

## Application Note for Backup System

RoHS

REACH

Hand  
Soldering  
Only

### 1. Description

Murata's small energy device (UMA series) has high capacity in a small package. When using it for data backup instead of capacitors, backup time becomes much longer.

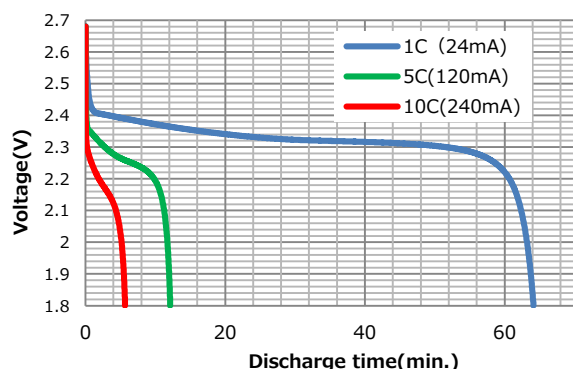


Fig. 1 Constant current discharge characteristic  
<Discharge time>  
(e.g. UMAL361421B024TA01)

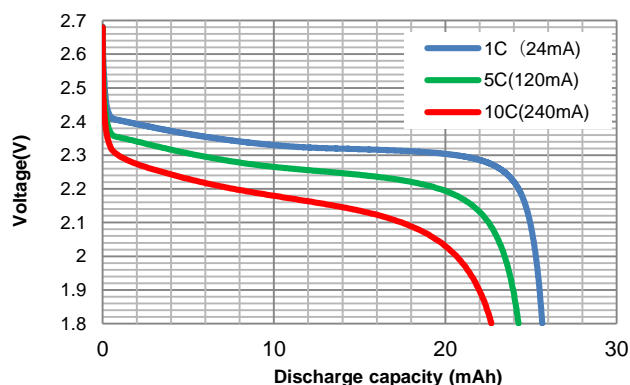


Fig. 2 Constant current discharge characteristic  
<Discharge capacity>  
(e.g. UMAL361421B024TA01)

### 2. Benefits

(1) High capacity and High output/input power

UMA series has about 200 times higher capacity than that of Murata's supercapacitor\*1 in a small package. Therefore it is suitable for long time backup system such as evacuating data system. Furthermore because of its low ESR, UMA series can respond to high load which coin type batteries cannot withstand.

\*1) Comparison UMAL361421B024TA01 with Murata's supercapacitor P/N: DMF3Z5R5H474M3DTA0.

(2) 2.3V Flat voltage characteristic

No complicated power circuit is needed because discharge voltage is stable. It contributes to simplify the circuit or reduce cost.

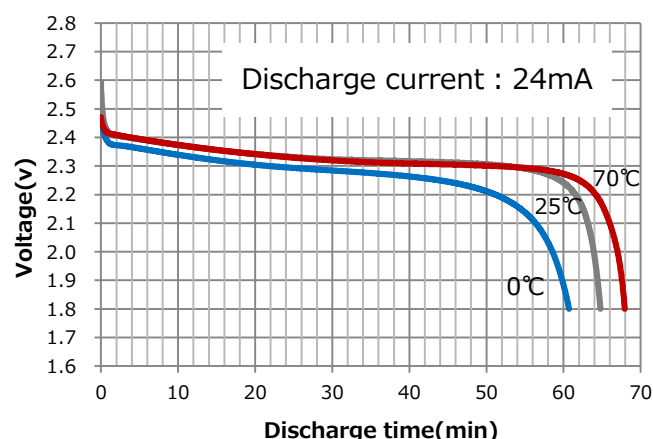


Fig. 3 Discharge temperature characteristic  
(e.g. UMAL361421B024TA01)

(3) Charge (capacity) recovery rate of 90% or higher after 5,000 cycles\*2

UMA series enables to make devices maintenance-free because it can withstand repeated charge-discharge.

(\*2 e.g. UMAL UMAL361421B024TA01)

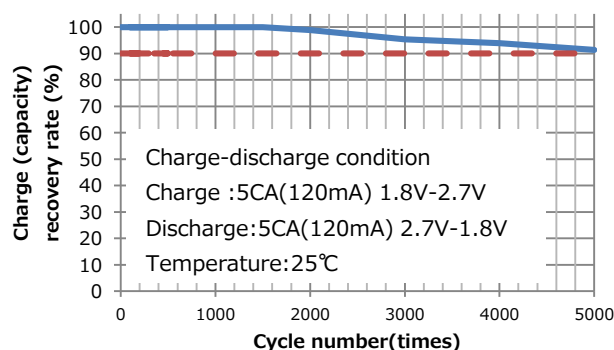


Fig. 4 Charge-discharge cycle characteristic  
(e.g. UMAL361421B024TA01)

### 3. Product Lineup

#### ◆ Recommended product

	Thin laminate type (UMAL)
Part number	UMAL361421B024TA01
Nominal voltage/ Charge voltage / Cut-off voltage	2.3V / 2.7V / 1.8V
Nominal capacity / ESR	24mAh / 100mΩ
Max. discharge current	240mA (10 C)
Size / Weight	21 x 14 x 3.6 mm / 1.3g

#### ◆ Small size & lower capacity product

	Cylinder type (UMAC)
Part number	UMAC040130A003TA01
Nominal voltage/ Charge voltage / Cut-off voltage	2.3V / 2.7V / 1.8V
Nominal capacity / ESR	3mAh / 800mΩ
Max. discharge current	30mA (10 C)
Size	φ4 x 12 mm / 0.29g

### 4. Technical Support.

#### Sample

➤ Please contact Murata sales or distributors.

#### Technical support

➤ Please access our website for more information.

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

