1.- SCOPE

This specification applies to the following 3.0V lithium button cell CR2032 made by FULLWAT.

2.- RATINGS

		Unit	Specification	Conditions
Nominal Voltage		V	3.0	Standard discharge
Nominal Capacity		mAh	210	Standard discharge
Instantaneous short-circuit current		mA	>= 250	Time <= 0,5 second
Off-load voltage		V	>= 3,25	
Storage temperature		ºC	20~25	
Temperature range		ºC	-20~+70	
Standard weight		g	3,0	Unit cell
Service output	**Initial**	Standard	1000 h	Continous discharge with load 15KOhms, till 2,0v end-voltage at 20~25ºC
		Minimum	900 h	
	After 12 months storage	Standard	950 h	
		Minimum	850 h	

	Conditions	Characteristics
Self-discharge rate	Stored for 12 months at normal temperature, then constinuosly discharged with 15 KOhms load till 2.0v end-voltage	<= 5%

3.- SUGGESTIONS AND CAUTIONS

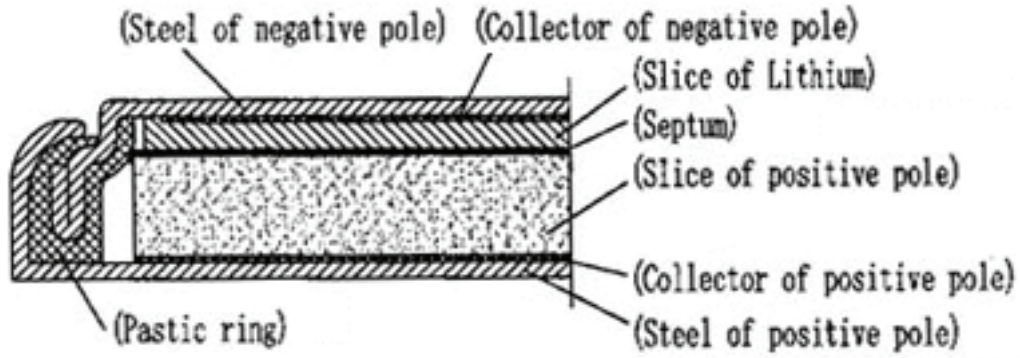
3.1.- Install batteries correctly.
3.2.- Ensure the contact points to be clean and conductive.
3.3.- Do not mix different types, different brands batteries to serve together.
3.4.- Do not heat, recharge the batteries.
3.5.- Do not dispose of the batteries in fire.
3.6.- Keep away from the small children, if swallowed promptly see doctor.
3.7.- Pay attention to the producing date.

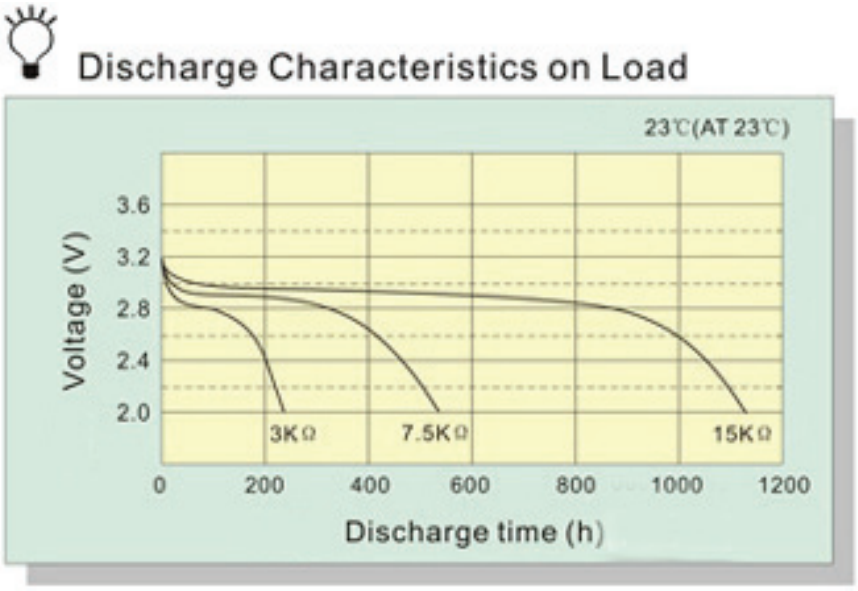
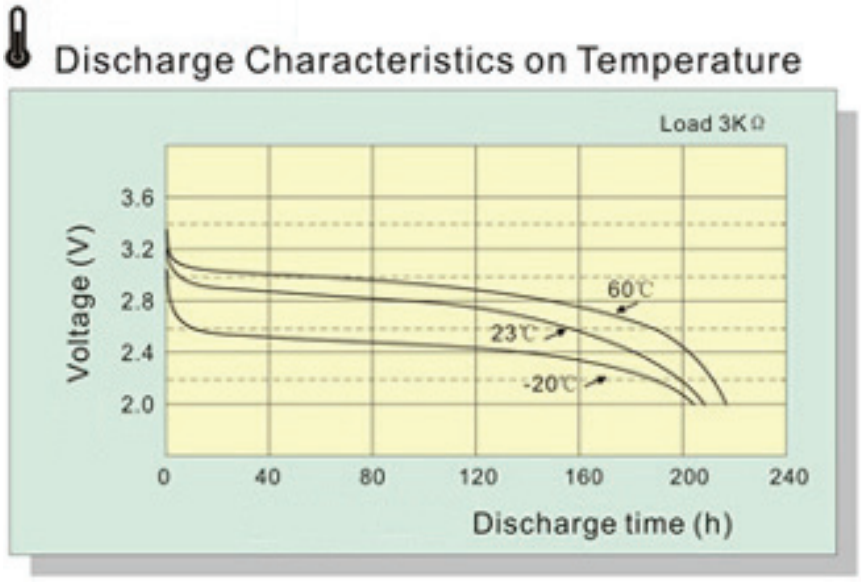
4.- PERFOMANCE AND TEST METHODS

Unless otherwise stated, all the testing is carried out under the condition: environmental temperature, 20ºC~25ºC; environmental humidity, 65±20%.

Test	Test methods	Standared	
Dimensions	Using vernier caliper (accuracy>=0,02) while avoiding short-circuit	Diameter	20,0 (-0,20) mm
		Height	3,2 (-0,20) mm
Off-load voltage	Using multimeter (accuracy>=0,25%) internal resistance >=1MOhm	>= 3,25 v	
Instantaneus short-circuit current	Time of short-circuit should be less tan 0,5 second and avoid repeated test within half an hour	>=250 mA	
Appearance	Eyeballing	Bright, clean, no rust, no leakage, and no flaw	
Capacity	Continuosly discharge for 8 hours with load 15K, temperatura at 20~25ºC, humidity at 65±20% till 2,0v end voltage (for fresh battery only: within 3 months)	>= 1000 h	
Vibration test	Put battery on the platform of the vibrations machine, start the machine and adjust the frequency from 10 times per minute to 15 times per minute. Keep it running for an hour.	Characteristics keep stability.	
Leakage at high temperature	Stored under temperature (45ºC) for 30 days	Leakage rate <= 1%	
Over discharge test	After 2,0v end voltage, continuosly discharged for 5 hours	No leakage allowed	

5.- BENCH SECTION OF 3,0V LITHIUM MANGANESE DIOXIDE BUTTON CELL



6.- DISCHARGE CHARACTERISTICS

SPECIFICATIONS	
Nominal Voltage	3,0V
Nominal Capacity	210mAh
Instantaneous short-circuit current	0,4mA
Off-load voltage	3,1g