

Quick charge solutions using UMA series

RoHS

REACH

Hand
Soldering
Only

1. Overview

Murata's small energy device (UMA series) can provide high input/output despite its small package. Using Murata's UMA series which can be charged even by quick charge, you can immediately put your equipment to work.

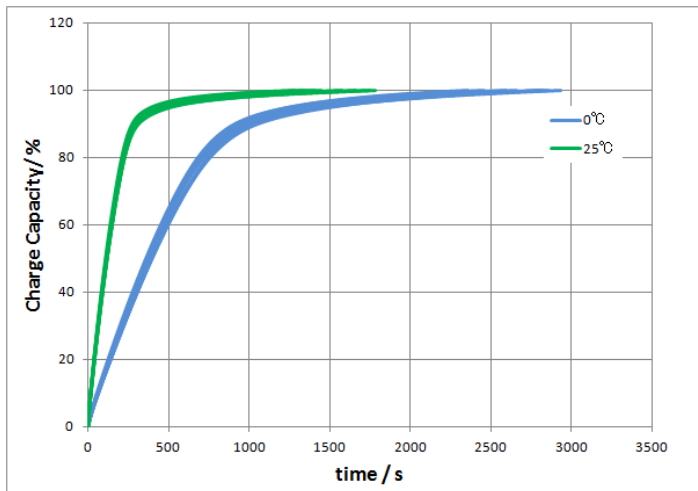


Fig. 1 Charge characteristic

(e.g. UMAC040130A003TA01 / 33C (100mA) Charge)

2. Features

- High Capacity / low ESR
UMAC: 3mAh(equivalent to 10F) / 800mΩ
UMAL: 24mAh(equivalent to 100F) / 100mΩ
- Very low leakage current
- Flat voltage profile of 2.3V

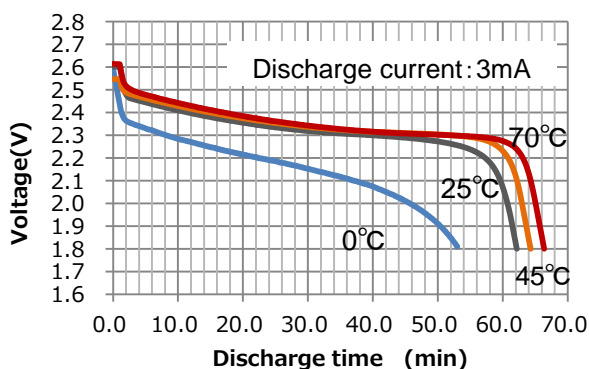


Fig. 2 Constant current discharge characteristic

(e.g. UMAC040130A003TA01)

3. Description

UMA series can be charged/discharged at high current of over 10C^{*1} (UMAC: 30mA / UMAL: 240mA) to which conventional lithium ion batteries cannot respond. For example, table 1 shows the relationship between capacity and charge time when charging UMAC by 33C (100mA) at 25°C. Because over half capacity can be charged for just several minutes, you can put your equipment to work immediately.

*1) The current rate at which the battery capacity is charged or discharged in one hour is defined as 1 C. When battery capacity is 3mAh, 1C is equal to 3mA. When battery capacity is 24mAh, 1C is equal to 24mA. The higher this rate, the higher current a battery can be charged or discharged.

33C (100mA) Charge, Charge Capacity and Operational time at 25°C

Charge Capacity [%]	Charge Time [min:sec]	Operational time[min:sec]	
		1C (3mA) Load	10C (30mA) Load
20 (0.6mAh)	0:40	12:00	1:12
40 (1.2mAh)	1:28	24:00	2:24
60 (1.8mAh)	2:26	36:00	3:36
80 (2.4mAh)	3:41	48:00	4:48
90 (2.7mAh)	4:55	54:00	5:24
100 (3mAh)	25:30	60:00	6:00

Table1 Capacity and Charge time
(e.g. UMAC040130A003TA01)

4. Applications

- (1)Sensor network devices
- (2)PC accessories (wireless mouse, electric pen, and so on)
- (3)Wearable devices
- (4)Security equipments

5. Product Lineup

	Cylinder type (UMAC)	Thin laminate type (UMAL)
Part number	UMAC040130A003TA01	UMAL361421B024TA01
Nominal voltage/ Charge voltage / Cut-off voltage	2.3V / 2.7V / 1.8V	2.3V / 2.7V / 1.8V
Nominal capacity / ESR	3mAh / 800mΩ	24mAh / 100mΩ
Max. discharge current	30mA (10 C)	240mA (10 C)
Size / Weight	φ4 x 12 mm / 0.29g 	21 x 14 x 3.6 mm / 1.3g

6. 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>



If you have any question, please contact your local Murata sales representative.