

Small Energy Device Laminate type (UMAL)

muRata

NRND:

Not recommended for new design.
Instead, please use UMAL201421A012TA02
for new design.

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



Advantages

① High rate charge/discharge

200mohm low ESR and high rate(10C,120mA) enabled by optimizing materials and structure

② High safety

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

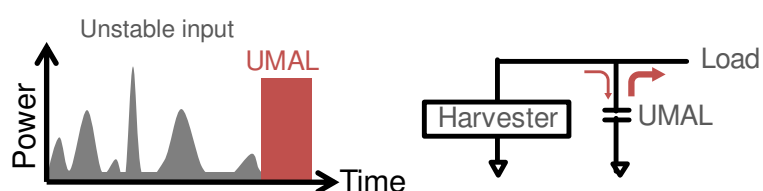
③ Long cycle life

Charge (capacity) recovery is over 90% even after 5K cycles. It can realize maintenance free design

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

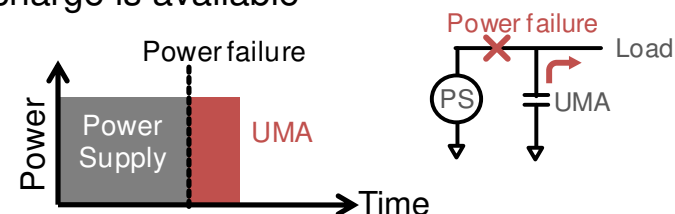


Application Example:

- ✓ 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

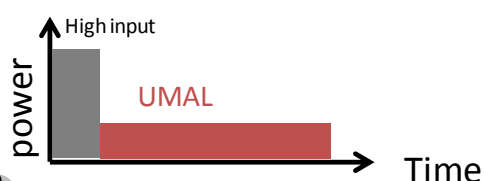


Application Example:

- ✓ 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,120mA)
- Quick start due to high Input
- Permanent use due to long cycle life
- High safety due to low capacity



Application Example:

- ✓ PC accessory (Wireless mouse, etc.)
- ✓ Wearable equipment

For more details, please visit our website.
Product datasheets Application notes and
Technical notes are available.

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

RoHS

REACH

Hand
Soldering
Only

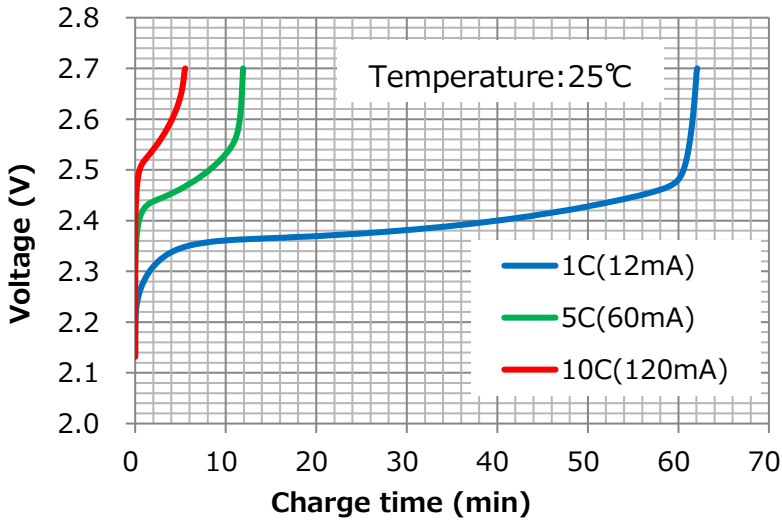


Specifications

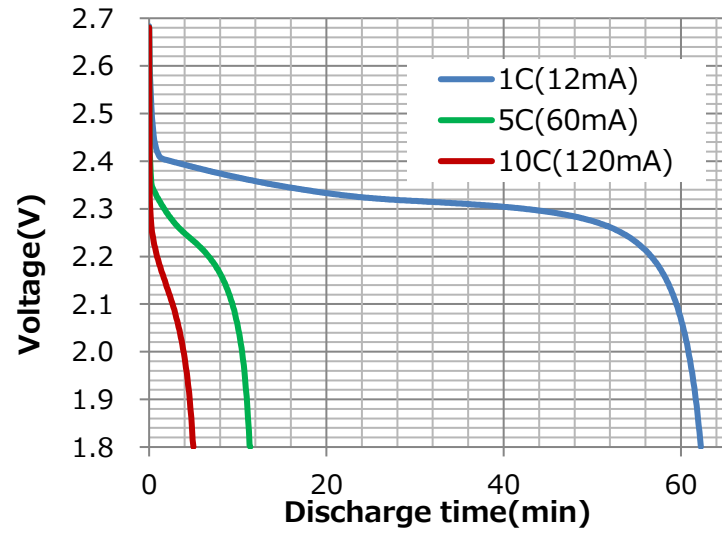
Type	UMAL201421A012TA01	size	
Nominal Voltage	2.3V		
Charge Voltage	2.7V		
End-of-discharge Voltage	1.8V		
Capacity	12mAh (50F)		
ESR	200mΩ	Operating Temp. range	-20~70°C

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.

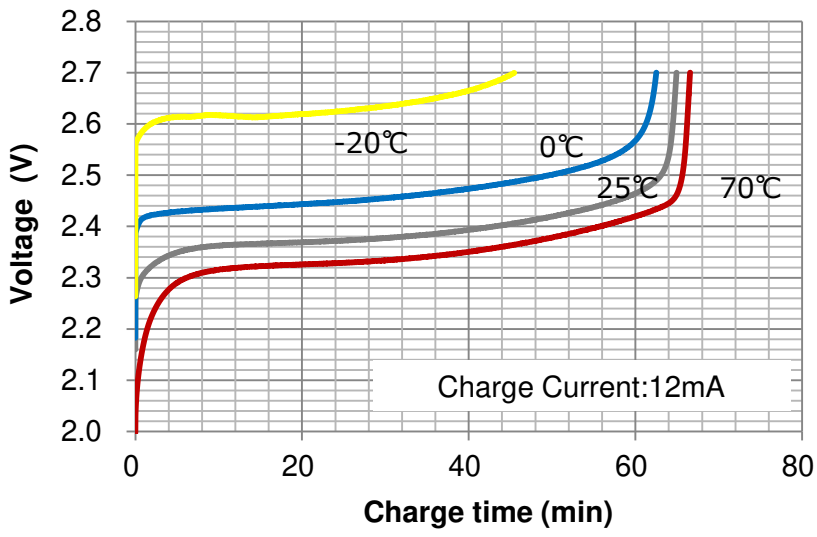
Charge Characteristics



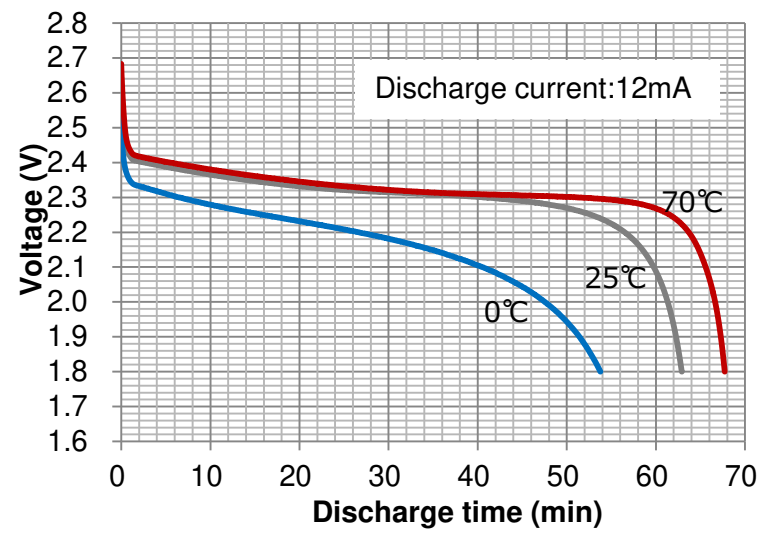
Discharge Characteristics



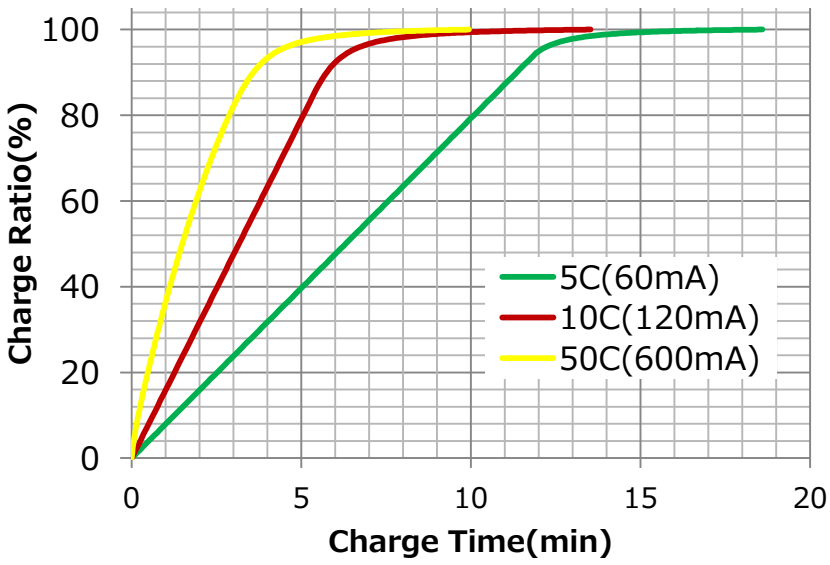
Charge : Temperature Characteristics



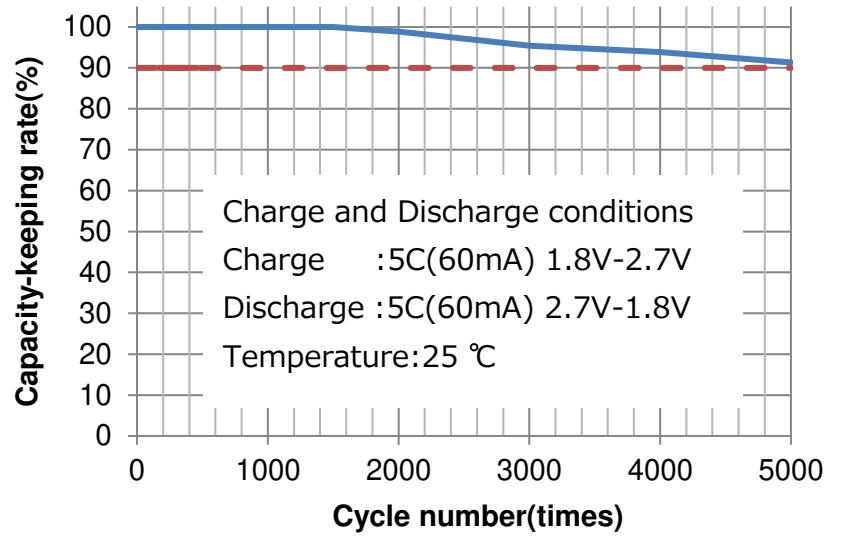
Discharge Temperature Characteristics



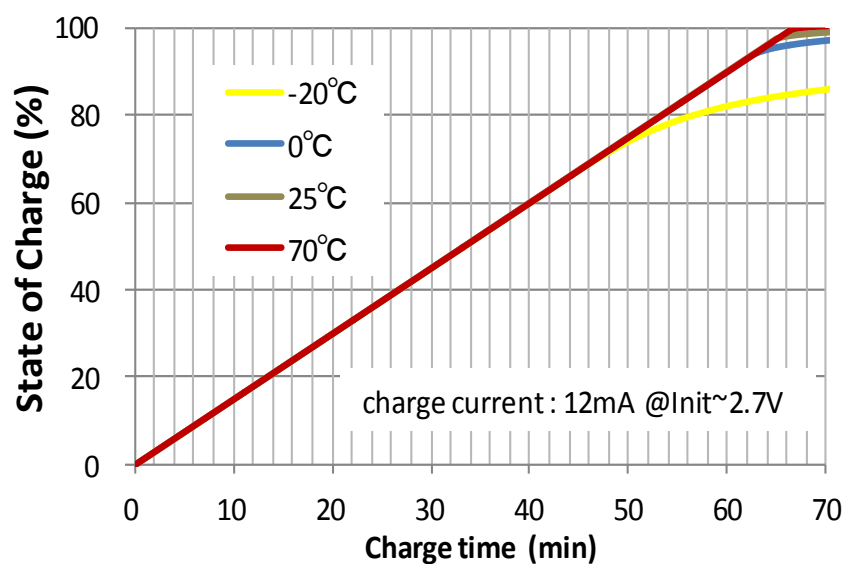
State of Charge : Current Characteristics



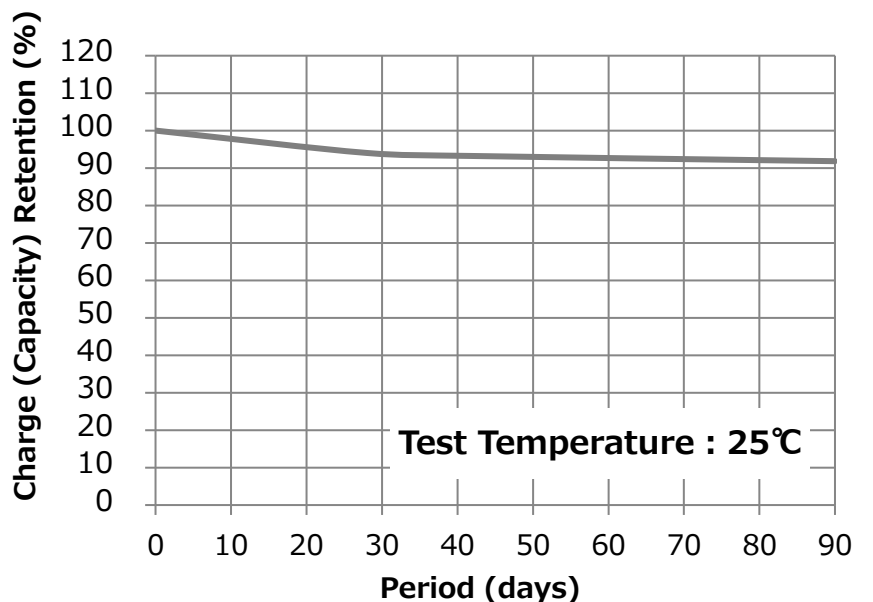
Cycle Characteristics



State of Charge : Temperature Characteristics



Charge (Capacity) Retention



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.