

SANYO Lithium Batteries



Lithium batteries use lithium metal or a lithium aluminum alloy in its negative electrode (anode) and manganese dioxide in its positive electrode (cathode). **Features:** CR Series: • High operating voltage of 3V and high energy density • Wide operating temperature range of -40°C ~ 85°C, depending on type • Low self-discharge rate of 0.5% per year at room temperature • High capacity cylindrical type • SO9002 certified ML Series: • High operating voltage of 2.5V • Wide operating temperature range of -20°C ~ 60°C • Low self-discharge rate of 2% per year at room temperature • Superior charge and discharge cycle • Able to charge at 2.8V **Applications:** • Cameras • Electronic meters (water, gas, electricity) • Electronic car keys **Memory Backup Power:** • RTC and SRAM for cellular phones • SRAM and DRAM for computers • SRAM and DRAM for facsimile machines • SRAM and DRAM for communications equipment and office equipment

Digi-Key is not approved by any state or federal agency as an authorized supplier of product for medical, life support or life sustaining devices or systems.

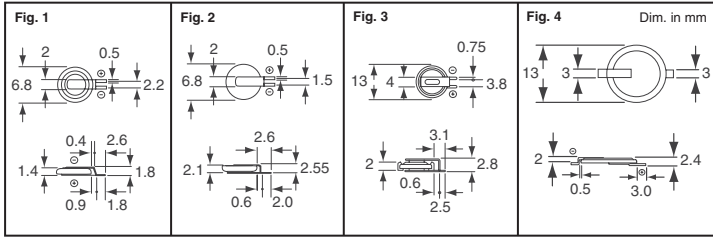


Fig.	Type	(V)	Capacity (mAh)	Dimensions Inch (mm)	Weight▲ (gram)	Standard Discharge Current (mA)	Digi-Key Part No.	1	Pricing 10	Carton	Sanyo Part No.
Coin											
—	Coin	3	25	0.49 x 0.08 (12.5 x 2.0)	0.03 (0.8)	0.1	SY033-ND	.60	5.40	1224.00/4,000	CR1220
		3	80	0.79 x 0.06 (20.0 x 1.6)	0.06 (1.7)	0.3	SY138-ND	.35	3.15	714.00/4,000	CR2016
		3	150	0.79 x 0.10 (20.0 x 2.5)	0.09 (2.5)	0.3	SY188-ND	.35	3.15	714.00/4,000	CR2025
		3	220	0.79 x 0.13 (20.0 x 3.2)	0.11 (3.0)	0.3	SY189-ND	.33	2.93	331.50/2,000	CR2032
		3	280	0.96 x 0.12 (24.5 x 3.0)	0.14 (4.0)	0.3	SY003-ND	1.13	10.13	1147.50/2,000	CR2430
3	610	0.96 x 0.20 (24.5 x 5.0)	0.24 (6.9)	0.2	SY340-ND	1.13	10.13	1147.50/2,000	CR2450		
Coin - Rechargeable											
1	Coin	3	3.4	0.27 x 0.06 (6.8 x 1.4)	0.006 (0.16)	0.015	SY102-ND	2.13	19.13	4335.00/4,000	ML614-TZ14
2		3	5.5	0.27 x 0.08 (6.8 x 2.1)	0.008 (0.22)	0.015	SY103-ND	2.13	19.13	4335.00/4,000	ML621-TZ1
3		3	15	0.49 x 0.08 (12.5 x 2.0)	0.03 (0.8)	0.1	SY104-ND	3.60	32.40	1512.00/700	ML1220-TJ1
4		3	15	0.49 x 0.08 (12.5 x 2.0)	0.03 (0.8)	0.1	SY105-ND	3.60	32.40	1512.00/700	ML1220-TT2
Camera											
—	Cylindrical	3	160	0.46 x 0.41 (11.6 x 10.8)	0.17 (3.3)	2	SY100-ND	2.93	26.33	2983.50/2,000	CR-1-3N
		3	850	0.61 x 1.06 (15.6 x 27.0)	0.39 (11)	10	SY155-ND	3.70	33.30	1968.40/1,000	CR2
	Cylindrical Pack	3	1,400	0.67 x 1.36 (17.0 x 34.5)	0.60 (17)	10	SY154-ND	3.48	31.28	1251.00/600	CR123A
		3	3,300	1.14 x 0.57 x 2.05 (29.0 x 14.5 x 52.0)	1.34 (38)	20	SY212-ND	11.85	106.65	1896.00/200	CR-V3
	Cylindrical Pack	6	160	0.51 x 0.99 (13.0 x 25.2)	0.32 (9.1)	2	SY101-ND	8.60	77.40	4575.20/1,000	2CR-1-3N
		6	1,400	1.37 x 0.77 x 1.41 (34.8 x 19.5 x 35.8)	1.31 (37)	10	SY205-ND	8.63	77.63	1380.00/200	CR-P2
	6	1,400	1.34 x 0.67 x 1.77 (34.0 x 17.0 x 45.0)	1.41 (40)	10	SY073-ND	8.70	78.30	1392.00/200	2CR5	

▲ See "Ordering Information" for note on shipping charges on prepaid orders. Due to possible restrictions, a change in shipping method may be required.

Energizer Lithium Batteries



Features: • Lithium batteries substantially outlast alkaline batteries and supply energy at a constant voltage over a wide range of discharge conditions • Lithium batteries have an estimated shelf life of up to 10 years • The L91 AA is the world's longest lasting AA battery in high-drain applications, based on industry standard testing • 9V type for telemetry and other applications • Energizer E² Photo Lithium batteries provide the ideal power source for

today's photographic devices, with advanced lithium technology for exceptional power in digital devices • Coin types for keyless entry and other electronic applications

Digi-Key is not approved by any state or federal agency as an authorized supplier of product for medical, life support or life sustaining devices or systems.

Type	(V)	Average Capacity (mAh)	Cut-Off Voltage (V)	Rated Drain/Load	Dimensions (mm) Diameter / Height	Weight (g)	Digi-Key Part No.	1	Pricing Pkg.	Carton	Energizer Part No.
AAA	1.5	1,200	0.8	50mA	10.5 / 44.5	7.6	N600-ND	3.70	33.30/10	4519.45/2,296	L92VP
AA	1.5	3,000	0.8	50mA	14.5 / 50.5	14.5	N602-ND	3.70	33.30/10	2440.82/1,240	L91VP
Camera	3	1,500	2.0	100Ω	17 / 34.5	16.8	N151-ND	3.30	29.70/10	2106.72/1,200	EL123APVP
Camera	3	800	2.0	100Ω	15.6 / 27	11.0	N157-ND	4.50	48.60/12	86.40/24	EL1CR2BP
Camera Pack	6	1,500	3.5	200Ω	34 x 17 x 45	39.5	N073-ND	12.30	66.42/6	236.16/24	EL2CR5BP
Camera Pack	6	1,400	4.0	200Ω	35 x 19.5 x 36	37.0	N205-ND	12.30	66.42/6	236.16/24	EL223APBP
Camera Pack (x2)	3	2,900	2.0	200mA	28.2 x 14 x 51.6	32	N212-ND†	23.08	124.61/6	443.04/24	ELCRV3BP2
Coin, 10MM	3	30	2.0	45kΩ	10 / 2.5	0.7	N031-ND	1.05	11.34/12	60.48/72	ECR1025BP
Coin, 12.5MM	3	29	2.0	45kΩ	12.5 / 1.6	0.7	N032-ND	1.08	11.61/12	61.92/72	ECR1216BP
Coin, 12.5MM	3	40	2.0	45kΩ	12.5 / 2	0.76	N033-ND	.90	8.10/10	718.20/1,500	CR1220VP
Coin, 16MM	3	55	2.0	30kΩ	16 / 1.6	1.2	N034-ND	1.00	9.00/10	532.00/1,000	CR1616VP
Coin, 16MM	3	79	2.0	30kΩ	16 / 2	1.4	N035-ND	.93	8.33/10	1887.00/4,000	CR1620VP
Coin, 16MM	3	130	2.0	15kΩ	16 / 3.2	1.8	N036-ND	1.13	10.13/10	1197.00/2,000	CR1632VP
Coin, 20MM	3	58	2.0	30kΩ	20 / 1.2	1.3	N037-ND	1.10	9.90/10	2244.00/4,000	CR2012VP
Coin, 20MM	3	80	2.0	30kΩ	20 / 1.6	1.9	N138-ND	.35	3.15/10	186.20/1,000	CR2016VP
Coin, 20MM	3	170	2.0	15kΩ	20 / 2.5	2.8	N188-ND	.40	3.60/10	212.80/1,000	CR2025VP
Coin, 20MM	3	225	2.0	10kΩ	20 / 3.2	3.3	N189-ND	.35	3.15/10	186.20/1,000	CR2032VP
Coin, 24.5MM	3	290	2.0	10kΩ	24.5 / 3	4.6	N603-ND	1.35	12.15/10	718.20/1,000	CR2430VP
Coin, 24.5MM	3	575	2.0	5.1kΩ	24.5 / 5	6.9	N340-ND	1.38	12.38/10	731.50/1,000	CR2450VP

† One piece = package of two battery packs. Due to possible restrictions, a change in shipping method may be required.

SII Seiko Instruments Inc.

Manganese Silicon Lithium Rechargeable Batteries



The MS (Manganese Silicon) battery uses silicon oxide as anode and lithium manganese oxide composite oxide as cathode. As a result, it offers a longer cycle life and highly stable over-discharge characteristics. **Features:** • Large discharge capacity • Long cycle life • Excellent over-discharge characteristics **Operating Temperature:** • -20°C ~ 60°C **Applications:** • Back up power supply for memory or clock in various electronic equipment such as cellular 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

Digi-Key is not approved by any state or federal agency as an authorized supplier of product for medical, life support or life sustaining devices or systems.

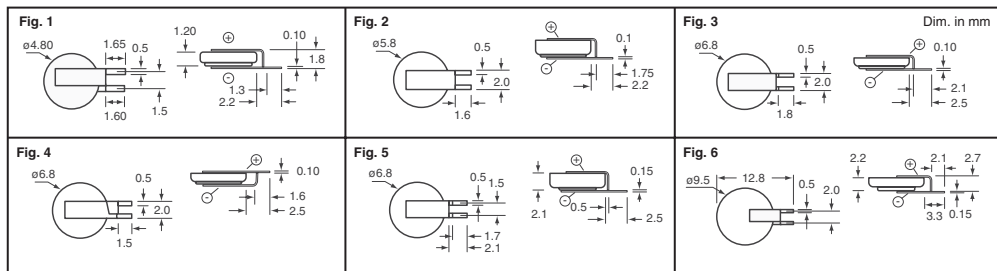


Fig.	Type	Nominal Voltage (V)	Nominal Capacity (mAh)	Internal Impedance (Ω)	Standard Charge/Discharge Current (mA)	Maximum Discharge Current (continuous) (mA)	Cycle Life 100% D.O.D. / 20% D.O.D.	Standard Charge Voltage (V)	Weight (g)	Digi-Key Part No.	1	Pricing 10	Pkg.	Seiko Instruments Part No.
1	MS412F	3.0	1.0	100	0.010	0.10	200 / 1000	3.1	0.07	728-1043-ND	1.45	13.05	232.00/200	MS412F-FL26E
2	MS518S	3.0	3.4	60	0.010	0.15	100 / 1000	3.1	0.13	728-1044-ND	1.60	14.40	128.00/100	MS518S-FL35E
3	MS614S	3.0	3.4	80	0.025	0.25	200 / 1000	3.1	0.17	728-1045-ND	1.55	13.95	124.00/100	MS614S-FL28E
4	MS614S	3.0	3.4	80	0.025	0.25	200 / 1000	3.1	0.17	728-1046-ND	1.55	13.95	124.00/100	MS614S-FL29E
5	MS621F	3.0	5.5	80	0.025	0.25	200 / 1000	3.1	0.23	728-1047-ND	1.55	13.95	124.00/100	MS621F-FL11E
6	MS920S	3.0	11.0	35	0.050	0.80	100 / 1000	3.1	0.47	728-1048-ND	1.80	16.20	144.00/100	MS920S-FL27E

More Product Available Online: www.digkey.com

Toll-Free: 1-800-344-4539 • Phone 218-681-6674 • Fax: 218-681-3380

(T083) 2289