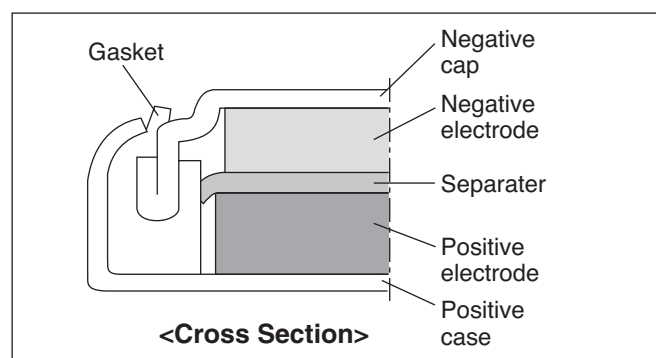


MS412FE/MS518SE/MS614E/MS614SE/MS621FE/MS920SE



MS (Manganese Silicon) lithium rechargeable batteries, developed by Seiko Instruments Inc., use silicon oxide as the anode and a lithium manganese composite oxide as the cathode. As a result, they offer long cycle life and highly stable overdischarge characteristics.



FEATURES

- Large discharge capacity :
For high operational voltage range of 3.3V to 2.0V.
- Long cycle life :
Cycle life of over 100 cycles under charge/discharge conditions of 3.3V to 2.0V (D.O.D.100%).
- Excellent overdischarge characteristics :
Continued stable capacity characteristics even after the battery is overdischarged down to 0.0V.
- Operation over a wide temperature range:
Operating temperature range : -20°C to +60°C
Consult us for using the battery at a temperature beyond the above temperature range.
- RoHS Compliant

APPLICATIONS

- Backup power supply for memory or clock function in various types of electronic equipment for mobile communication, office automation, audio-visual equipment, mobile information equipment, etc. (cellphone, PHS, cordless phone, pager, memory card, fax machine, PC, video camera, digital camera, tuner, handy terminal, PDA, etc.)
- Hybrid power supply in combination with solar cells.
- Main power supply for small and slim portable equipment.

SPECIFICATIONS

Type	Nominal Voltage (V)	Charge Voltage (Standard Charge Voltage)*6 (V)	Nominal Capacity (mAh)*1	Internal Impedance (Ω)*2	Standard Charge/Discharge Current (mA)	Maximum Discharge Current (Continuous) (mA)*3	Cycle Life (Time)*4		Size (mm)		Weight (g)
							100%*5 D.O.D. (Depth of Discharge)	20%*5 D.O.D. (Depth of Discharge)	Diameter	Height	
MS412FE	3	2.8 to 3.3 (3.1)	1.0	100	0.010	0.10	100	1000	4.8	1.2	0.07
MS518SE	3	2.8 to 3.3 (3.1)	3.4	60	0.010	0.15	100	1000	5.8	1.8	0.13
MS614E	3	2.8 to 3.3 (3.3)	2.3	50	0.015	0.25	100	1000	6.8	1.4	0.17
MS614SE	3	2.8 to 3.3 (3.1)	3.4	80	0.015	0.25	100	1000	6.8	1.4	0.17
MS621FE	3	2.8 to 3.3 (3.1)	5.5	80	0.015	0.25	100	1000	6.8	2.1	0.23
MS920SE	3	2.8 to 3.3 (3.1)	11.0	35	0.050	0.80	100	1000	9.5	2.1	0.47

*1. Nominal capacity: Typical value of discharge capacity between 3.1V and 2.0V

(Note that the discharge capacity of MS614E is between 3.3V and 2.0V.)

*2. Internal impedance is measured using an AC (Alternating Current) method at the fully charged state.

*3. Maximum discharge current indicates the value of a current for approximately 50% of the nominal capacity.

*4. Cycle Life indicates the times charge/discharge is repeated for approximately 50% of the capacity values in the specification sheet.

*5. 100% and 20% are based on nominal capacity.

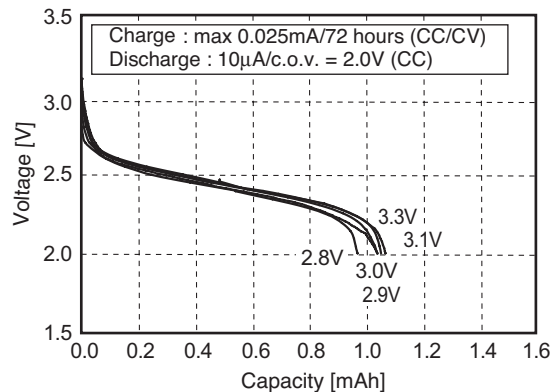
*6. A constant voltage charge is recommended, but due to a limit in charge current, it is necessary to insert a resistor to regulate the charge current.

Contact us for further details.

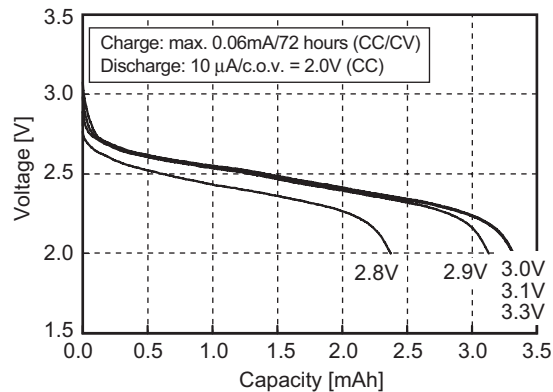
If a constant current charge is required, contact us for more information.

DISCHARGE CHARACTERISTICS (CHARGE VOLTAGE DEPENDENCE)

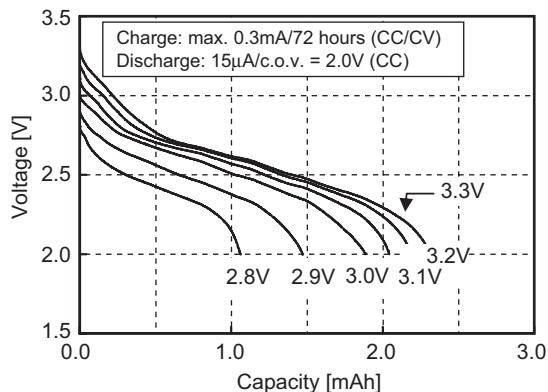
MS412FE



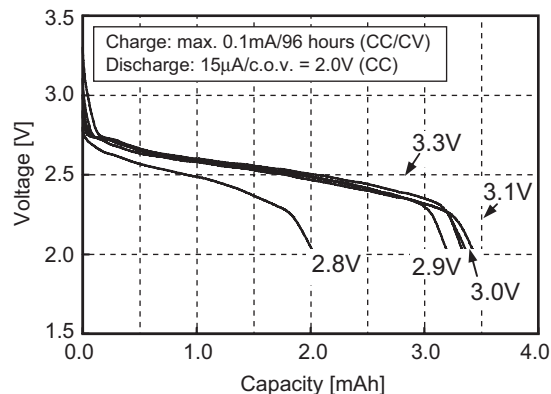
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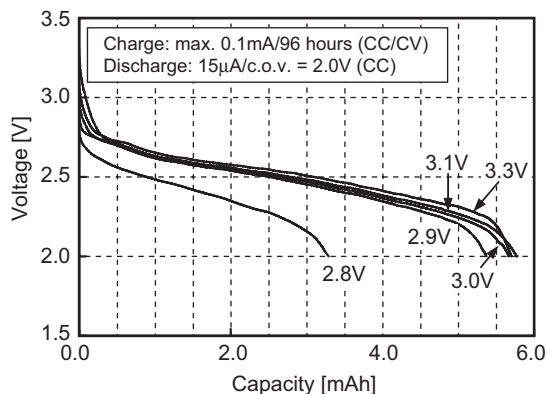
MS614E



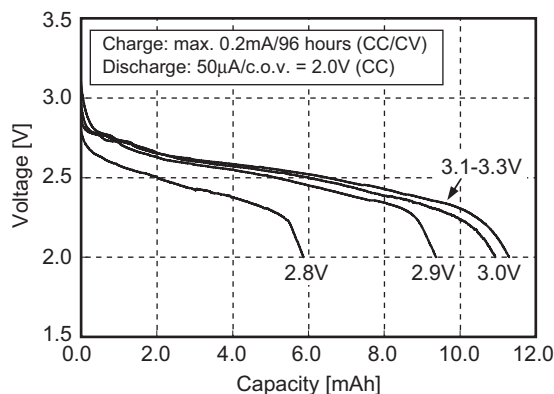
MS614SE



MS621FE



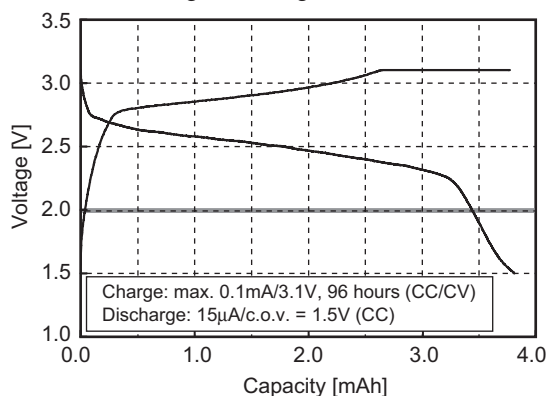
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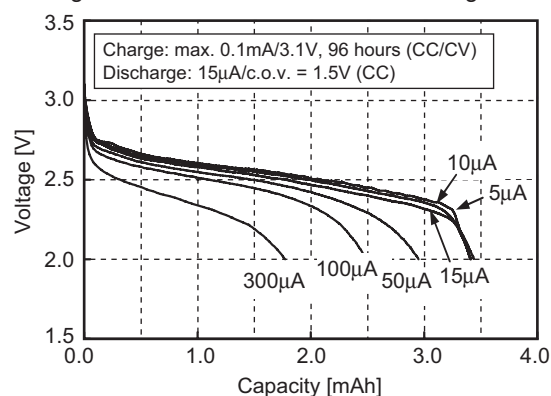
* c.o.v. : Cut Off Voltage (final voltage)

CHARACTERISTICS (MS614SE)

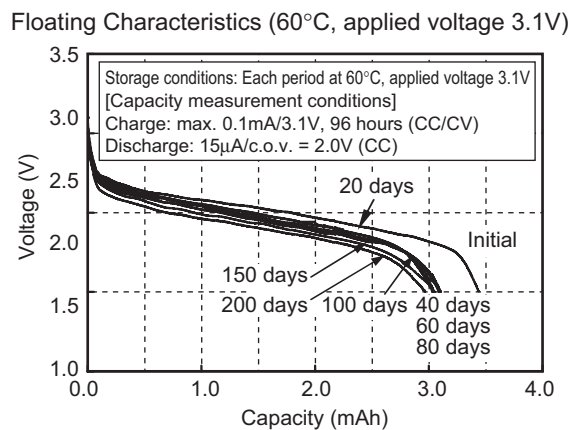
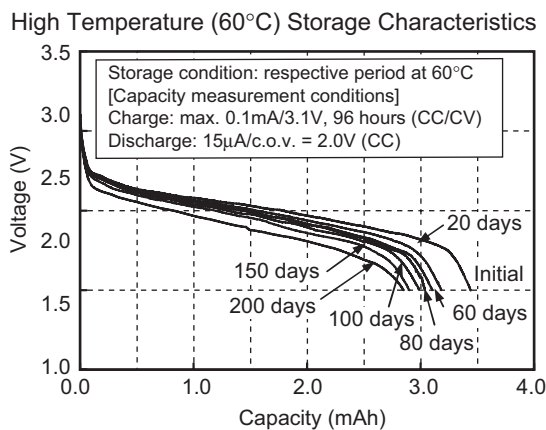
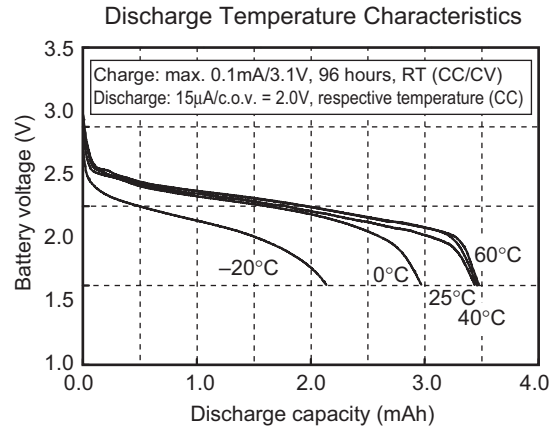
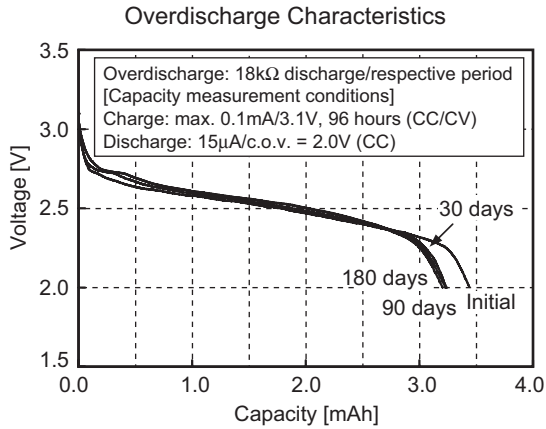
Charge/discharge characteristics



Discharge Characteristics at Various Discharge Current



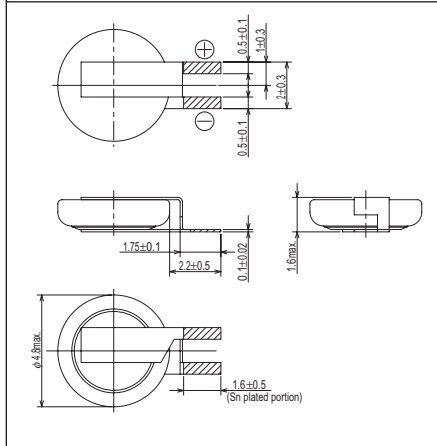
CHARACTERISTICS (MS614SE)



DIMENSIONS OF STANDARD TERMINALS OF MS LITHIUM RECHARGEABLE BATTERIES

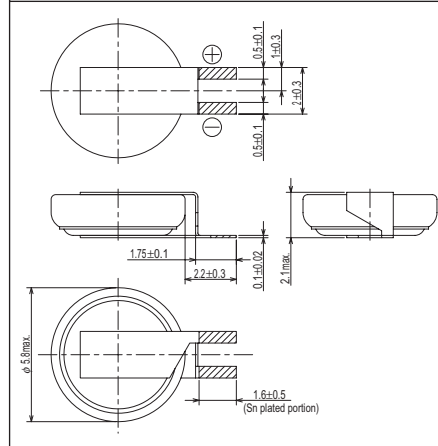
Recommend

MS412FE FL26E

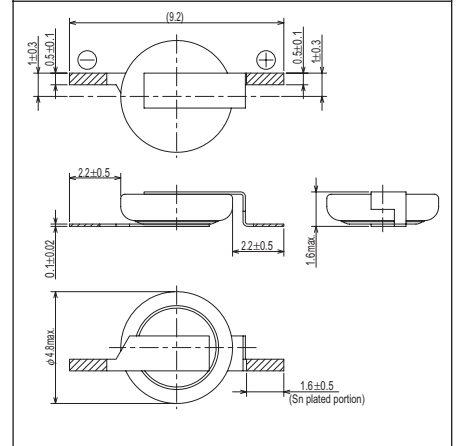


Recommend

MS518SE FL35E



MS412FE IL21E

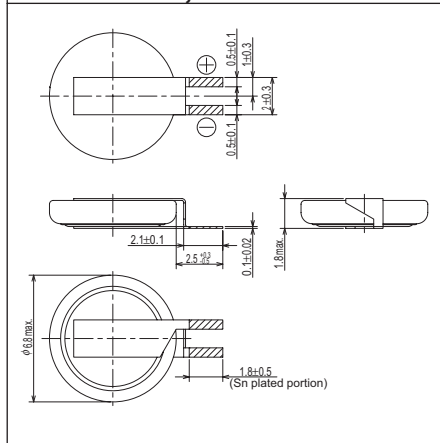


- Contact Seiko Instruments Inc. for batteries with terminals other than the above shapes.
- Units: mm
- The hatched parts are tin plated (Sn: 100%).

DIMENSIONS OF STANDARD TERMINALS OF MS LITHIUM RECHARGEABLE BATTERIES

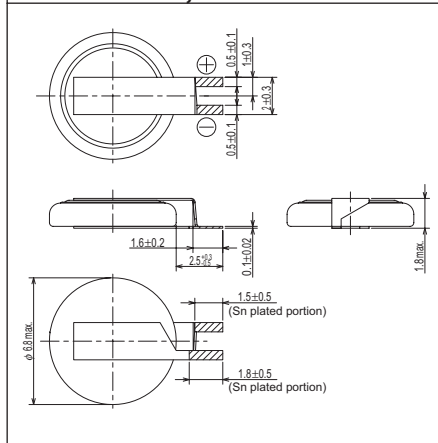
Recommend

MS614E, 614SE FL28E



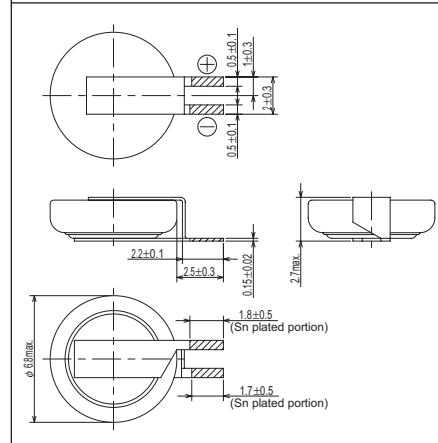
Recommend

MS614E, 614SE FL29E



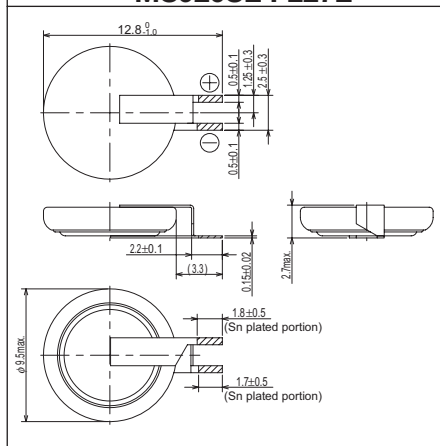
Recommend

MS621FE FL11E

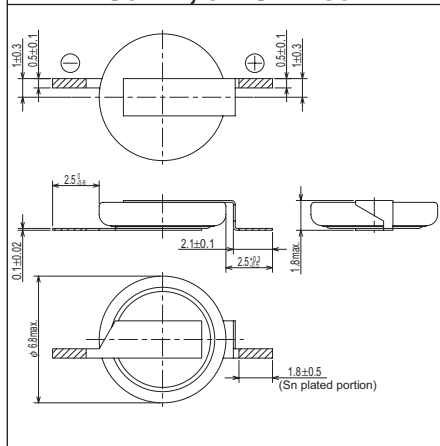


Recommend

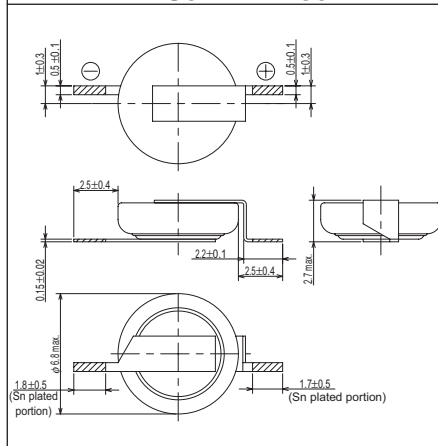
MS920SE FL27E



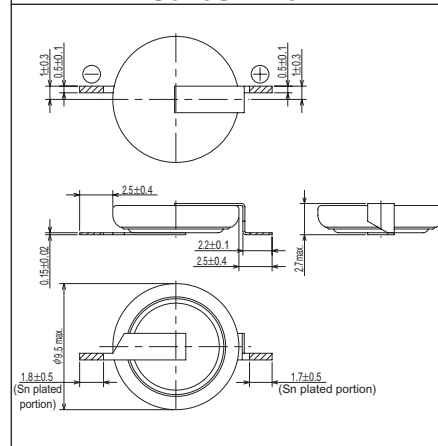
MS614E, 614SE IL38E



MS621FE IL36E



MS920SE IL37E



AMEYA360

Components Supply Platform

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