



LITHIUM RECHARGEABLE BATTERIES

To protect the global environment, Seiko developed a lithium rechargeable battery which allows Pb-free reflow soldering (automatic mounting by Pb-free solder). The HB414 series is the Pb-free reflowable battery, by adopting highly heat resistance material and precise sealing technology. It features high capacity and long cycle life with possible charging voltage range from 1.8V to 3.3V, which is most suitable for backup use of real time clocks and SRAM.

HB Series

Features:

- Pb-free reflowable: Superior heat resistance (260°C peak) allows reflow soldering by Pb-free solder
- Wide range of charging voltage: (1.8V to 3.3V) allows to be used for various applications
- High capacity: Ten times higher than capacitor in 0.3mAh typ. (charge: 3V cutoff 1.2V)
- Long cycle life: More than 1,000 times charge/discharge cycle (10% D.O.D.)
- Excellent over discharge characteristics
- Wide range of operating temperature: - 20°C to + 60°C
- UL Approval: File No 15628

Applications:

- Power supply back up for cell phone, wireless phone, PHS, digital still camera, PDA and MD player

For quantities of 2000 and up, call for quote.

MOUSER STOCK NO.	Seiko Part No.	Fig.	Nominal Voltage	Nominal Capacity			Internal Impedance (Ω) (Note 2)	Standard Charge Discharge Current (mA)	Cycle Life Time (Note 1)		Price Each			
				3.0-1.2 (mAh)	2.5-1.2 (mAh)	3.0-2.0 (mAh)			100% D.O.D.	10% D.O.D.	1	100	500	1000
628-HB414-IV01E	HB414-IV01E	A	3.0	0.3	0.2	0.1	280	0.005	100	1000	1.28	1.15	1.02	.93

Note 1: D.O.D.: Depth of Discharge

Note 2: Internal impedance is measured using AC (alternating current) method at the fully charged state

MS Series

Features:

- Large discharge capacity: Large discharge capacity for high operational voltage range of 2.0V to 3.3V
- Long cycle life: Over 200 times cycle-life under the charge/discharge condition at 2.0V to 3.3V (D.O.D. 100%)
- Excellent over discharge characteristics Continued stable capacity characteristics after the battery is over-discharged down to 0.0V
- Wide range of operating temperature: - 20°C to + 60°C
- UL Approval: File No 15628

Applications:

- Back up power supply for memory or clock in various electronic equipment (cell phones, cordless phones, PHS, pagers, memory-cards, FAX machines, personal computers, PDA, video cameras, digital cameras, tuners and handy terminals)
- Combined use with solar cells
- Main power source for small and slim portable equipment

For quantities of 2000 and up, call for quote.

MOUSER STOCK NO.	Seiko Part No.	Fig.	Nominal Voltage	Nominal Capacity 3.0-1.2 (Note 1) (mAh)	Internal Impedance (Ω) (Note 2)	Standard Charge Discharge Current (mA) (Note 3)	Standard Charge Voltage (V)	Cycle Life Time (Note 4)		Price Each			
								Depth of Discharge (5)		1	100	500	1000
628-MS412F-FL26E	MS412F-FL26E	B	3.0	1.0	100	0.010	3.1	200	1000	1.16	1.04	.93	.84
628-MS614S-FL28E	MS614S-FL28E	C	3.0	3.4	80	0.025	3.1	200	1000	1.24	1.12	.99	.90
628-MS621F-FL11E	MS621F-FL11E	D	3.0	5.5	80	0.025	3.1	200	1000	1.24	1.12	.99	.90
628-MS920S-FL27E	MS920S-FL27E	E	3.0	11.0	35	0.050	3.1	100	1000	1.44	1.30	1.15	1.04

Note 1: Nominal Capacity indicates typical value of capacity whose voltage range is 3.1V to 2.0V.

Note 2: Internal Impedance is measured using AC (alternating current) method at the fully charged state

Note 3: Maximum Discharge Current indicates the value of current for approximately 50% of Nominal Capacity

Note 4: Cycle Life Times indicate the times of Charge-Discharge repeating for approximately

50% of the Capacity value in the specifications

Note 5: 100% and 20% are based on Nominal Capacity

REFLOWABLE CAPACITORS

To protect the global environment, Seiko developed a capacitor which allows Pb-free reflow soldering (automatic mounting by Pb-free solder). The XH414 series is the Pb-free reflowable capacitor, by adopting highly heat resistance material and precise sealing technology. It features high capacity, low impedance and long term reliability, which is most suitable for clock and memory backup in various electronics devices due to its wide operating voltage.

Features:

- Pb-free reflowable: Superior heat resistance (260°C peak) allows reflow soldering by Pb-free solder
- High-rate voltage: Able to be used at wide range voltage from 0V to 3.3V and be used for various applications
- High capacity: 0.07F with "414" size (diameter 4.8mm, height 1.4mm)
- Low impedance: Quick Charge-Discharge performance
- Long cycle life: More than 10,000 times charge/discharge cycle
- Able to make simple charging circuit (constant-voltage charging)
- Wide range of operating temperature: - 25°C to + 70°C

Applications:

- Power supply back up for cell phone, wireless phone, PHS, PDA and MD player

For quantities of 2000 and up, call for quote.

MOUSER STOCK NO.	Seiko Part No.	Fig.	Nominal Voltage	Electrostatic Capacity (F)	Internal Impedance (Ω) (Note 1)	Price Each			
						1	100	500	1000
628-XH414H-II06E	XH414H-II06E	F	3.3	0.07	70	1.36	1.22	1.09	.99
628-XH414H-IV01E	XH414H-IV01E	A	3.3	0.07	70	1.28	1.15	1.02	.93

Note 1: Internal impedance is measured using AC (alternating current) method at the discharged state