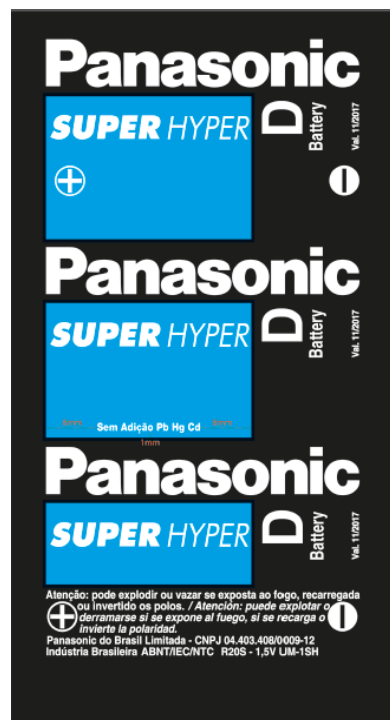


Specifications for Cylindrical

Zinc-Carbon Dry Battery

R20S (size D)

SJCPIIL 16-013-02



* No Mercury and Cadmium added.

PRODUCT SPECIFICATIONS**Individual Product Specification**

1. Model No. : IEC: R20S
2. Nominal Voltage : 1.5 volts
3. Average Weight : 90 g
4. Dimensions : As per attached drawing
5. Terminals : (+)Cap, (-)Base
6. Cells and Connection : One R20 ("D"size) cell

7. Performance

7.1 Open-circuit Voltage : As per attached Table-1

7.2 Service Life : As per attached Table-1

8. Electrolyte Leakage and Deformation :

There shall be neither evidence of electrolyte leakage on the external surface of any battery nor deformation out of the specified dimension in the attached drawing at any time prior to or during the specified discharge test in Table-1, Test-1 and Test-2.

Test-1 : The battery is discharged with the specified load resistance and time schedule until the voltage on load drops for the first time below 40 % of the nominal voltage.

Test-2 : The battery shall be kept for 30 days at the temperature 45 ± 2 °C and the relative humidity below 70 %(RH).

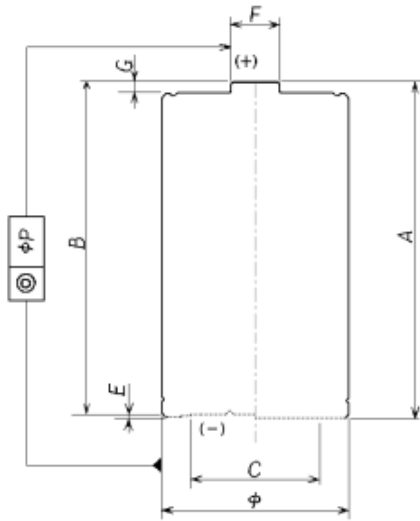
9. Mercury and Cadmium :

Mercury and Cadmium are not used in the battery.

sym.	Date of Revision	Remarks			
Date of Stipulation			Stipulated		Described
MAR/2013					

PRODUCT SPECIFICATIONS

Individual Product Specification

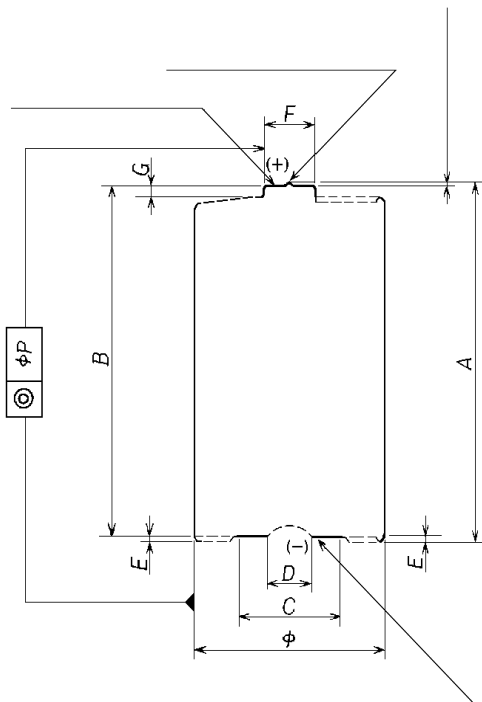


unit : mm

	Max.	Min.
A	61,5	—
B	—	59,5
C	—	18,0
D	—	—
E	1,0	—
F	9,5	—
G	—	1,5
φ	34,2	32,3
φ P	1,0	—
pip	—	—

Note 1. Numerical value in parentheses ; reference

2. The symbols of dimensions are as following.




- A = Overall height
- B = Distance between (+) and (-) terminals, excluding pip.
- C = Diameter of concave part of central (-) terminal.
- D = This model has none of concave part.
- E = This model has the projected (-) contact.
- F = Projected height of (+) contact, excluding pip.
- G = Difference in coaxiality between (+) contact and cylindrical corner side.
- φ P = Optional projection on (+) contact.
- Pip = This model has none of pip.

PRODUCT SPECIFICATIONS

Individual Product Specification

Table 1 R20S Performance

			Initial ¹⁾			After 12 months ²⁾		
Open circuit Voltage at 20 ± 2 °C			1.57 + 0.09 - 0			1.53 + 0.07 - 0		
		Unit.	IEC	Typical	Guarantee	IEC	Typical	Guarantee
Service life at 20±2 °C IEC 60086-2 2011 	2,2 Ω 4 mph-8hpd (0.9 V)	Min.	100	210	180	80	180	160
	10 Ω 4 hpd (0.9 V)	Hr.	18	27	25	14	25	23
	2,2 Ω 1 hpd (0.8 V)	Hr.	2,0	3,8	3,2	1,6	3,5	3,0
	1,5 Ω 4 mp 15 m- 8 hpd (0.9 V)	Min.	32	70	60	26	50	40

Note ¹⁾ The initial discharging test shall commence within 30 days since manufacture.

²⁾ During the specified period, the battery shall be kept under the condition of temperature 20±2 °C and relative humidity 65±20 %.

CONFIDENCIAL

2	15/05/2016	Incluído blank com inscrição "Sem Adição Pb Hg Cd"; peso era 92,5g												
1	12/05/2013	Deleted test 3.9 Ω 1hpd and 1,5 Ω 4mp 15m – 8 hpd ; IEC 60086-2 edition was 2004												
sym.	Date of Revision	Remarks												
Date of Stipulation		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Stipulated</th><th style="width: 15%;">Remarks</th><th style="width: 15%;">Described</th></tr> </thead> <tbody> <tr> <td> </td><td> </td><td> </td></tr> <tr> <td> </td><td> </td><td> </td></tr> <tr> <td> </td><td> </td><td> </td></tr> </tbody> </table>	Stipulated	Remarks	Described									
Stipulated	Remarks	Described												