



ENGLISH

Datasheet

1.2 V NiMH Tagged Terminal D Rechargeable Battery

RS Stock number [511-4801](#)



Description:

Tagged to allow for combining into larger battery packs for permanent installation

Voltage 1.2 V

Quick 4 to 6 hour charging rate

Note: All batteries are supplied with only a residual charge and should be charged at the continuous charge rate before use.

Caution: Do not connect batteries in parallel



Specifications:

| | | |
|---------------------------|-----------------|--|
| Nominal Voltage | | 1.2V/cell |
| Capacity | Typical | 10000 mAh/0.2 CmA@20°C |
| | Minimum | 9000 mAh/0.2 CmA@20°C |
| Charge | Standard | 0.1 CmA for 16 hrs. 0.5CmA for 2.2hrs.(approx.) |
| | Rapid | -ΔV = 0~5mV/cell, Temp. cut-off = 45~50°C, dT / dt=0.8°C/ min. Ta = 0~40°C. |
| | Trickle | 0.03 CmA (time must to be advised from according to the condition of cut-off) |
| Maximum Discharge Current | | 1.0CmA (Continuous) 3.0CmA (Pulse) |
| Discharge Cut-off Voltage | | 1.0 V/cell |
| Cycle Life | | 500 cycles (see Note:6) |
| Applicable Temperature | Standard Charge | 0~+45°C |
| | Rapid Charge | 0~+40°C |
| | Discharge | -10~+60°C |
| Storage | Within one year | -20°C~+20°C |
| | Within 3 months | -20°C~+30°C |
| | Within 1 month | -20°C~+40°C |
| Relative Humidity Range | | 65%±20% |
| Dimension | | D = 33.0 mm max., H = 61.5 mm max. |
| Weight | | Approx. 165.0 g |



Performance:

Unless stated, tests should be done within 45 days of delivery under the following conditions:

Ambient Temperature, Ta: $20 \pm 5^{\circ}\text{C}$
 Relative Humidity: $65 \pm 20\% \text{ RH}$
 Standard Charge/Discharge Condition:
 Charge: 0.1 CmA x 16 hours, Discharge: 0.2 CmA to 1.0 V/cell

| Test Item | Test Method | Performance | Remarks |
|--|---|--|----------------------------|
| Capacity | Standard Charge Standard Discharge | No less than rated capacity | Up to 3 cycles are allowed |
| High Rate Discharge (1.0CmA) | Standard Charge 1 hour rest before discharge | No less than 80% of rated capacity | |
| Low Temperature Discharge | Discharge at 0.2CmA in $0 \pm 2^{\circ}\text{C}$ for 16~24 hours stand after a standard charge | No less than 70% of rated capacity | |
| Terminal Voltage Open Circuit Voltage | Within 1 hour after standard charge | No less than 1.25V/cell in terminal voltage | |
| Cycle Life | IEC 61951-2 (2003) 7.4.1.1 | Over 500 cycles | See Note:6 |
| Charge Retention | Standard Charge Storage 28 days at $20 \pm 2^{\circ}\text{C}$ Standard Discharge | No less than 60% of rated capacity | |
| Overcharge | Charge at 0.1CmA for 48 hours Standard Discharge | No less than rated capacity | |
| Over-discharge | Standard Charge Discharge at 2.0CmA to 1.0 V/cell Over-discharge at 1.0CmA for 1 hour | The cell shall not explode The safety valve of the cell shall operate | |
| Vibration Amplitude Frequency Direction and Time | 3.6mm peak to peak 1000 cpm Arbitrary direction / 1 hour | The cell shall be normality in appearance No less than 1.2V/cell in terminal voltage. | |
| Shock Dropping Distance Shock Board Dropping Time | 0.45 m (spontaneous dropping) Hard wood (Thickness: over 10 mm) Arbitrary direction / 3 times | The cell shall be normality in appearance No less than 1.2Vcell in terminal voltage | |
| Leakage | Standard Charge Storage : 14 days in $33 \pm 5^{\circ}\text{C}$ and $80 \pm 5\% \text{ RH}$ | The cell shall have no visible leakage | |
| Short Circuit | After standard charge, short circuit by 2 mm Ni-tab for 1 hour | Leakage and deformation may occur, but no explosion is allowed | |



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Safety Requirements:

Please keep in mind the following points when operating, designing, or manufacturing your equipment.

Do not short circuit the battery. Do not connect the positive and the negative terminals with a wire or other metal items, as this will cause a large flow of current through the battery. It may damage the battery.

A proper charge is needed prior to use. Reverse charging is not acceptable.

Do not charge / discharge with more than the specified current.

Do not attempt to take the battery apart or subject to pressure or impact. The parts of the battery will be damaged, when the battery has ruptured, heat may be generated or fire may result. The alkaline electrolyte may harm the skin or eyes or damage clothing upon contact.

Do not heat, incinerate or mutilate the cell/battery. The battery may swell or rupture and it may explode or release alkaline electrolyte.

Do not solder directly to the cell/battery. It may damage the cell/ battery.

If any abnormally or problem is found while using the battery, stop its use, and bring it to your local dealer. Please do not attempt to fix or take the battery apart. It may cause danger to you.

Charge the battery only with a charger that meets our specified conditions. Charging under other conditions can cause overcharging and loss of charging control, and can cause the battery to leak, overheat, burst, or catch fire.

Avoid batteries to be used in any airtight compartment. Ventilation should be provided inside the battery compartment; otherwise batteries may generate hydrogen gas, which could cause an explosion if exposed to an ignition source.

When connecting a battery pack to a charger, please ensure the polarity is correct.

The life expectancy may be reduced if the cell / battery is under adverse conditions, such as extreme temperature, deep cycling, excessive overcharge /over discharge, etc.

Do not mix with other battery brands or batteries of a different chemistry such as alkaline and zinc carbon.

Do not mix new batteries in use with semi-used batteries, over discharge may occur.

Store the cell / battery in a cool dry place.

Keep away from children. If swallowed, contact a physician at once.

If notice any noise, excessive temperature or leakage from a battery, please stop to use it.

When the battery is hot, please do not touch it or handle it, until it cooled down.



Do not remove the outer sleeve from a battery pack nor cut into its housing.

When battery running out of power, please switch off the device to avoid overdischarge. When not using a battery, disconnect it from the device.

Proper way to unplug a battery is to hold the connector and not by pulling at its electric wire.

After use, if the battery is still hot, allow it to cool in a well-ventilated place out of direct sunlight before recharging it.

Avoid put a battery into water or seawater.

During long term storage, battery should be charged and discharged once every half a year.

Notes:

1. Ta: Ambient Temperature
2. When using a new battery for the first time or after long-term storage, please fully charge the battery before use.
3. The charge time is for reference only. It may alter due to conditions.
4. Activate the battery once every 3 – 6 months.
5. When using a new battery for the first time or after long-term storage, please fully charge the battery before use.
6. IEC61951-2 (2003) 7.4.1.1 Endurance Cycle Life Test:

The battery is capable of 500 cycles under the following conditions and tested at 20C

| Cycle number | Charge | Rest | Discharge |
|--------------|---------------------------|----------|---------------------------|
| 1 | 0.10CmA for 16 hrs | none | 0.25CmA for 2 hrs 20 mins |
| 2~48 | 0.25CmA for 3 hrs 10 mins | none | 0.25CmA for 2 hrs 20 mins |
| 49 | 0.25CmA for 3 hrs 10 mins | none | 0.25CmA to 1.0V/cell |
| 50 | 0.10CmA for 16 hrs | 1-4hr(s) | 0.20CmA to 1.0V/cell |

Cycle 1 to 50 shall be repeated until the discharge duration on any 50th cycle becomes less than 3 hrs.