

Mighty Max Battery ML10-12538

Mighty Max Battery 12V 10Ah ML10-12538 Scooter Battery User Manual

1. INTRODUCTION

This manual provides essential information for the safe and effective use of your Mighty Max Battery 12V 10Ah ML10-12538 Sealed Lead Acid (SLA) rechargeable battery. Designed for various applications, including scooters, this battery offers reliable power and performance. Please read this manual thoroughly before installation and operation to ensure proper handling and longevity of your battery.

2. SAFETY INFORMATION

WARNING! Failure to follow these safety instructions may result in fire, explosion, electric shock, or injury.

- Do not short-circuit the battery terminals.
- Do not disassemble, modify, or incinerate the battery.
- Avoid exposing the battery to temperatures above 40°C (104°F).
- Ensure proper ventilation during charging and operation.
- Keep out of reach of children.
- Wear appropriate personal protective equipment (PPE) such as gloves and eye protection when handling batteries.
- Dispose of batteries properly according to local regulations. Recycling is recommended.

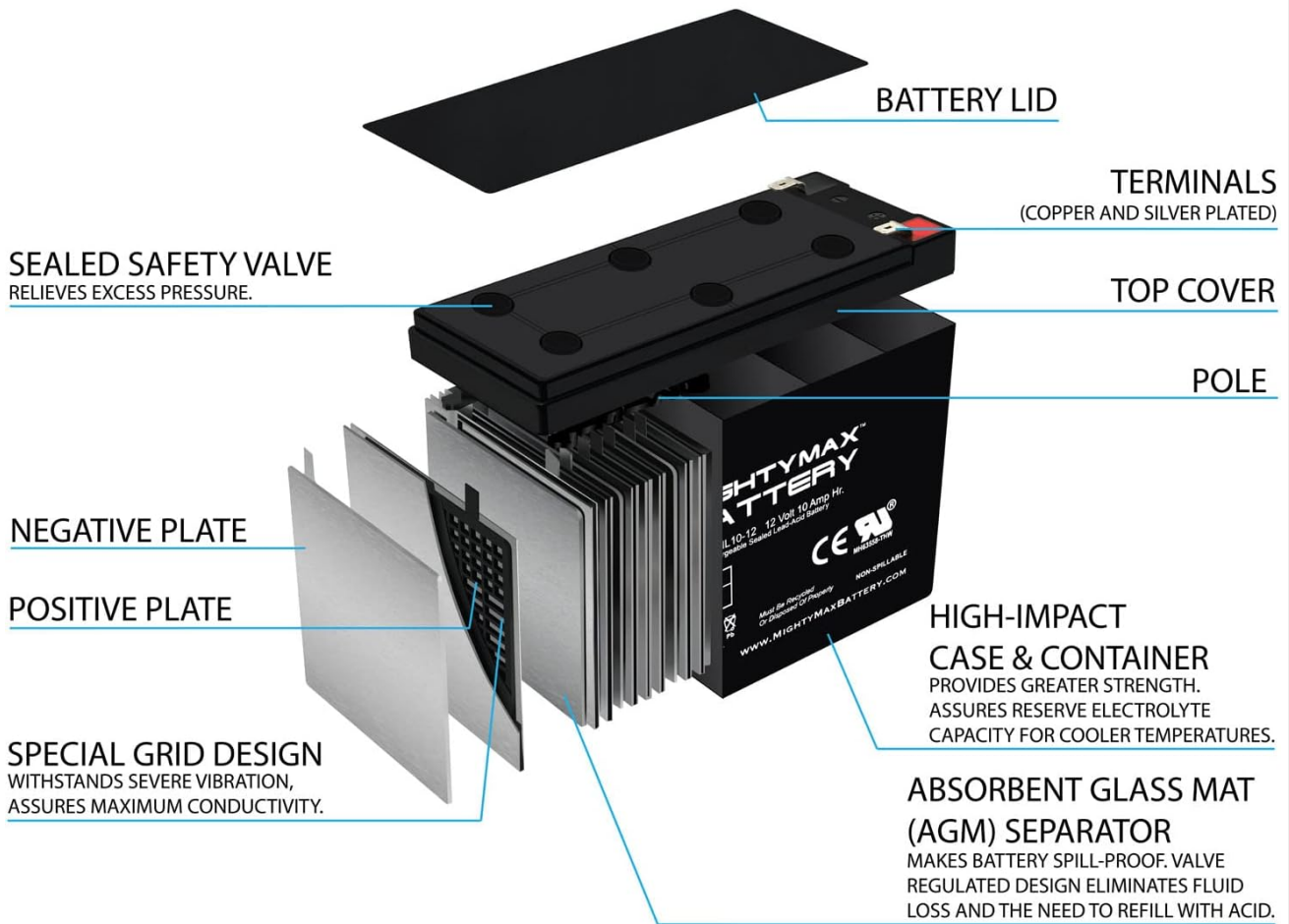


Image: Mighty Max Battery with warning labels. This image displays the battery unit with visible warning labels regarding handling and disposal, emphasizing safety precautions.

3. PRODUCT FEATURES

- **Model:** ML10-12 SLA (Sealed Lead Acid) rechargeable maintenance-free battery.
- **Voltage & Capacity:** 12V 10AH.
- **Terminal Type:** F2.
- **Construction:** SLA / AGM spill-proof design.
- **Performance:** High discharge rate, wide operating temperatures, long service life, and deep discharge recovery.
- **Durability:** Resists shocks and vibration.
- **Mounting:** Can be mounted in any position.
- **Certifications:** UL Certified.

CONFIGURATION



This is a model representation of the components within battery.
It is not an actual depiction of said battery.



Image: Internal components of Mighty Max Battery SLA/AGM. An exploded view of the Mighty Max Battery, showing internal components such as the battery lid, terminals, top cover, pole, negative plate, positive plate, sealed safety valve, high-impact case, and absorbent glass mat (AGM) separator.

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Are You Powered To The Max?



**MIGHTYMAX[®]
BATTERY**

Image: Close-up of F2 terminal on Mighty Max Battery. A close-up view of the F2 terminal type on the Mighty Max Battery, showing the spade connector design for secure electrical connections.

4. SPECIFICATIONS

Specification	Value
Model Number	ML10-12538
Voltage	12 Volts
Battery Capacity	10 Amp Hours
Terminal Type	F2 Terminal
Battery Cell Composition	Lead Acid
Product Dimensions (L x W x H)	5.94 x 2.56 x 4.75 inches (15.08 x 6.50 x 12.07 cm)
Item Weight	6 pounds (2.72 kg)

Specification	Value
Manufacturer	Mighty Max Battery

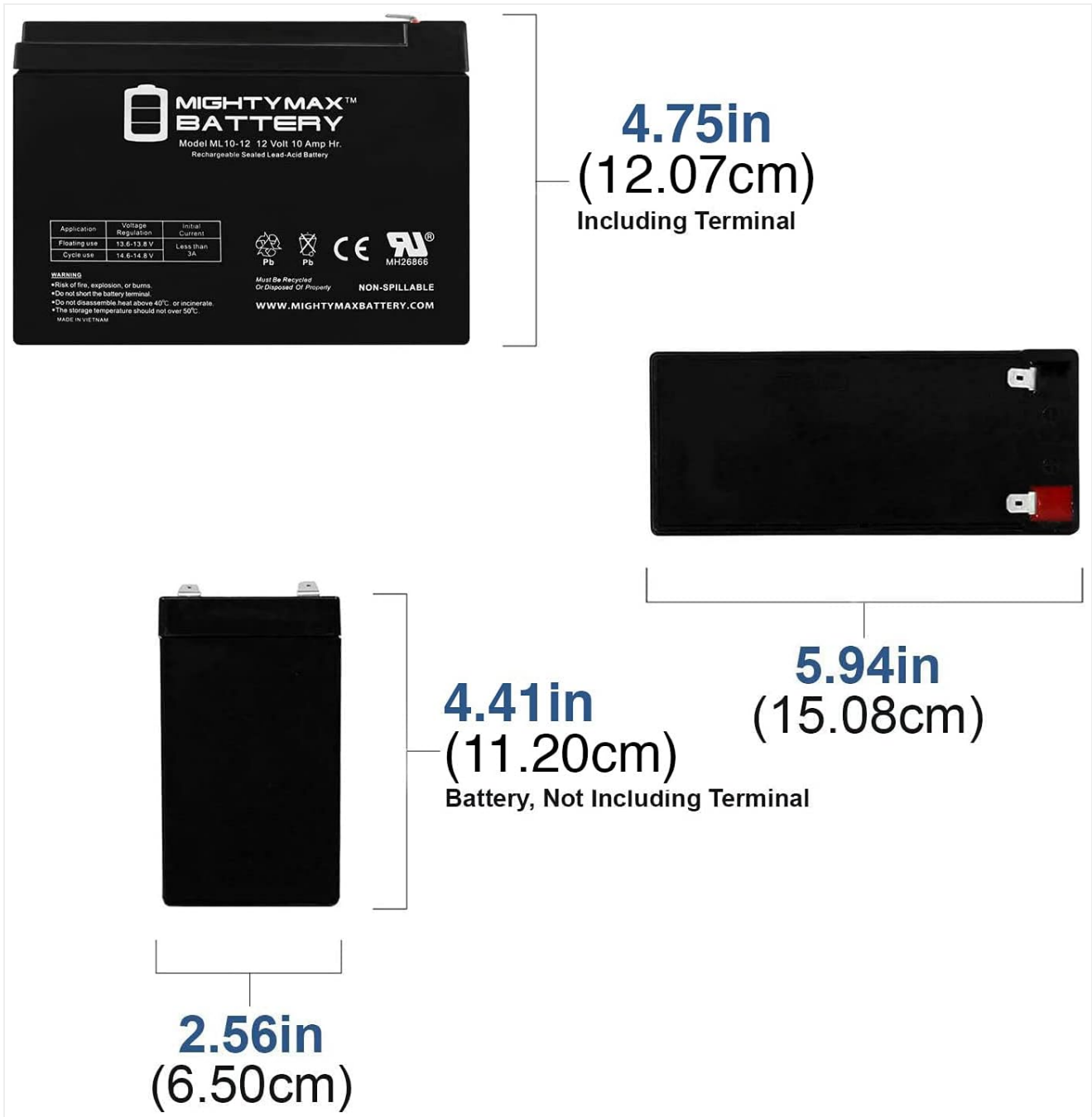


Image: Mighty Max Battery ML10-12538 dimensions. Detailed diagram illustrating the dimensions of the Mighty Max Battery ML10-12538, including length, width, and height with and without terminals, crucial for fitment.



ML10-12

(12V 10Ah)

Battery Discharge Table

End Voltage (V)	Minute (M)					Hour (H)							
	5	10	15	30	45	1	1.5	2	3	5	8	10	20
Constant Current Discharge Data Sheet (Amperes at 25°C)													
10.20	37.0	24.1	18.9	9.66	6.98	6.00	4.78	3.55	2.68	1.88	1.45	0.960	0.510
10.50	36.7	23.9	18.7	9.58	6.91	5.96	4.69	3.42	2.60	1.77	1.29	0.950	0.505
10.80	36.3	23.6	18.5	9.45	6.84	5.92	4.60	3.28	2.50	1.65	1.13	0.940	0.500
Constant Power Discharge Data Sheet (Watt at 25°C)													
10.20	403	291	235	132.9	96.86	73.69	56.51	42.51	30.34	20.00	14.09	11.40	6.14
10.50	386	281	228	130.1	94.63	72.51	55.69	41.91	29.66	19.77	13.97	11.23	6.05
10.80	366	271	221	126.3	92.23	71.31	54.86	41.31	29.14	19.54	13.83	11.04	5.97

Performance Characteristics

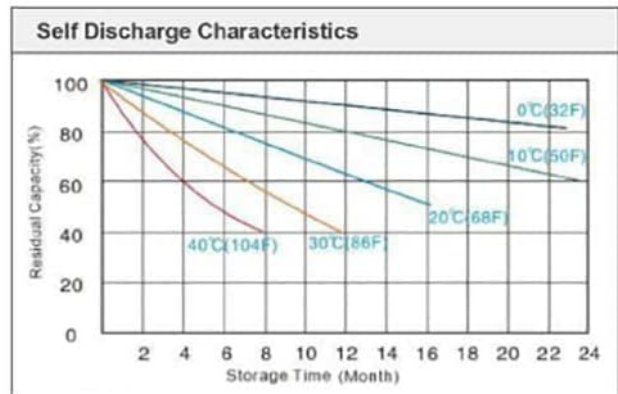
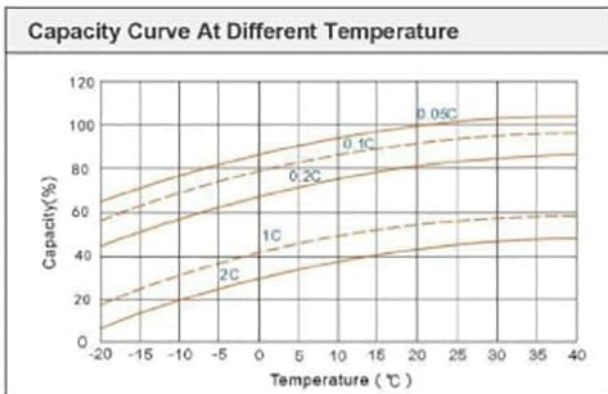
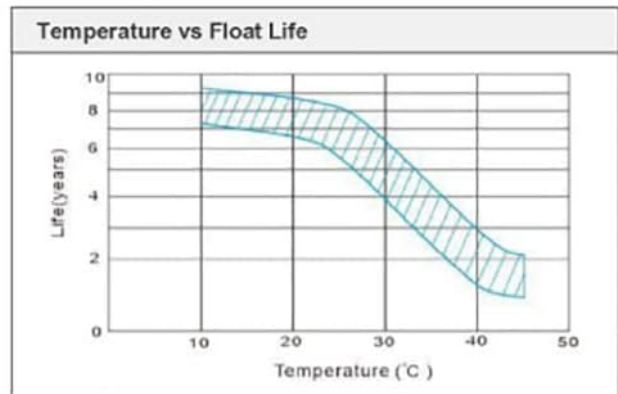
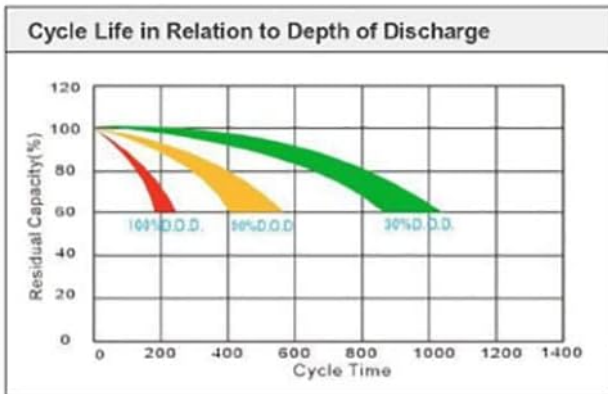
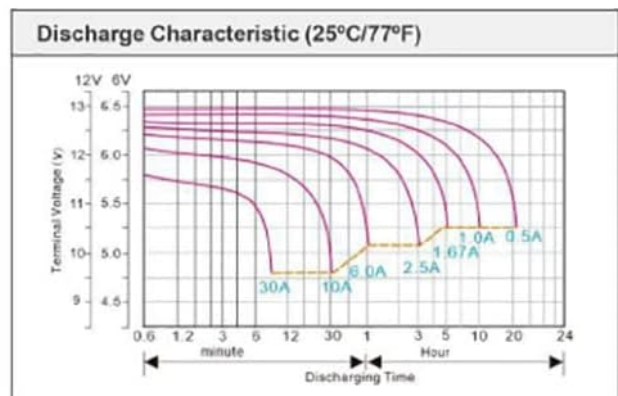
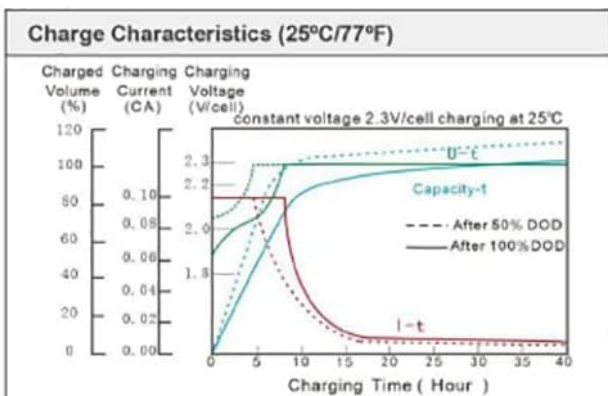


Image: Mighty Max Battery ML10-12 General Features and Specifications. An overview of the ML10-12 battery's general features, applications (DC power supply, UPS/EPS, medical equipment, etc.), physical specifications, dimensions, and constant-voltage charging parameters.



ML10-12 (12V 10Ah)

General Features

- Designed floating charging service life: 8 years (25°C)
- Sealed and maintenance free operation
- Safety valve installation for explosion proof
- Low self-discharge characteristic
- Wide operating temperature range from 0°C~40°C
- Lead Aluminum calcium Tin alloy high energy, prevent corrosion

Application

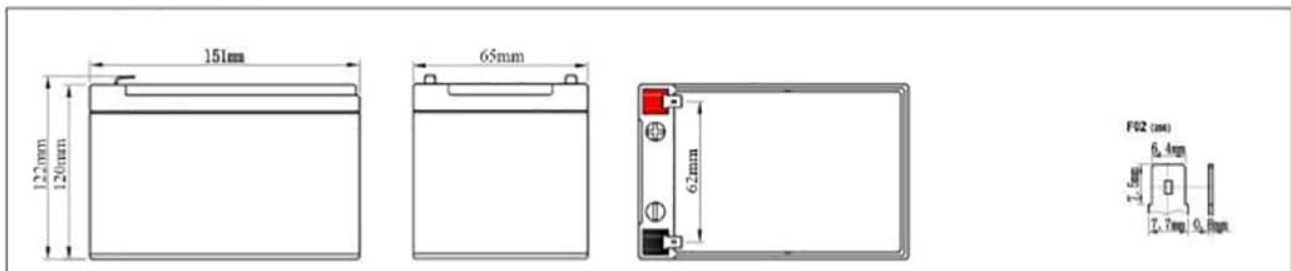
- DC power supply
- UPS/EPS power supply
- Electrical devices & instruments
- Security and fire alarm systems
- Telecom stations and power stations
- Medical equipment's
- Emergency lighting systems



Physical Specifications

Nominal Voltage	Nominal Capacity (20HR)	Dimension				Weight ±3%	Internal Resistance (in full charge status)	Standard Terminals
		L	W	H	TH			
12V	10AH	151±2mm	65±2mm	120±2mm	122±2mm	Approx 3.3kg (7.28lbs)	≈16.9 mΩ	F01/F02 (standard)

Dimensions



Constant-Voltage Charge

Rated Capacity	
20 hour rate (0.50A)	10.01AH
10 hour rate (1.00A)	9.75AH
5 hour rate (1.70A)	8.30AH
27 minute rate (10.0A)	5.00AH
7 minute rate (30.0A)	3.50AH

Capacity affected by Temperature	
40°C(104°F)	103%
25°C(77°F)	100%
0°C(32°F)	86%

Cycle Application
1. Limit initial current less than 2.50A.
2. Charge until battery voltage (under charge) reaches 14.1V to 14.4V at 25°C(77°F).
3. Hold at 14.1V to 14.4V until current drop to under 0.060A for at least 3 hours.
4. Temperature compensation coefficient of charging voltage is -30mV/°C.

Standby Service
1. Hold battery across constant voltage source of 13.6 to 13.8 volts with current limit 2.50A continuously. When held at this voltage, the battery will seek its own current level and maintain itself in a fully charge status.
2. Temperature compensation coefficient of charging voltage is -18mV/°C.

Image: Mighty Max Battery ML10-12 Performance Characteristics. Charts and tables detailing the battery's performance characteristics, including discharge rates, charging characteristics, cycle life in relation to depth of discharge, temperature vs. float life, capacity curve at different temperatures, and self-discharge characteristics.

5. SETUP AND INSTALLATION

Before installing the battery, ensure the power to your scooter or device is turned off. Verify that the battery

dimensions and terminal type (F2) match the requirements of your application. The battery can be mounted in any position due to its spill-proof design.

1. **Preparation:** Turn off the scooter or device and disconnect any existing power sources.
2. **Removal (if replacing):** Carefully disconnect the negative (-) terminal first, then the positive (+) terminal from the old battery. Remove the old battery.
3. **Installation:** Place the new Mighty Max Battery ML10-12538 into the battery compartment. Ensure it fits securely.
4. **Connection:** Connect the positive (+) terminal of the new battery first, then the negative (-) terminal. Ensure all connections are tight and secure to prevent power loss and arcing.
5. **Verification:** Once installed, turn on your scooter or device to confirm proper operation.

Your browser does not support the video tag.

Video: Mighty Max Battery product overview and features. This official video from Mighty Max Battery demonstrates key features such as shock and vibration resistance, quick recharging, various terminal types (F1, F2, Nut & Bolt), spill-proof AGM construction, mounting versatility, maintenance-free design, and high performance in extreme temperatures. The video also shows a battery being installed in a motorcycle.

6. OPERATING INSTRUCTIONS

The Mighty Max Battery ML10-12538 is a rechargeable battery designed for consistent power delivery. For optimal performance and lifespan, adhere to the following guidelines:

- **Initial Charge:** It is recommended to fully charge the battery before its first use. Refer to the 'Constant-Voltage Charge' section in the specifications image for detailed charging parameters.
- **Charging Voltage:** For floating use, maintain a voltage between 13.6V and 13.8V. For cycle use, maintain a voltage between 14.5V and 14.9V.
- **Charging Current:** The initial charging current should be less than 3A.
- **Discharge:** Avoid deep discharge whenever possible to prolong battery life. The battery is designed for deep discharge recovery, but consistent deep discharge can reduce overall lifespan.
- **Temperature:** Operate the battery within its specified temperature range for optimal performance. Refer to the 'Capacity Curve At Different Temperature' and 'Temperature vs Float Life' charts in the performance characteristics image.

7. MAINTENANCE

The Mighty Max Battery ML10-12538 is a Sealed Lead Acid (SLA) battery, which means it is maintenance-free. No water addition or electrolyte level checks are required. Its AGM (Absorbent Glass Mat) design prevents spills and allows for flexible mounting.

- **Cleaning:** Keep the battery terminals and casing clean and free from dirt or corrosion. Use a dry cloth for cleaning.
- **Terminal Inspection:** Periodically check terminal connections to ensure they remain tight and secure.
- **Storage:** If storing the battery for an extended period, ensure it is fully charged and stored in a cool, dry place. Recharge periodically if stored for very long durations to prevent self-discharge. Refer to the 'Self Discharge Characteristics' chart in the performance characteristics image.
- **Avoid Overcharging/Undercharging:** Use a compatible charger that provides the correct voltage and current to prevent damage.

8. TROUBLESHOOTING

If you encounter issues with your Mighty Max Battery, consider the following common troubleshooting steps:

- **Battery Not Holding Charge:**

- Ensure the charger is functioning correctly and providing the appropriate voltage and current.
- Check for any parasitic drains on the system that might be discharging the battery prematurely.
- Verify the battery's age; all batteries have a finite lifespan.

- **Device Not Powering On:**

- Check all terminal connections for tightness and corrosion.
- Confirm the battery is adequately charged.
- Inspect the device's fuses or circuit breakers.

- **Reduced Performance:**

- Ensure the battery is operating within its recommended temperature range.
- Verify that the load on the battery does not exceed its capacity.
- Consider the battery's cycle life; performance naturally degrades over time.

If problems persist after performing these checks, contact Mighty Max Battery customer support or a qualified technician.

9. WARRANTY AND SUPPORT

Your Mighty Max Battery ML10-12538 comes with a **Full One Year Warranty** from the date of purchase. This warranty covers manufacturing defects and ensures your battery performs as expected under normal use conditions. For warranty claims, technical assistance, or any product-related inquiries, please contact Mighty Max Battery directly. You can find contact information on the official Mighty Max Battery website or through your original point of purchase.

Manufacturer: Mighty Max Battery

Seller: Mighty Max Battery (via Amazon)