

**BBCV2.MH13654**  
**Lithium Batteries - Component**

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**VARTA MICROBATTERY GMBH**  
DAIMLER-STR 1  
73479 ELLWANGEN, GERMANY

MH13654

Model No.	Primary Type <sup>[a]</sup>	Max Abnormal Charging Current mA	Max Abnormal Charging Voltage, V dc	Replacement [b],[c]
2CR55	Lithium/manganese dioxide (Cylindrical)	25	-	User
2XCR1/2AA	Lithium/manganese dioxide (Pack)	4	-	Technician
6204	Lithium/manganese dioxide (Cylindrical)	10	-	User
6205	Lithium/manganese dioxide (Cylindrical)	10	-	User
CR1/2AA*	Lithium/manganese dioxide (Cylindrical)	4	-	Technician
CR1/3N	Lithium/manganese dioxide (Cylindrical)	2	-	User
CR1/4AA*	Lithium/manganese dioxide (Cylindrical)	4	-	Technician
CR1216+	Lithium/manganese dioxide (Coin)	3.5	-	User
CR1220	Lithium/manganese dioxide (Coin)	3	-	User
CR1220+	Lithium/manganese dioxide (Coin)	10	-	User
CR123A	Lithium/manganese dioxide (Cylindrical)	25	-	User
CR123A-R	Lithium/manganese dioxide	150	12	User
CR1616+	Lithium/manganese dioxide (Coin)	2.5	-	User
CR1620	Lithium/manganese dioxide (Coin)	2.5	-	User
CR1620+	Lithium/manganese dioxide (Coin)	2.5	-	User
CR1632	Lithium/manganese dioxide (Coin)	4	-	User
CR17450-R	Lithium/manganese dioxide	10	12	Technician
CR2	Lithium/manganese dioxide (Cylindrical)	20	-	User
CR2, CR2NP	Lithium/manganese dioxide (Cylindrical)	20	-	User
CR2-R	Lithium/manganese dioxide	100	12	User
CR2/3A	Lithium/manganese dioxide (Cylindrical)	4	-	Technician
CR2/3AA*	Lithium/manganese dioxide (Cylindrical)	4	-	Technician
CR2/3AH	Lithium/manganese dioxide (Cylindrical)	25	-	User
CR2/3AH-R	Lithium/manganese dioxide	10	12	Technician
CR2016	Lithium/manganese dioxide (Coin)	10	-	User
CR2016-P (\$)	Lithium/manganese dioxide (Coin)	10	-	User
CR2025	Lithium/manganese dioxide (Coin)	10	-	User
CR2025-P (\$)	Lithium/manganese dioxide	10	-	User
CR2032	Lithium/manganese dioxide (Coin)	10	-	User
CR2032-P (\$)	Lithium/manganese dioxide	10	-	User
CR2320	Lithium/manganese dioxide (Coin)	5	-	Technician
CR2430	Lithium/manganese dioxide (Coin)	15	-	User
CR2430(%)	Lithium/manganese dioxide (Coin)	25.0	-	User
CR2430-P (\$)	Lithium/manganese dioxide (Coin)	15	-	User
CR2450	Lithium/manganese dioxide (Coin)	30	-	User
CR2450(%)	Lithium/manganese dioxide (Coin)	100	-	User
CR2450-P (\$)	Lithium/manganese dioxide (Coin)	30	-	User
CR2NP	Lithium/manganese dioxide (Cylindrical)	15	-	Technician
CRAA*	Lithium/manganese dioxide (Cylindrical)	4	-	Technician
CRP2	Lithium/manganese dioxide (Cylindrical)	25	-	User
ER A	Lithium thionyl chloride	60	-	Technician
ER C	Lithium thionyl chloride	15	4.2	Technician
ER D	Lithium thionyl chloride	150	4.2	Technician
ER1/2AA	Lithium thionyl chloride	15	12	Technician
ERAA	Lithium thionyl chloride	15	12	Technician
Model No.	Secondary Type <sup>[d]</sup>	Max Charging Current (Ic), mA	Max Charging Voltage, V dc <sup>[e]</sup>	Test Compliance <sup>[f]</sup>
" "				

<b>LIC18650-22L</b>	Lithium ion (Cylindrical)	2200	4.2	2
<b>LIC18650-24*C</b>	Lithium ion	2400	12	1
<b>LIC18650-24C</b>	Lithium ion	2400	12	1
<b>LIC18650-26C</b>	Lithium ion	2600	12	1
<b>CP1254(k)</b>	Lithium ion (Coin)	100	12	1
<b>CP1654(kk)</b>	Lithium ion (Coin)	200	4.8	1
<b>Li-Ion accu 185(k)</b>	Lithium ion (Coin)	100	12	1
<b>LIC18650-22C</b>	Lithium ion (Cylindrical)	2200	12	1
<b>LIP 423450 AJL</b>	Lithium ion	850	4.6	1
<b>LPP 383450 PL</b>	Lithium ion	700	4.2	1
<b>LPP 422339 PL</b>	Lithium ion	350	4.6	2, 4
<b>LPP 443441 PVL</b>	Lithium ion	630	4.2	1
<b>LPP 503562 DL</b>	Lithium ion	1250	4.6	1
<b>LPP 503759 DL</b>	Lithium ion	1240	4.2	1
<b>LPP 523450 DL</b>	Lithium ion	900	4.2	1
<b>LPP 553048 PL</b>	Lithium ion	820	4.2	1
<b>LPP402025 (h)</b>	Lithium ion (Cylindrical)	130	12	3
<b>LPP402025CE</b>	Lithium ion	150	4.8	3

[a] These cells and batteries are not rechargeable. The circuit containing these cells or batteries is to contain a protective component that prevents charging. The circuitry is to include a current-limiting component intended to protect the cell or battery, in the event the protective component malfunctions, from a charging current in excess of the maximum abnormal charging current indicated.

[b] User - These primary cells and batteries are intended for use in applications subject to replacement by a user.

[c] Technician - These primary cells and batteries are intended for use in applications subject to replacement only by a trained service technician.

[d] These cells and batteries are rechargeable. The circuitry containing these cells or batteries is to contain protective components intended to protect the cells or batteries from currents in excess of the maximum charging current and voltage indicated.

[e] The Max Charging Voltage noted in the column is the maximum voltage employed during the abnormal charging test of the secondary lithium ion cell. However, the maximum recommended charging voltage for lithium ion cells is 4.2 V, unless indicated otherwise.

[f] Test Compliance - The cells comply with the tests in UL 1642 as noted:

- 1 - Complies with all single-cell tests
- 2 - Complies with all single-cell tests except the impact test
- 3 - Complies with all single-cell tests except the projectile test
- 4 - Complies with all single-cell tests except the crush test

(\$) - Cell model numbers may be followed by an optional slash (/) and single or multiple alphanumeric characters (i.e. letters and/or numbers), which denote optional features such as various mounting tabs, connecting leads or plugs, packaging etc.

(%) - Cells may have various pin, tab, insulating tube, ring and tape.

(h) - These cells can be used in Series with a maximum of 2 cells of the same model number or in parallel with a maximum of 4 cells of the model number.

(k) - Ic: 0.05 A at 12 V max; Ic: 0.1 A at 4.80 V max.

(kk) - Ic: 0.2 A at 4.80 V max.

\* - Cells may have the optional suffixes CD, LF, SLF, SWC, TP, PCBD or EINF denoting various pin, tab and wire configurations.

+ - Cells may have various insulating tube, ring, or tape.

@ - Cells may have the optional suffixes N, F or other denoting various fold and tab configurations.

Note - For Footnote [e], description of "the maximum recommended charging voltage" is replaced by "the recommended charging voltage".

Marking: Company name or tradename "MH13654", "Power One", "VARTA", Recognized Component Mark,  on the cell or smallest shipping package containing the cell.  
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