TECHNI-PRO

Production supplies that WORK as hard as you do

Product Data Sheet

Product Number: TNP-AL9V-EA

Model: 9V

Description: Alkaline Zinc-Manganese Dry Battery

Picture:

Scope:

This specification defines the technical requirements for 9V alkaline cells under the brand Techni-Pro. If not otherwise specified, the technical requirements and dimensions for cells should meet or exceed the requirements of GB/T 8897.1-2008, GB 8897.2-2008.

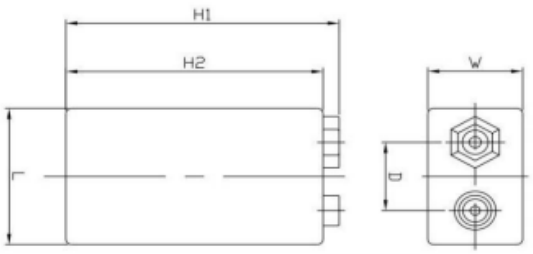
Reference documents:

GB8897.1-2008(IEC60086-1:2000, IDT) Primary Batteries-Part 1: General GB8897.2-2008(IEC60086-2:2001, MOD) Primary Batteries-Part 2: Physical and technological specifications GB8897.5-2006(IEC 60086-5:2005, MOD) Primary Batteries-Part 5: Safety of batteries with aqueous electrolyte

Chemical systems, voltage, and designation:

- Chemical systems: Alkaline Manganese battery. Zinc-manganese dioxide
- Nominal voltage 9V
- Designation
- IEC&GB (China) AL9V

AL9V Battery Dimensions:



Measure No.	Max	Min *
H1	48.5	46.5
H2	46.4	45
L	26.5	24.5
W	17.5	15.5
D	12.95	12.45

Voltage and Short current:

Item	OCV (V)	CCV (V)	SCC (A)
Initial	9.2≤OCV≤9.8	≥8.5	≥3.0
After 12 months	≥9.2	≥8.0	≥2.7

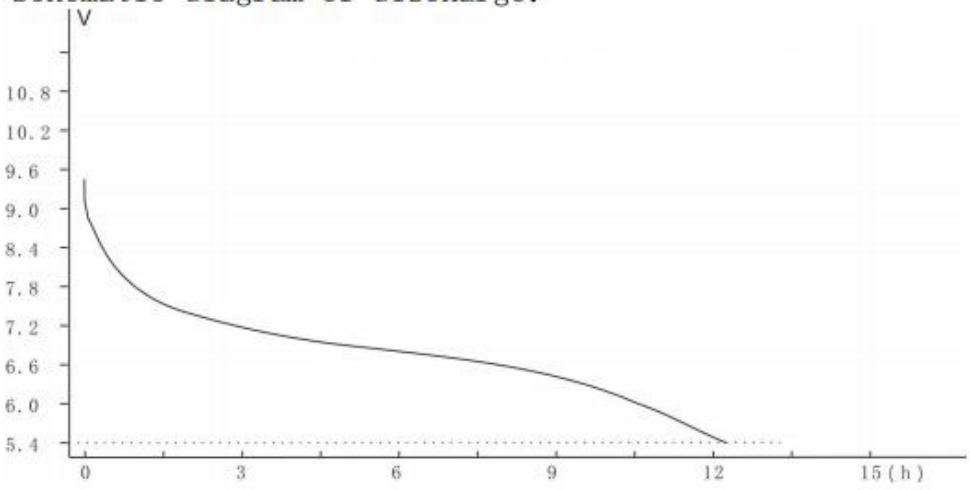
C.C.V measurement: After 0.2+/- 0.01 sec by R=180Ω
OCV: the inner resistance of voltage meter is above 1MΩ
SCC measurement: ±0

AL9V discharge performance:

Discharge conditions				Averge Minimun Discharge time
Load	Daily period	E.P. (V)	Initial	Delayed discharge performance after 12 months
180Ω	24h/d	5.4	12H	11H
620Ω	2h/day	5.4	43h	40h
270Ω	1h/day	5.4	19.5h	18h

Initial: 60 days after production & Test conditions: 20℃±2℃ and 60±.

Schematic diagram of discharge:



discharge Load: 180Ω (24h/D)

Leakage Resistance:

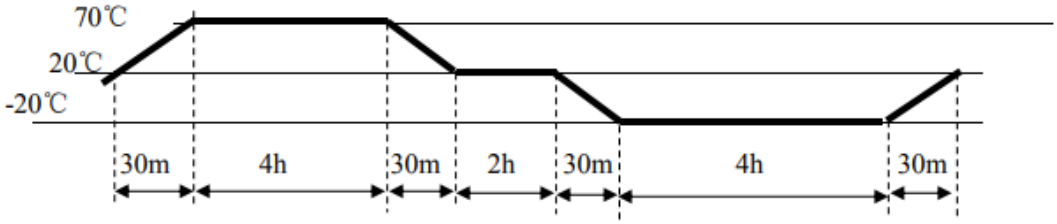
ITEM	TEST CONDITIONS	SAMPLE SIZE	REQUIREMENTS	ACCEPTANCE
OVER DISCHARGE	60Ω 24h/d for 48h at 20℃±2℃,	n= 9 PCS	NO LEAKAGE; MAX OF 0.35MM HEIGHT INCREASE	Ac= 0, Re= 1
High Temperature and Humidity Storage	Exposed to a temperature of 60℃± 2℃ and RH90±5% for a period of 3 weeks	n= 20 pcs	No leakage	Ac= 0, Re= 1
45℃ Dry Storage	Stored for 12 weeks at 45℃	n= 20 pcs	No Leakage	Ac= 0, Re= 1

Safety Requirement:

Item	Test Conditions	Sample Size	Requirements	Acceptance *
Partial Use	Stored at 45℃±2℃ for 30days after undischarged batteries were test discharged 180Ω 24h/d, EPV=6.	n = 5 pcs	No leakage, no explosion	Ac= 0, Re= 1
Thermal Shock	See the following **note 1**, total 10 cycles	n = 5 pcs	No explosion	Ac= 0, Re= 1
Incorrect Installation (3 + 1 anti- charge test)	Place three undischarged and unconditioned batteries in a series with one test sample battery reversed, Complete the circuit until vent activation or until the temperature of the reversed battery returns to ambient.	n = 5 pcs	No explosion	Ac= 0, Re= 1
Free Fall	Drop each undischarged battery Two times, oriented in each of three mutually perpendicular face (six total) from a height 1 meter, onto a concrete surface, see the following note 2	n = 5 pcs	No explosion	Ac= 0, Re= 1
Over Discharge	Discharge one test sample battery(C1) with 258Ω resistance	n = 5 pcs	No explosion	Ac= 0, Re= 1

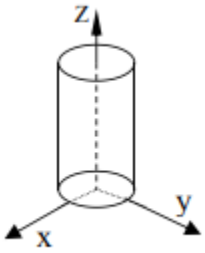
	load until EPV is 3.6V, connect three undischarged batteries and the sample battery in series with a 45Ω resistance load(R1) as shown in note 3, Maintain the circuit until the CCV of the series string reaches 7.2V			

Note 1: Thermal shock *



*If the manufacturer wants to modify the product technology specification, we won't inform you additionally.

Note 2: Free Fall



Inspection Rules:

- Deliver inspection: Depending on GB2828

Number	Test	Item	IL	AQL
1	Dimensions	5	S-2	0.4
2	Appearance	--	II	1.0
3	Discharge capacity	7	--	--
4	Open-circuit voltage	4.5	II	1.0

Routine Inspection: Depending on GB2829 and QB/T2389.

Inspection for service output:

- 9 samples shall be tested for service output.
- If the average value is equal to or more than the value of Table 1, and if the number of batteries showing a value less than 80% of the value in Table 1 is 1 or less. The batteries are considered to conform to the requirement.
- If the average value is less than the value of Table 1, or if the number of batteries showing a value less than 80% is 2 or more, the test shall be repeated with a different 9 pieces. At the second test, if the average value is equal to or more than the value of Table 1, and if the number of the batteries showing a value less than 80% of the value of Table 1 is 1 or less, these batteries are considered to conform to the requirement.
- At above second test, if the average value is less than the value of Table 1, or if the number of batteries showing a value less than 80% of the value of Table 1 is 2 or more, the batteries are considered not to conform to the requirement—Third test shall not be performed.

Instructions for use:

- Always select correct size and grade of battery most suitable for intended use.
- Replace all batteries of a set at the same time.
- Clean the battery contacts and those of the equipment prior to battery installation.
- Ensure that batteries are installed correctly regarding polarity {+ and -}.
- Remove batteries from equipment which is not in use for an extended period.
- Remove exhausted batteries promptly.

Display and Storage:

- Batteries shall be stored in well ventilated, dry, and cool conditions.
- Battery cartons should bot be piled up in several layers or should not exceed a specified height.
- Batteries should not be exposed to direct sunlight for a long period of time or place in areas where they get wet.
- Do not mix unpacked batteries so to avoid mechanical damage and/or short circuit among each other.

Storage Life:

- Storage life of batteries are ten years long at 20℃± 2℃ and RH 60±15%.

Marks:

- Designation.
- Polarity of terminals.
- Nominal voltage.
- Mercury content.
- Name or trademark, manufacturer, or supplier.
- Cautionary advice

Important Notice:

1. This data sheet contains typical information specific to products manufactured at the time of its publication.
2. Contents herein do not constitute a warranty and are for reference only.

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