

コイン形二酸化マンガンリチウム電池

CR2032X

■適用範囲

当データシートはコイン形二酸化マンガン・リチウム電池CR2032Xに適用します。

■適用用途

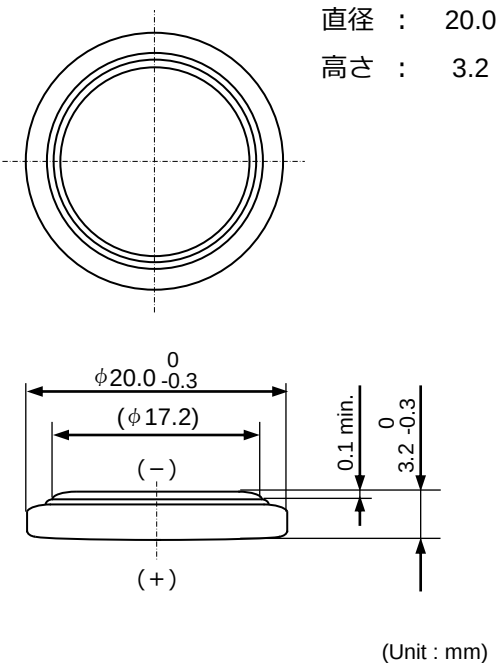
- ・民生機器：家電機器・AV機器・通信機器・情報機器・事務機器・家庭用ロボット機器といった民生機器、かつ、その機能が人命及び財産の保護に直接的にかかわらない機器に使用できる製品
- ・医療機器(GHTF Class A)：国際分類クラスGHTF/IMDRFでClass Aで規定される医療機器で、かつ、その機能が人命及び財産の保護に直接的にかかわらない機器に使用できる製品
- ・産業機器：基地局・製造機器・工業用ロボット機器といった産業機器で、かつ、その機能が人命及び財産の保護に直接的にかかわらない機器に使用できる製品

■適用外用途

車載機器、医療機器B・C・D及び当データシートの「用途の限定」に書かれている用途

*車載機器、医療機器 GHTF Class B・Cの対応品については、お客様とお取引のある弊社営業窓口・代理店・商社、またはお問い合わせフォーム
(<https://www.murata.com/contactform>)までお問い合わせください。

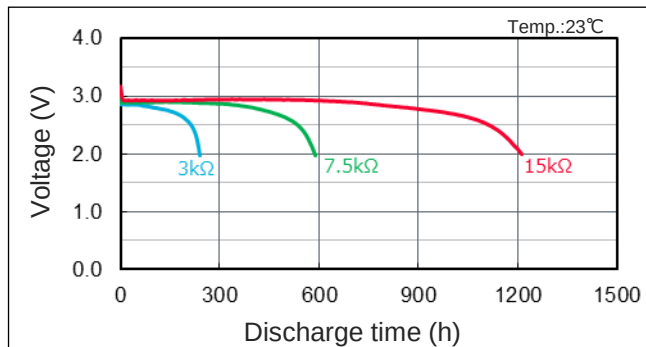
■外形寸法



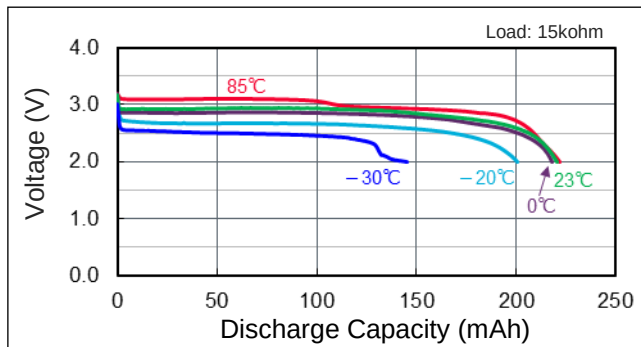
■定格

公称電圧	3.0 V
公称容量（終止電圧2.0V）	220 mAh
推奨連続放電電流値（容量利用率高）	≤1 mA
最大パルス放電電流(mA) *DOD50%時, 23℃, パルス長さ3sec, 2V以上	30 mA
標準質量	3.0 g
使用温度範囲	-40 ~ +85℃
UL認定合格部品 許可番号 : MH12566 ● User replaceable	

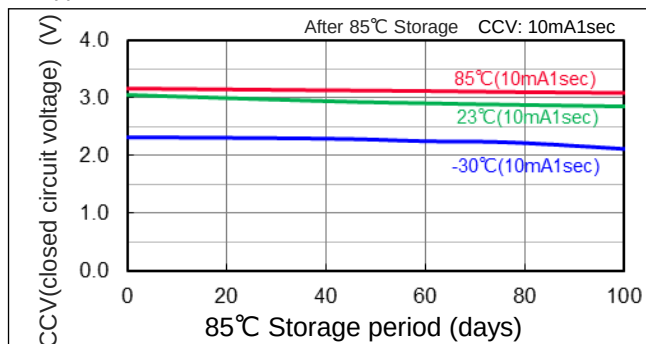
■ 放電負荷特性



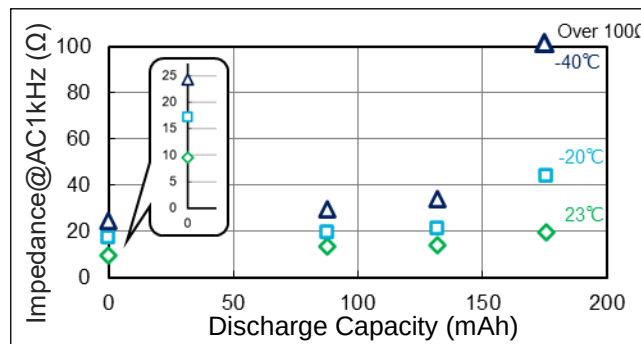
■ 放電温度特性



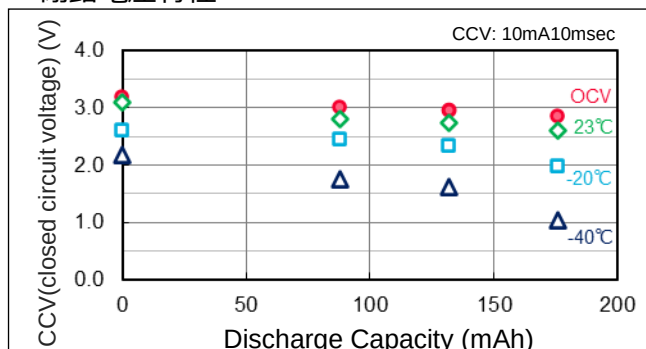
■ 保存特性



■ 内部抵抗

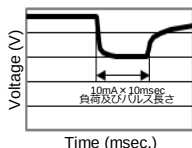


■ 閉路電圧特性



試験方法

未放電の電池と規定の容量
(88mAh, 132mAh, 176mAh @ 23°C, 3kΩ)
まで放電させた電池を
10mA×10msec (1/パルス) の条件で測定
した際の電圧値。



■ 用途の限定

当データシートに記載の製品は、当データシート内で個別に記載の適用用途向けに設計・製造されたものであり、高度な性能・機能・品質・管理・安全性が要求される本注意書き末尾①から⑪までの用途への適合性・性能発揮・品質等を保証するものではありませんので、当データシート記載の適用用途に従ってご使用ください。

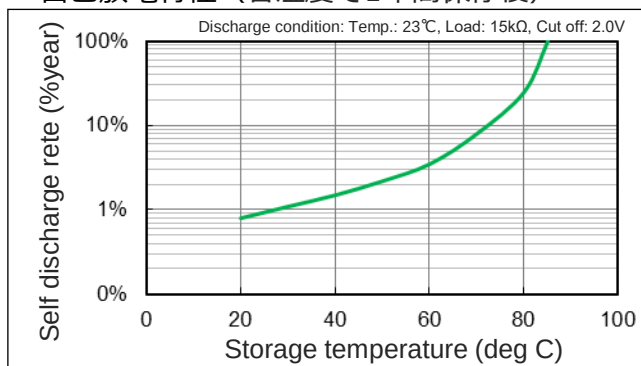
万が一、当データシート記載の適用用途以外の用途でご使用された場合、又は以下の①から⑪までの用途でご使用された場合(別途当データシート内に用途記載があるものは除く*)には、弊社は当該使用によって生じた不測の事故その他の損害に関する一切の責任を負いかねますのでご注意ください。

- ①航空機器 ②宇宙機器 ③海底機器 ④発電所制御機器 ⑤医療機器 ⑥輸送機器 ⑦交通用信号機器
⑧防災/防犯機器 ⑨産業用情報処理機器 ⑩燃焼/爆発制御機器 ⑪その他上記機器と同等の機器

当データシートに記載の適用用途以外の用途に対応した製品については、お客様とお取引のある弊社営業窓口・代理店・商社、またはお問い合わせフォーム(<https://www.murata.com/contactform>)までお問い合わせください。

*製品によっては、①から⑪までの用途向けに設計・製造される場合があります、それらは弊社カタログ、仕様書、データシート等に個別で用途を記載しております。

■ 自己放電特性 (各温度で1年間保存後)



注：20°C未満の自己放電率は20°Cと同じ自己放電率になります。

*記載のデータ及び数値は、参考値であり保証値ではありません。

Coin manganese dioxide lithium batteries

CR2032X

■ Scope

This data sheet is applicable to Coin Manganese Dioxide Lithium Battery CR2032X.

■ Specific Applications

- Consumer equipment: Products that can be used in consumer equipment such as home appliances, audio/visual equipment, communication equipment, information equipment, office equipment, and household robotics, and whose functions are not directly related to the protection of human life and property.
- Medical equipment (GHTF Class A): Products that can be used for medical equipment regulated by Class A of the international classification class GHTF/IMDRF and whose functions do not directly relate to the protection of human life and property.
- Industrial equipment: Products that can be used in industrial equipment such as base stations, manufacturing equipment, and industrial robotics equipment, and whose functions do not directly relate to the protection of human life and property.

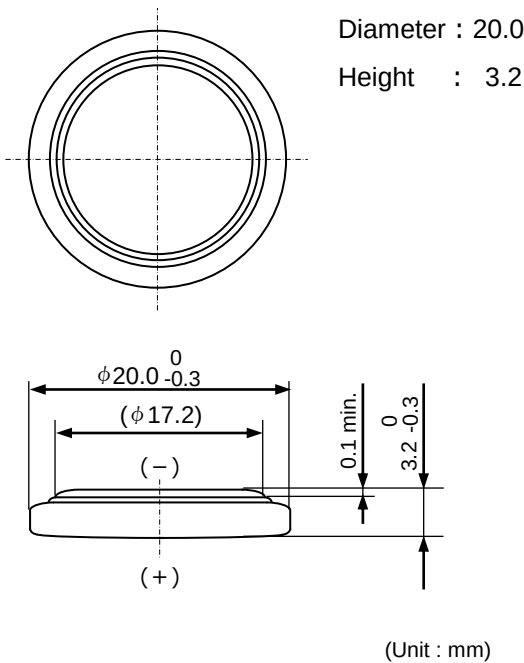
■ Unsuitable Applications

Automotive equipment, medical equipment GHTF Class B, C, D and applications listed in “Limitation of applications” in this Data sheet.

* Automotive equipment and medical equipment GHTF Class B and C, please contact our sales offices, distribution agents, or trading companies with which you make a deal, or via our web contact form.

Contact form: <https://www.murata.com/contactform>

■ Dimensions

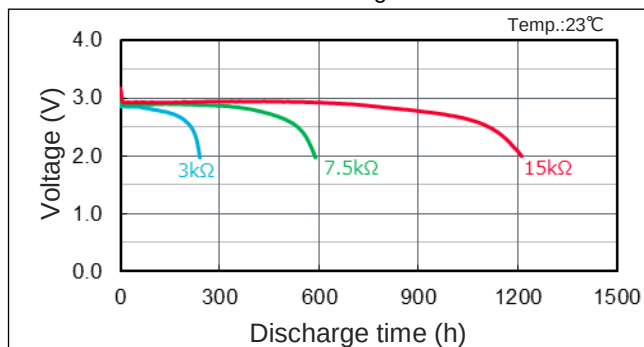


■ Specifications

Nominal Voltage	3.0 V
Nominal Capacity (2.0V cutoff)	220 mAh
Recommended Continuous Discharge Current (High capacity usage rate)	≤1 mA
Maximum Pulse Discharge current (mA) *Assumption : Current to keep higher than 2V at 50% discharge with 23°C and pulse length 3sec.	30 mA
Weight	3.0 g
Operating Temperature	-40 ~ +85°C
UL Recognized components	
● Certification number : MH12566	
● User replaceable	

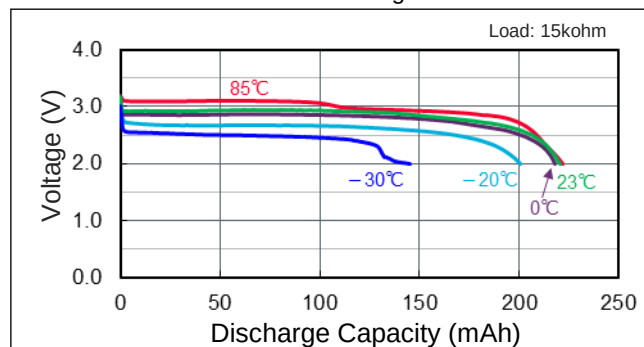
■ Discharge Characteristics on Load

Test Condition: constant discharge

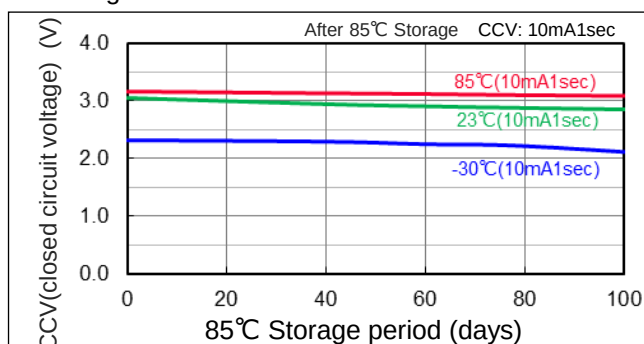


■ Discharge Characteristics on Temperature

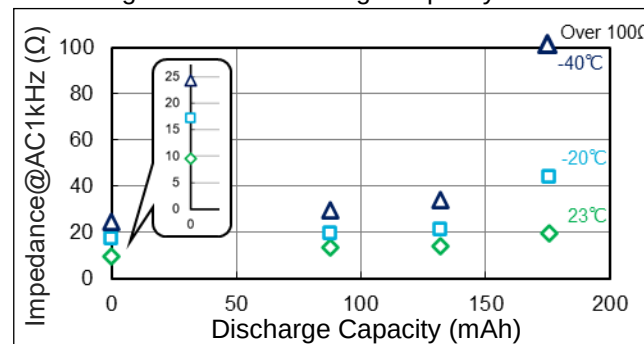
Test Condition: constant discharge



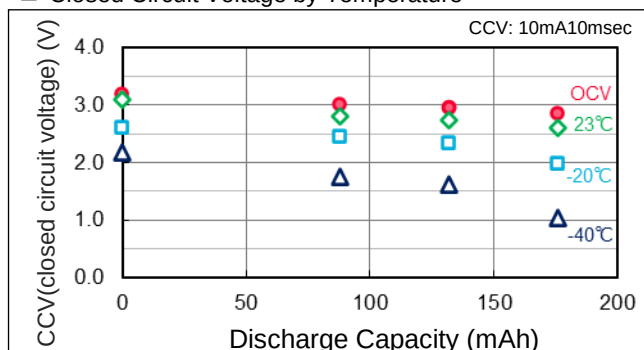
■ Storage Characteristic



■ Discharge Load vs. Discharge Capacity

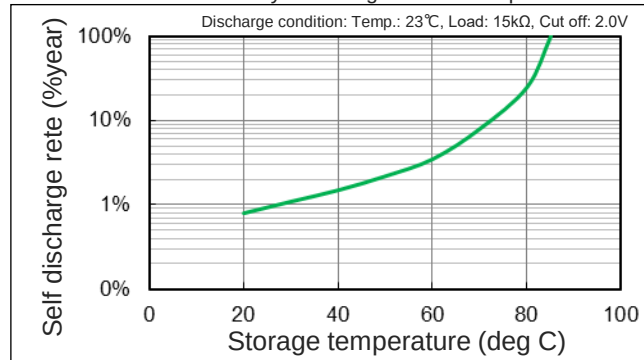


■ Closed Circuit Voltage by Temperature



■ Self Discharge Characteristic by Temperature

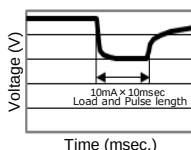
Test Condition : After 1 year storage at each temperature



Note: The self-discharge rate of less than 20°C shows the same self-discharge rate as 20°C.

Test method

Voltage when the Non-discharged battery and the battery discharged to the specific capacity (88mAh, 132mAh, 176mAh @ 23°C, 3kΩ) is measured under the condition of 10mA × 10msec (1 pulse).



■ Limitation of Applications

The products listed in the Data sheet hereinafter the product(s) is called as the "Product(s)" are designed and manufactured for applications specified in the Data sheet. (hereinafter called as the "Specific Application").

We shall not warrant anything in connection with the Products including fitness, performance, adequateness, safety, or quality, in the case of applications listed in from (1) to (11) written at the end of this precautions, which may generally require high performance, function, quality, management of production or safety. Therefore, the Product shall be applied in compliance with the specific application.

WE DISCLAIM ANY LOSS AND DAMAGES ARISING FROM OR IN CONNECTION WITH THE PRODUCTS INCLUDING BUT NOT LIMITED TO THE CASE SUCH LOSS AND DAMAGES CAUSED BY THE UNEXPECTED ACCIDENT, IN EVENT THAT (i) THE PRODUCT IS APPLIED FOR THE PURPOSE WHICH IS NOT SPECIFIED AS THE SPECIFIC APPLICATION FOR THE PRODUCT, AND/OR (ii) THE PRODUCT IS APPLIED FOR ANY FOLLOWING APPLICATION PURPOSES FROM (1) TO (11) (EXCEPT THAT SUCH APPLICATION PURPOSE IS UNAMBIGUOUSLY SPECIFIED AS SPECIFIC APPLICATION FOR THE PRODUCT IN OUR CATALOG SPECIFICATION FORMS, DATASHEETS, OR OTHER DOCUMENTS OFFICIALLY ISSUED BY US*).

(1) Aircraft equipment (2) Aerospace equipment (3) Undersea equipment (4) Power plant control equipment (5) Medical equipment (6) Transportation equipment (7) Traffic control equipment (8) Disaster prevention/security equipment (9) Industrial data-processing equipment (10) Combustion/explosion control equipment (11) Equipment with complexity and/or required reliability equivalent to the applications listed in the above.

For exploring information of the Products which will be compatible with the particular purpose other than those specified in the Data sheet, please contact our sales offices, distribution agents, or trading companies with which you make a deal, or via our web contact form.

Contact form: <https://www.murata.com/contactform>

*We may design and manufacture particular Products for applications listed in (1) to (11). Provided that, in such case we shall unambiguously specify such Specific Application in the Data sheet without any exception. Therefore, any other documents and/or performances, whether exist or non-exist, shall not be deemed as the evidence to imply that we accept the applications listed in (1) to (11).

* Data is not guaranteed and is provided for reference purposes only.