



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Small Energy Device Cylinder type (UMAC)

muRata

RoHS

REACH

Hand
Soldering
Only

UL1642

Rechargeable battery having long cycle life
High rate charge/discharge is available.



Advantages

① High rate charge/discharge

800mohm low ESR and high rate (10C, 30mA) enabled by optimizing materials and structure

② High safety

No thermal runaway occurs because of its low capacity and chemically stable materials.

This product received safety standard, UL1642 and IEC61233 certification.

③ Long cycle life

Charge (capacity) recovery is over 80% even after 5000 cycles. It can realize maintenance free design.

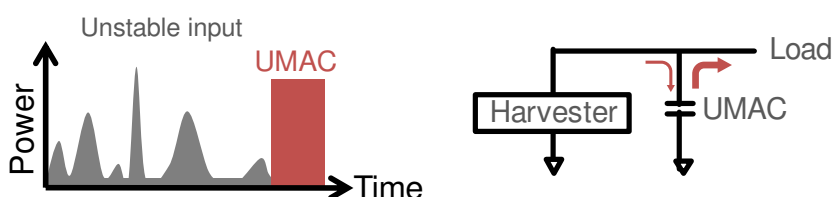
④ Compact and lightweight

Package size: $\phi 4 \times 12\text{mm}$, Weight: 0.29g

Applications & Benefits

1. Energy Harvesting Systems

- Charge/discharge in wide input/output range
- Long working time due to low leakage current
- Quick start without pre-charging due to low leakage current
- Enables maintenance free

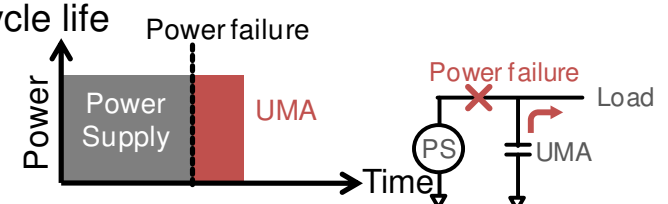


Application Example:

- ✓ Solar battery charger equipment
- ✓ Sensor node with wireless sensor network in combination with micro and macro energy harvesting systems

2. Backup

- Can backup system during replacing main battery
- Long backup time over 30sec
- High power discharge is available
- Long cycle life

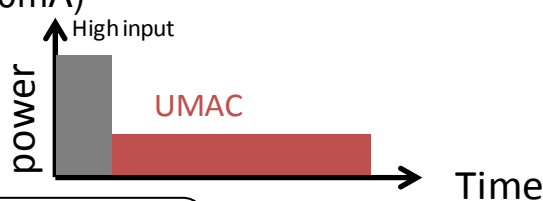


Application Example:

- ✓ Handy terminal / barcode reader
- ✓ POS (payment terminals, etc.)
- ✓ Emergency call or transmitter (medical equipments such as nurse call, industrial equipments using ISM band, etc.)
- ✓ Other battery powered equipments

3. Small power equipment

- Can be charged with High Input (10C, 30mA)
- Quick start due to high Input
- Permanent use due to long cycle life
- High safety due to low capacity



Application Example:

- ✓ Electric pen
- ✓ Wearable equipment

For more details, please visit our website.
Application notes, technical notes, FAQs are available.

<http://www.murata.com/en-global/products/smallenergydevice/uma>



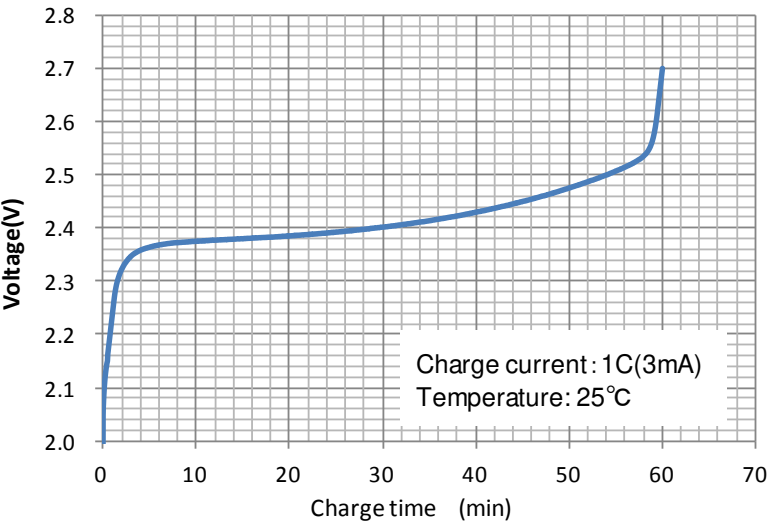
Specifications

Type	UMAC040130A003TA01	Size	
Nominal Voltage	2.3V		
Charge Voltage	2.7V		
End-of-discharge Voltage	1.8V		
Capacity	3mAh (10F)		
ESR	800m Ω	Operating Temp. range	-20~70°C

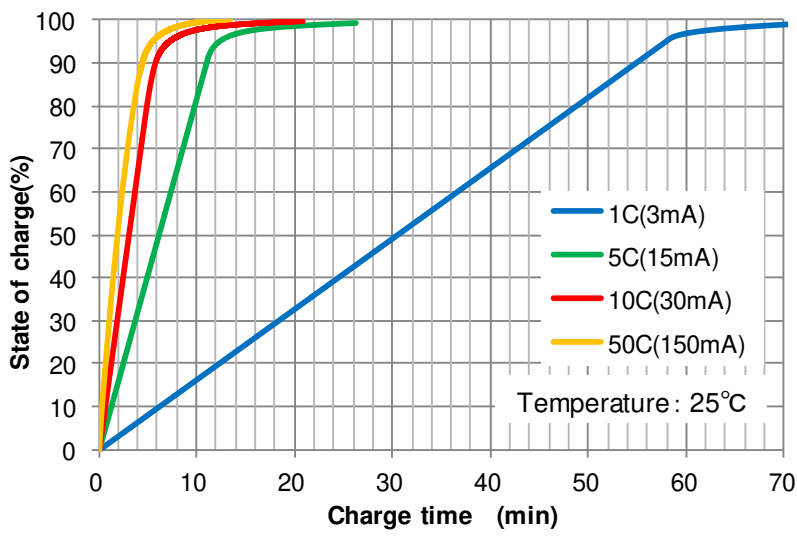
Characteristics

<Charge Characteristics>

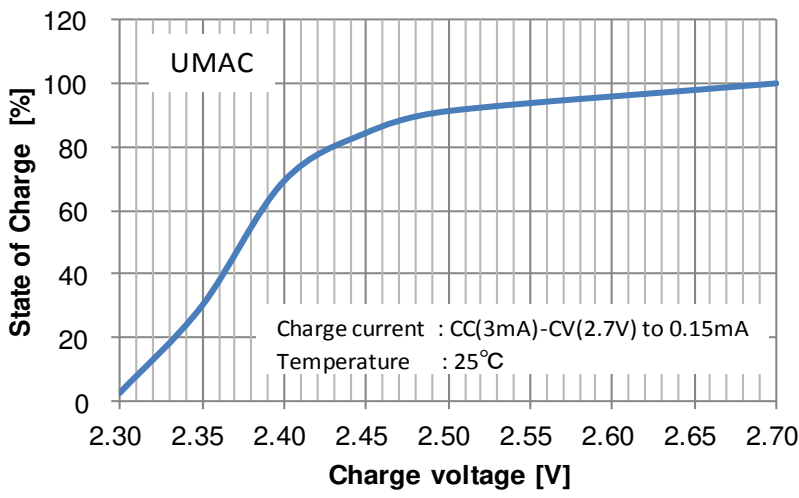
Charge Curve



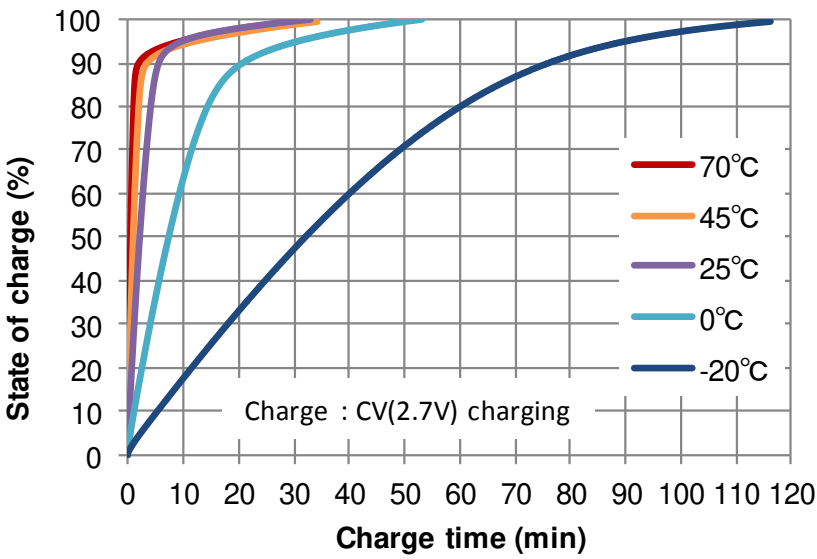
SOC : Current Characteristics



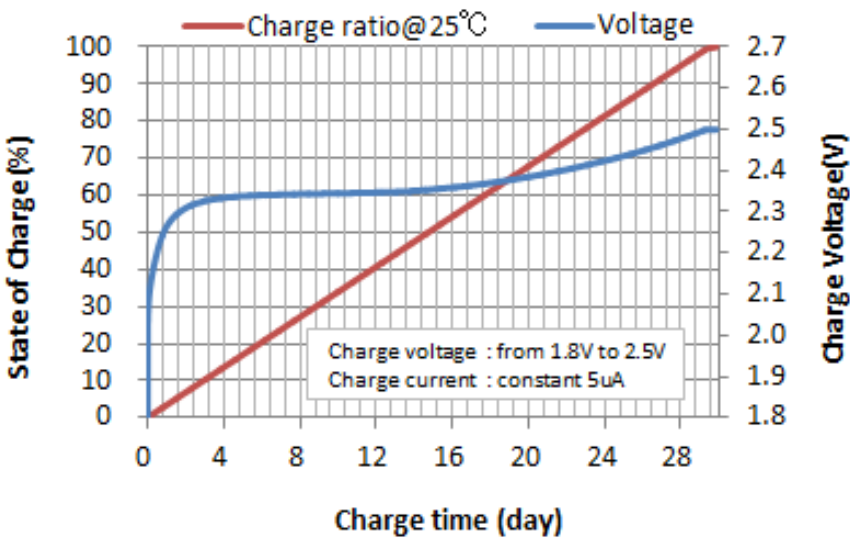
SOC : Charge Voltage Characteristics



SOC by CV Charge: Temperature Characteristics

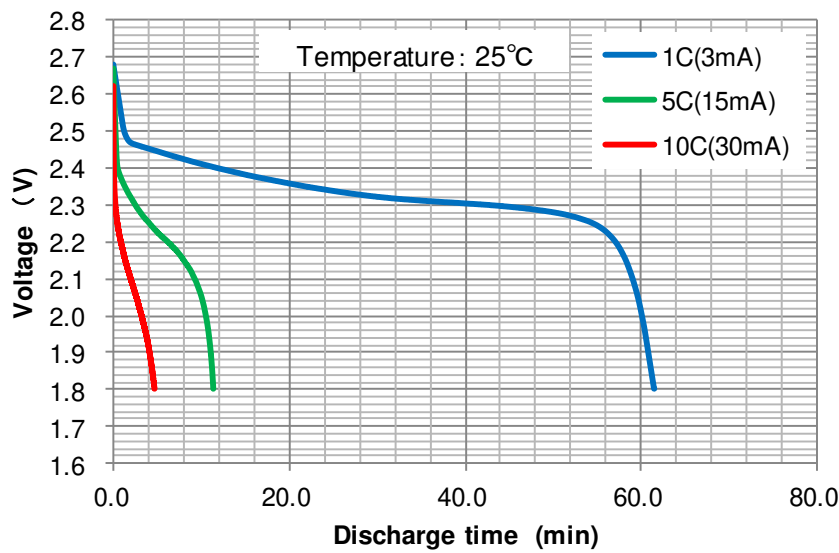


SOC by 5 μ A Current Charge

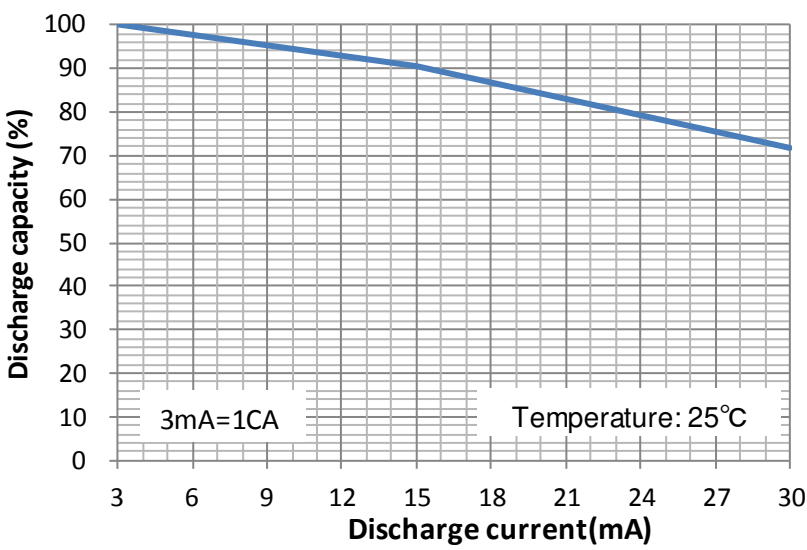


<Discharge Characteristics>

Discharge: Current Characteristics

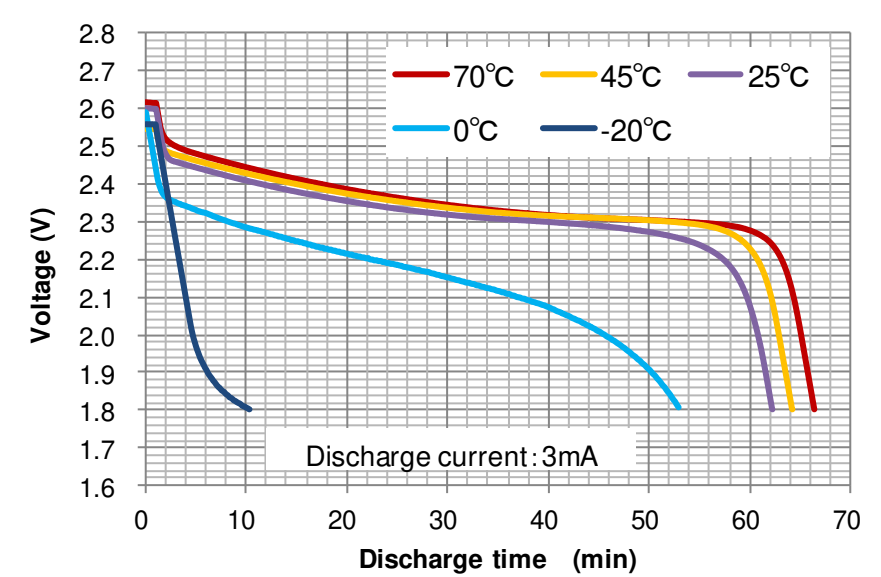


Discharge Capacity: Current Characteristics

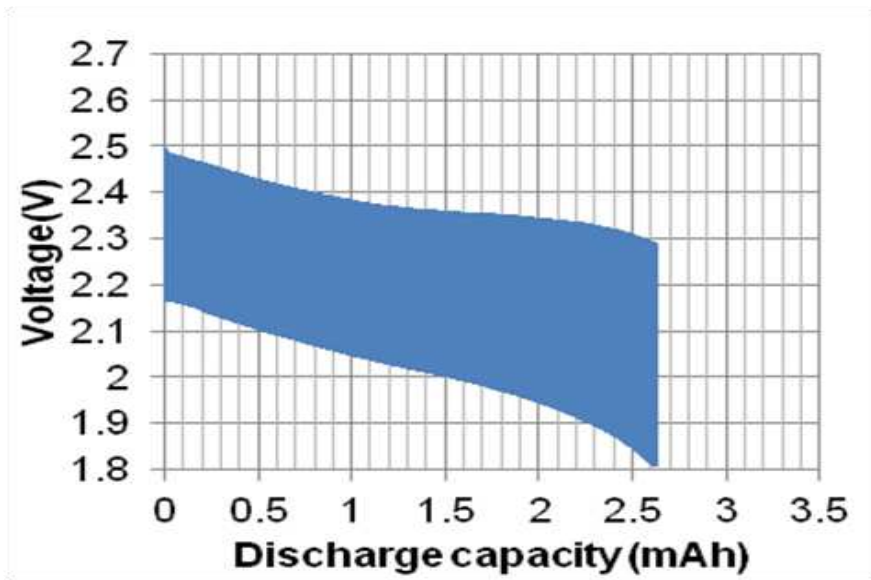


Recycle: Lithium-Ion batteries can be recycled. Regulations and laws related to the recycling of lithium ion batteries vary from country to country as well as by state and local governments. Please check the laws and regulations of final consuming areas.

Discharge Temperature Characteristics

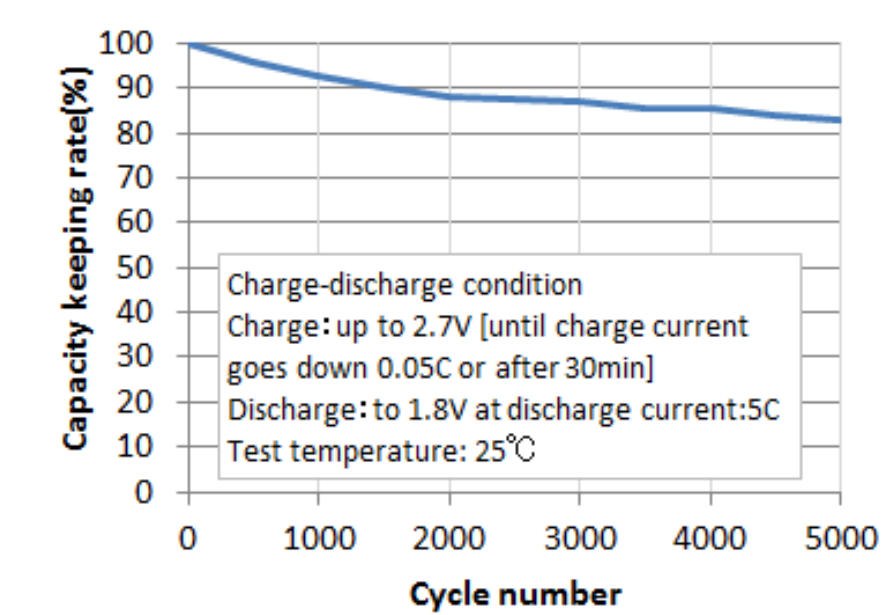


Pulse Discharge Characteristics at -20°C(the cycle of 30mA, 10msec discharge & Rest 15sec.)



<Other characteristics>

Cycle Characteristics



Charge (Capacity) retention

