ANSI C18.1M-1992	BATTERY SPECIFICATION	40-1827-0000

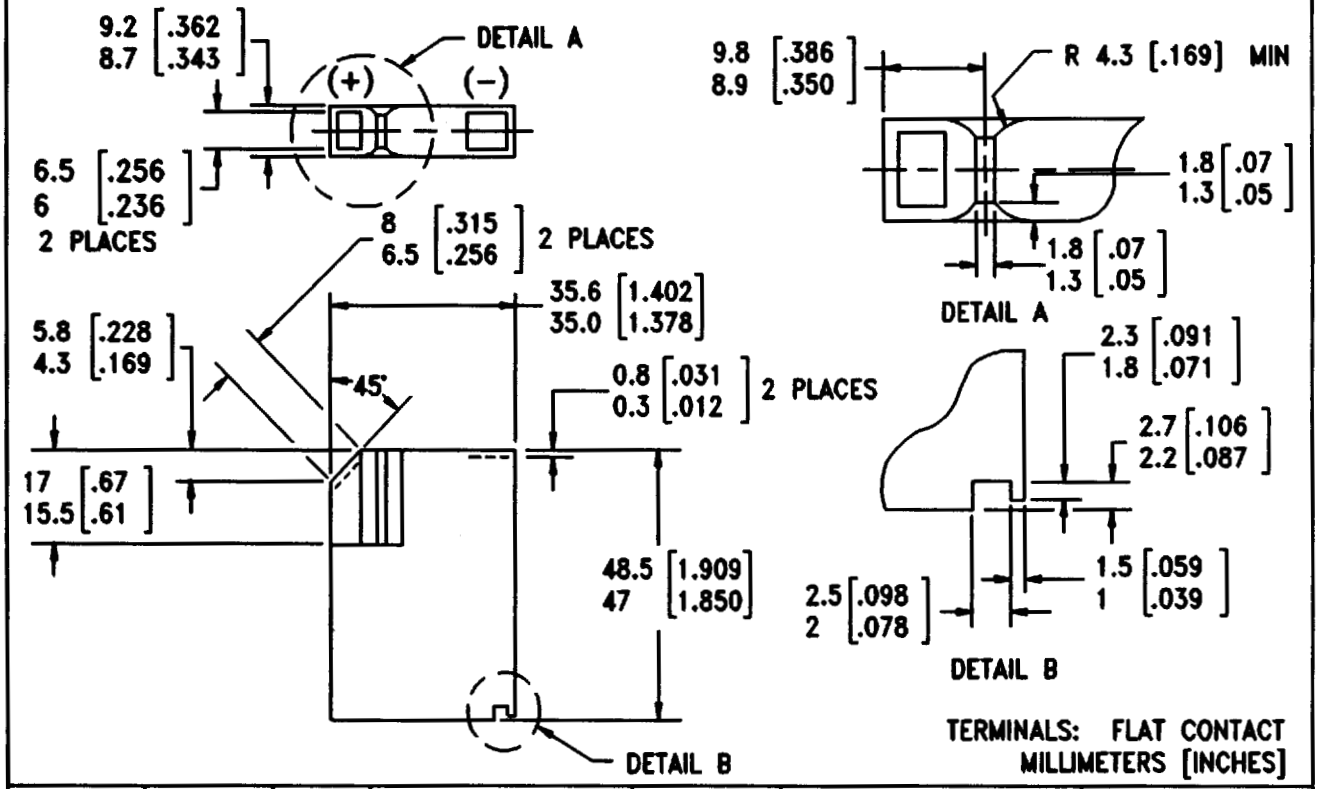


TERMINALS: SNAP TYPE
MILLIMETERS [INCHES]

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
ALKALINE MANGANESE DIOXIDE (9 VOLTS)							
1604A 1604AC	6LR61	180	1 HR/DAY	5.4	10 HRS	9 HRS	TAPE RECORDER
		180	30 MIN/DAY	4.8	10.5 HRS	9.5 HRS	POCKET CALCULATOR
		270	1 HR/DAY	5.4	12 HRS	11 HRS	TOY
		620	2 HRS/DAY	5.4	38 HRS	34 HRS	TRANSISTOR RADIO
CARBON ZINC (9 VOLTS)							
1604 1604C	6F22	180	1 HR/DAY	5.4	3 HRS	2.4 HRS	TAPE RECORDER
		180	30 MIN/DAY	4.8	5.7 HRS	4.6 HRS	POCKET CALCULATOR
		270	1 HR/DAY	5.4	7 HRS	6 HRS	TOY
		620	2 HRS/DAY	5.4	21.5 HRS	17.2 HRS	TRANSISTOR RADIO
1604D 1604CD	6F22	180	1 HR/DAY	5.4	4 HRS	3.2 HRS	TAPE RECORDER
		180	30 MIN/DAY	4.8	6.5 HRS	5.2 HRS	POCKET CALCULATOR
		270	1 HR/DAY	5.4	9 HRS	7 HRS	TOY
		620	2 HRS/DAY	5.4	25.4 HRS	20.3 HRS	TRANSISTOR RADIO

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ANSI C18.1M–1992	BATTERY SPECIFICATION	40–1909–0000

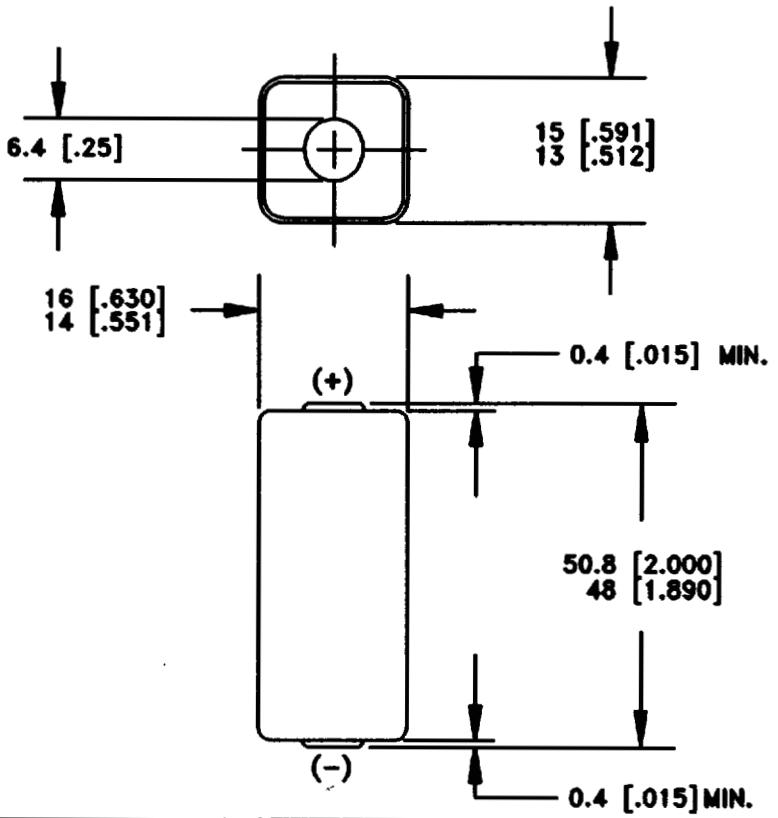


ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
ALKALINE MANGANESE DIOXIDE (6.0 VOLTS)							
1412AP	4LR61	330	24 HRS/DAY	3.6	24 HRS	22 HRS	ELECTRONIC EQUIPMENT
		6.8K	24 HRS/DAY	3.6	700 HRS	630 HRS	RATING TEST

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ANSI C18.1M-1992	BATTERY SPECIFICATION	40-2000-0000

TERMINALS: FLAT



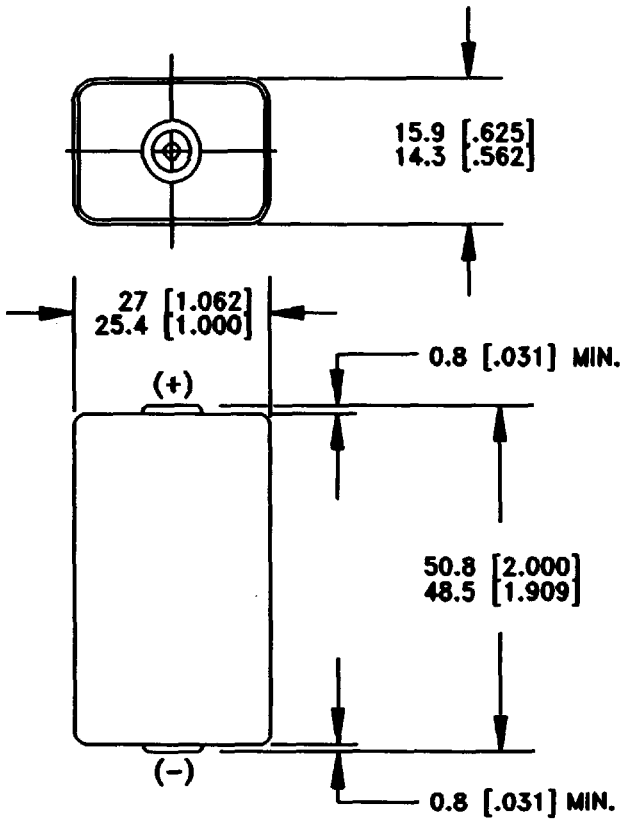
MILLIMETERS [INCHES]

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
CARBON ZINC 22.5 VOLTS							
221	15F15	22K	4 HRS/DAY	13.5	100 HRS	80 HRS	ELECTRONIC

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ANSI C18.1M-1992	BATTERY SPECIFICATION	40-2000-1000

TERMINALS: FLAT



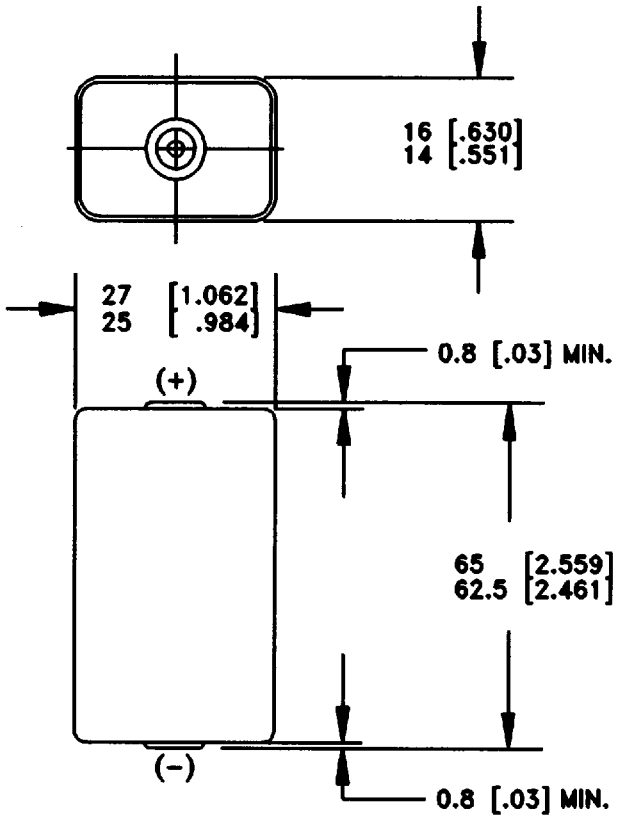
MILLIMETERS [INCHES]

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
CARBON ZINC 22.5 VOLTS							
215	15F20	22K	4 HRS/DAY	13.5	140 HRS	120 HRS	ELECTRONIC

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ANSI C18.1M-1992	BATTERY SPECIFICATION	40-2559-0000

TERMINALS: FLAT

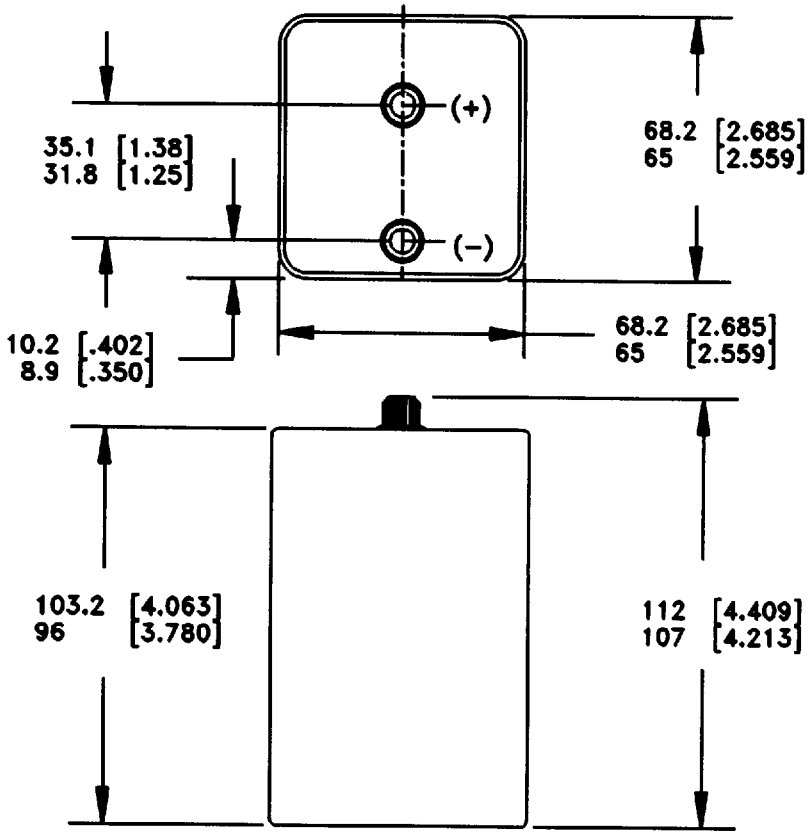


MILLIMETERS [INCHES]

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
CARBON ZINC 30 VOLTS							
210	20F20	30K	4 HRS/DAY	18.0	130 HRS	100 HRS	ELECTRONIC

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ANSI C18.1M-1992	BATTERY SPECIFICATION	40-4063-1000



TERMINALS:
No. 8-32 TERMINAL POSTS WITH KNURL NUTS.

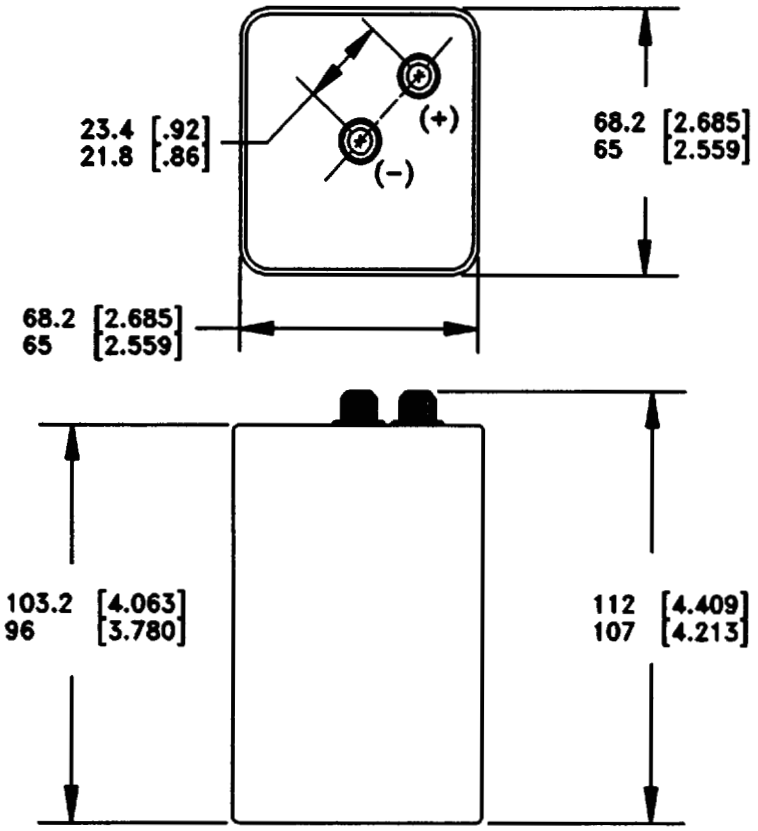
THIS BATTERY WITH ROUNDED OR BEVELLED CORNERS SHALL PASS FREELY THROUGH A GAUGE HAVING A DIAMETER OF 82.6 [3.250].

MILLIMETERS [INCHES]

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
CARBON ZINC 1.5 VOLTS							
900		2.2	30 MIN/HR-8 HRS/DAY	0.65	50 HRS	40 HRS	PORT. LIGHT

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ANSI C18.1M-1992	BATTERY SPECIFICATION	40-4063-2000



TERMINALS:
No. 8-32 TERMINAL POSTS WITH KNURL NUTS.

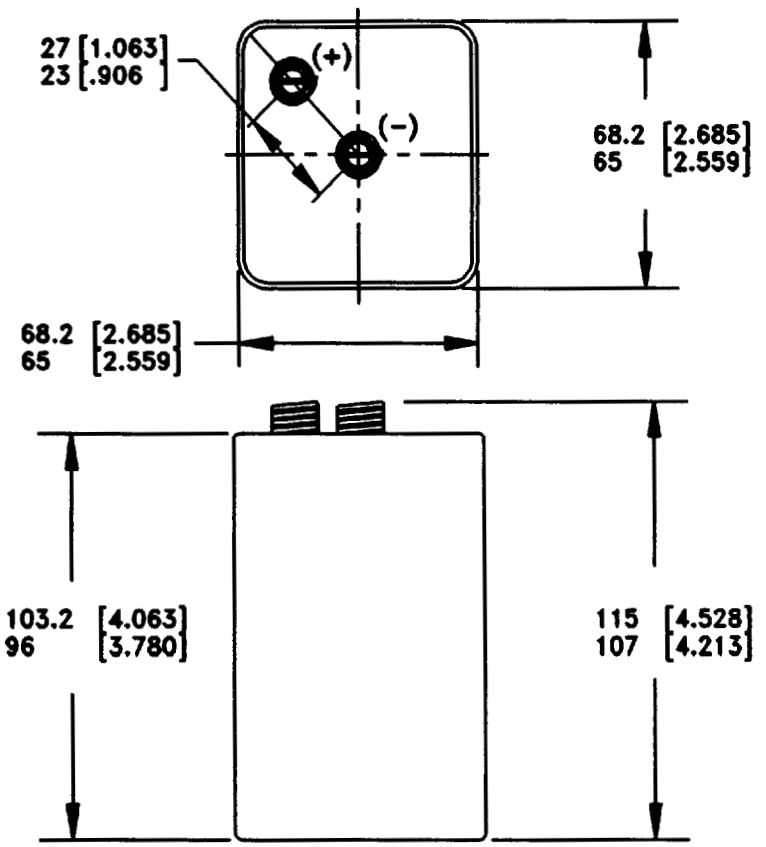
THIS BATTERY WITH ROUNDED OR BEVELLED CORNERS SHALL PASS FREELY THROUGH A GAUGE HAVING A DIAMETER OF 82.6 [3.250].

MILLIMETERS [INCHES]

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
ALKALINE MANGANESE DIOXIDE 6 VOLTS							
915 A 915 AC		9.1	30 MIN/HR- 8 HRS/DAY	2.6	30 HRS	27 HRS	PORT. LIGHT
		33	30 MIN/HR- 8 HRS/DAY	3.6	85 HRS	70 HRS	PORT. LIGHT
CARBON ZINC 6 VOLTS							
915 915C 915D		9.1	30 MIN/HR- 8 HRS/DAY	2.6	9 HRS	8 HRS	PORT. LIGHT
		33	30 MIN/HR- 8 HRS/DAY	3.6	35 HRS	30 HRS	PORT. LIGHT

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ANSI C18.1M-1992	BATTERY SPECIFICATION	40-4063-3000



TERMINALS: SPRING

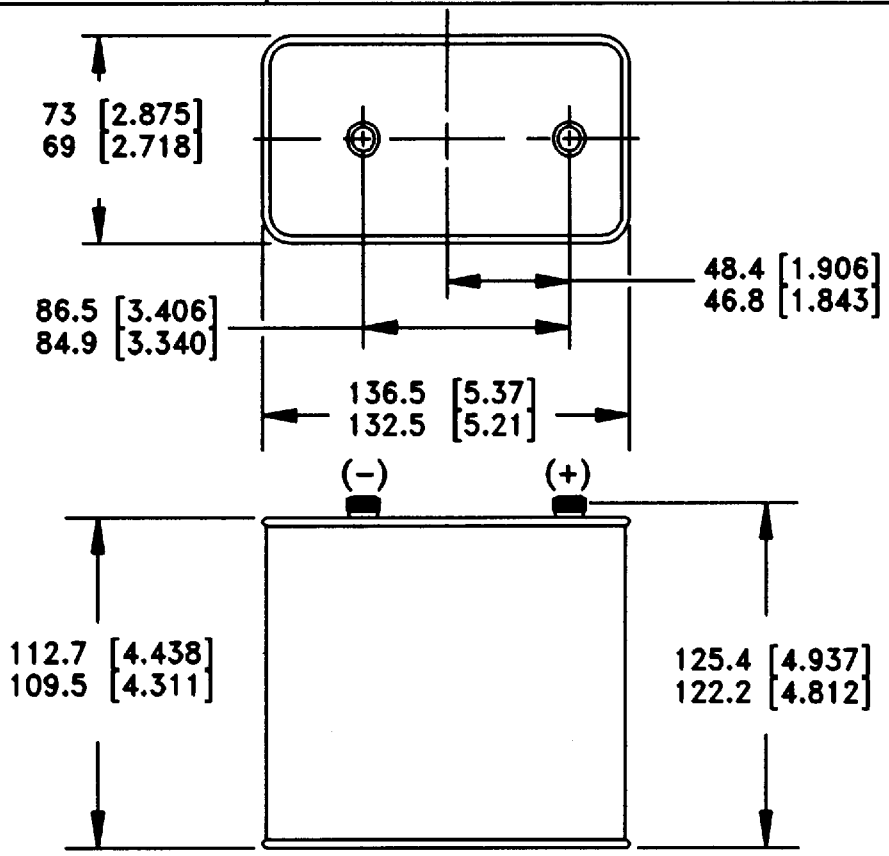
THIS BATTERY WITH ROUNDED OR BEVELLED CORNERS SHALL PASS FREELY THROUGH A GAUGE HAVING A DIAMETER OF 82.6 [3.250].

MILLIMETERS [INCHES]

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
ALKALINE MANGANESE DIOXIDE 6 VOLTS							
908A 908AC		9.1	30 MIN/HR-8 HRS/DAY	2.6	30 HRS	27 HRS	PORT. LIGHT
		33	30 MIN/HR-8 HRS/DAY	3.6	85 HRS	70 HRS	PORT. LIGHT
		110	12 HRS/DAY	3.6	310 HRS	280 HRS	STEADY BURN BARRICADE
CARBON ZINC 6 VOLTS							
908		9.1	30 MIN/HR-8 HRS/DAY	2.6	9 HRS	8 HRS	PORT. LIGHT
		33	30 MIN/HR-8 HRS/DAY	3.6	35 HRS	30 HRS	PORT. LIGHT
908C 908CD		9.1	30 MIN/HR-8 HRS/DAY	2.6	9.5 HRS	8.1 HRS	PORT. LIGHT
		33	30 MIN/HR-8 HRS/DAY	3.6	40 HRS	35 HRS	PORT. LIGHT
		110	12 HRS/DAY	3.6	150 HRS	125 HRS	STEADY BURN BARRICADE
908D		9.1	30 MIN/HR-8 HRS/DAY	2.6	14 HRS	12 HRS	PORT. LIGHT
		33	30 MIN/HR-8 HRS/DAY	3.6	50 HRS	45 HRS	PORT. LIGHT

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ANSI C18.1M-1992	BATTERY SPECIFICATION	40-4438-1000



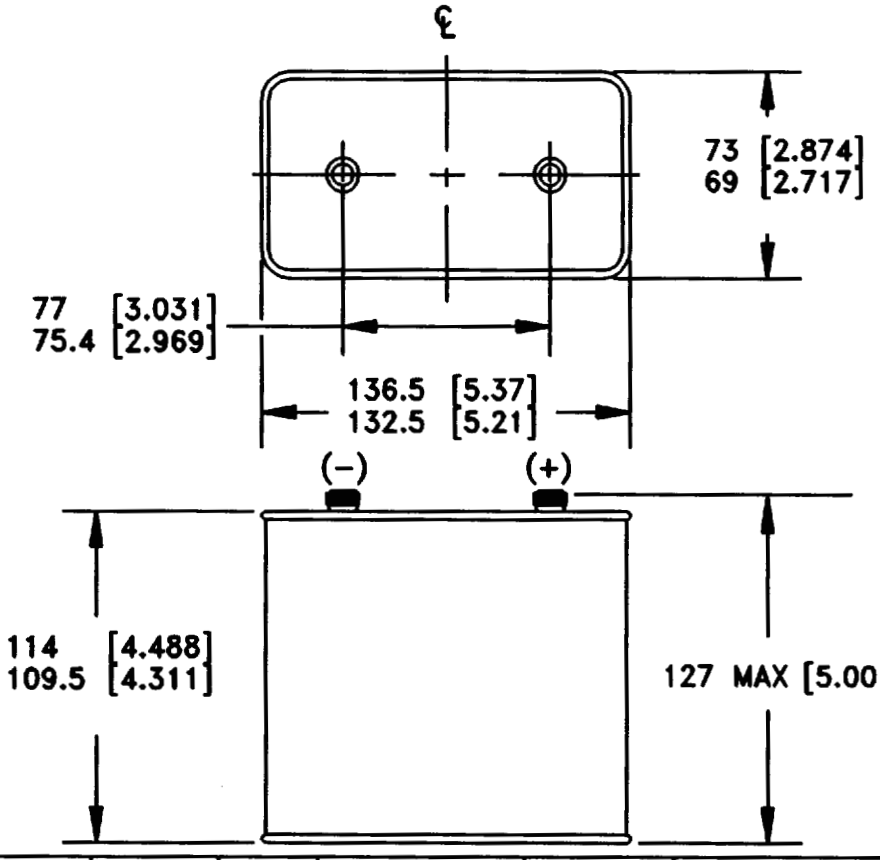
TERMINALS: No. 8-32 TERMINAL POST WITH KNURL NUTS.

MILLIMETERS [INCHES]

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
ALKALINE MANGANESE DIOXIDE 12 VOLTS							
926AC		18	30 MIN/HR-8 HRS/DAY	5.2	40 HRS	35 HRS	PORT. LIGHT
CARBON ZINC 12 VOLTS							
926		18	30 MIN/HR-8 HRS/DAY	5.2	8 HRS	7 HRS	PORT. LIGHT

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ANSI C18.1M-1992	BATTERY SPECIFICATION	40-4488-0000



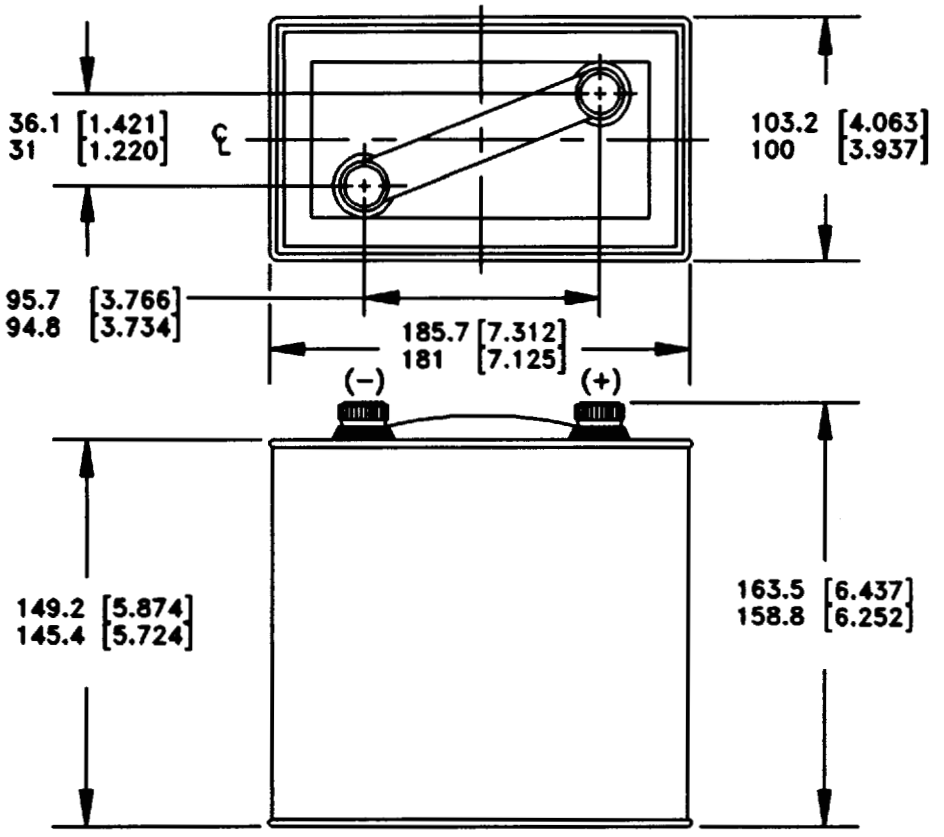
TERMINALS: No. 8-32 TERMINAL POST WITH KNURL NUTS.

MILLIMETERS [INCHES]

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
ALKALINE MANGANESE DIOXIDE 6 VOLTS							
918A 918AC		9.1	30 MIN/HR- 8 HRS/DAY	2.6	60 HRS	54 HRS	PORT. LIGHT
CARBON ZINC 6 VOLTS							
918	4R25-2	9.1	30 MIN/HR- 8 HRS/DAY	2.6	22 HRS	18 HRS	PORT. LIGHT
918D		9.1	30 MIN/HR- 8 HRS/DAY	2.6	30 HRS	24 HRS	PORT. LIGHT

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ANSI C18.1M-1992	BATTERY SPECIFICATION	40-5874-0000



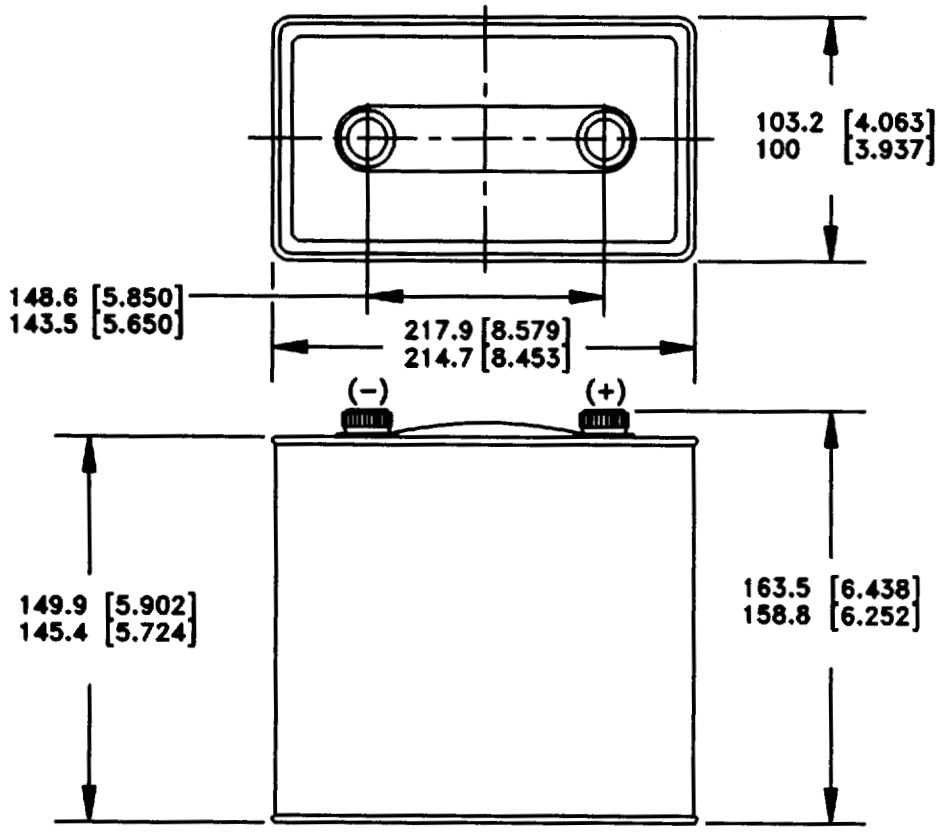
TERMINALS: No. 8-32 TERMINAL POSTS WITH KNURL NUTS.

MILLIMETERS [INCHES]

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
CARBON ZINC 7.5 VOLTS							
903		2.7	30 MIN/HR-8 HRS/DAY	3.25	9 HRS	8 HRS	PORT. LIGHT

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ANSI C18.1M-1992	BATTERY SPECIFICATION	40-5902-0000



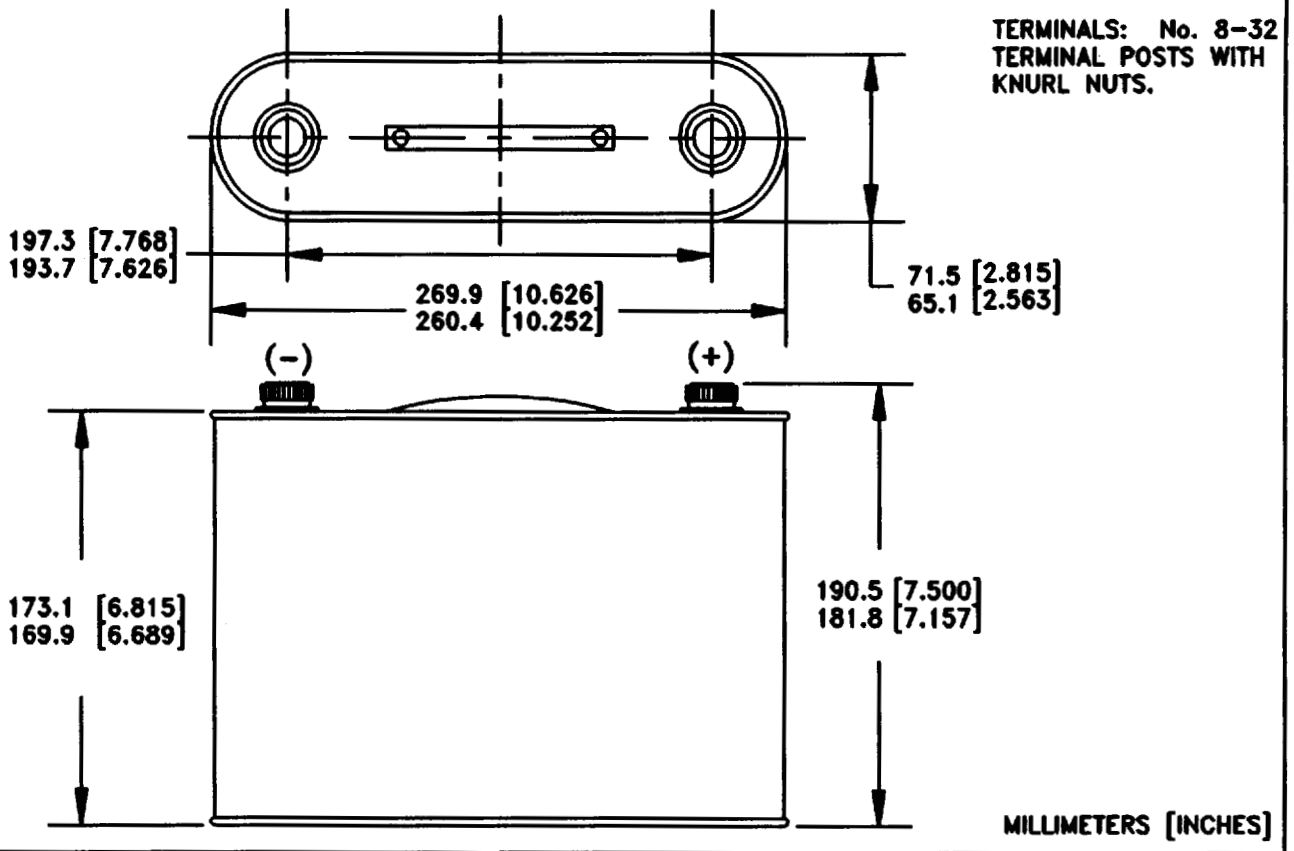
TERMINALS: No. 8-32 TERMINAL POSTS WITH KNURL NUTS.

MILLIMETERS [INCHES]

ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
CARBON ZINC 9 VOLTS							
904		3.3	30 MIN/HR-8 HRS/DAY	3.9	9 HRS	8 HRS	PORT. LIGHT

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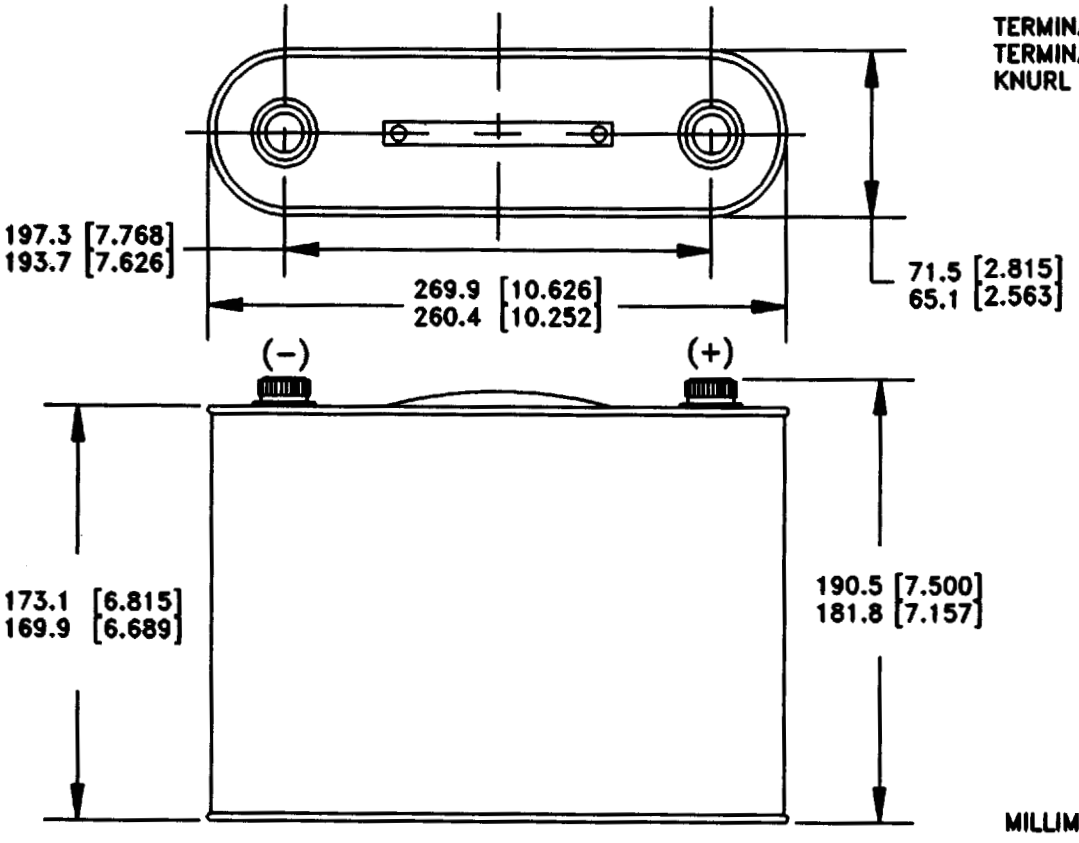
ANSI C18.1M-1992	BATTERY SPECIFICATION	40-6815-0000



ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
CARBON ZINC 6 VOLTS							
907		200	24 HRS/DAY	3.6	60 DAYS	55 DAYS	ELECTRONIC

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ANSI C18.1M–1992	BATTERY SPECIFICATION	40–6815–1000



ANSI NEDA	IEC	LOAD (OHMS)	TEST SCHEDULE	END POINT (VOLTS)	TYPICAL PERFORMANCE		TYPICAL USE
					INITIAL	12 MONTHS	
CARBON ZINC 12 VOLTS							
922		820	24 HRS/DAY	7.2	60 DAYS	55 DAYS	ELECTRONIC

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