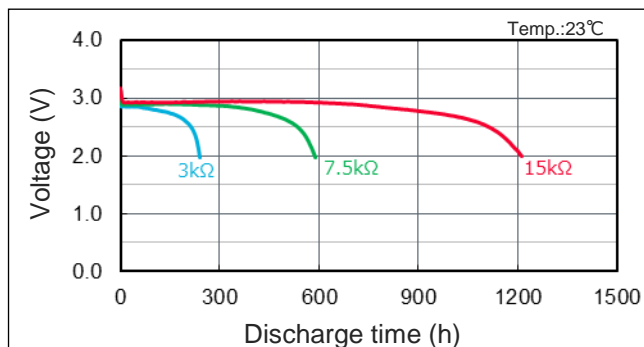


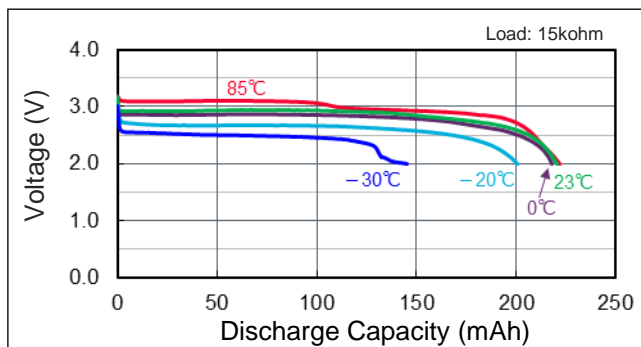
CR2032X-HE1

- 電池に直接はんだ付けをしないでください。熱によりガasket等を損傷させ、電池の膨れ、漏液、破裂、発火を引き起こす場合があります。
- タブ付き電池のはんだ付け条件を守ってください。はんだ付けが必要な場合には、タブ付き電池を用いてください。電池への加熱は、ガasketの熱変形による漏液や電池性能の劣化を引き起こしますので、はんだ付けの際(余熱を含む)、電池温度が使用温度範囲を超えないように注意してください。

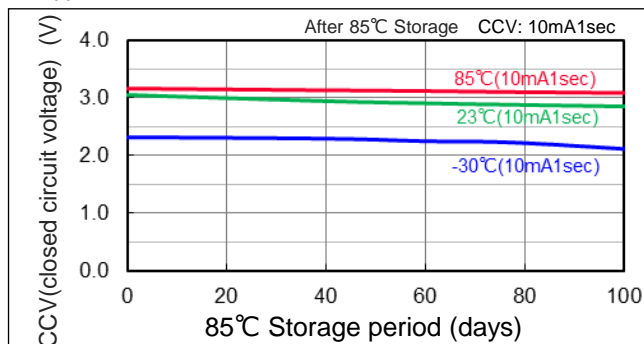
■ 放電負荷特性



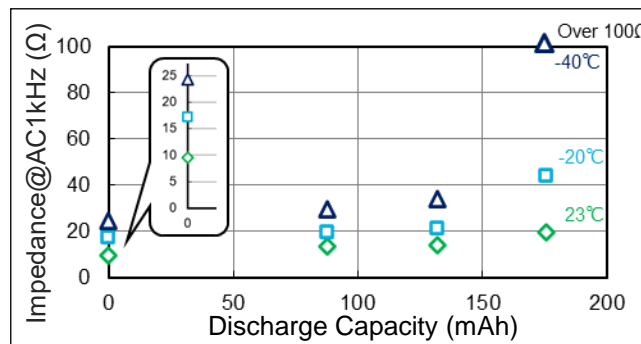
■ 放電温度特性



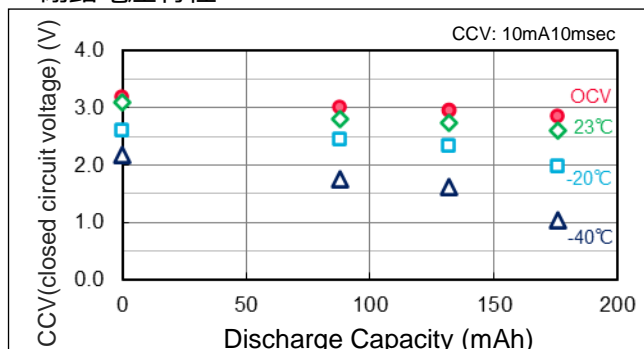
■ 保存特性



■ 内部抵抗

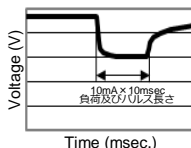


■ 閉路電圧特性



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。

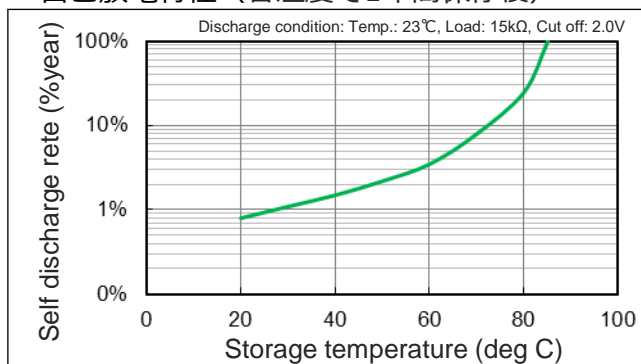
万が一、当データシート記載の適用用途以外の用途でご使用された場合、又は以下の①から⑪までの用途でご使用された場合(別途当データシート内に用途記載があるものは除く*)には、弊社は当該使用によって生じた不測の事故その他の損害に関する一切の責任を負いかねますのでご注意ください。

- 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

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*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-HE1**

■ Scope

This data sheet is applicable to Coin Manganese Dioxide Lithium Battery CR2032X-HE1.

■ 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.

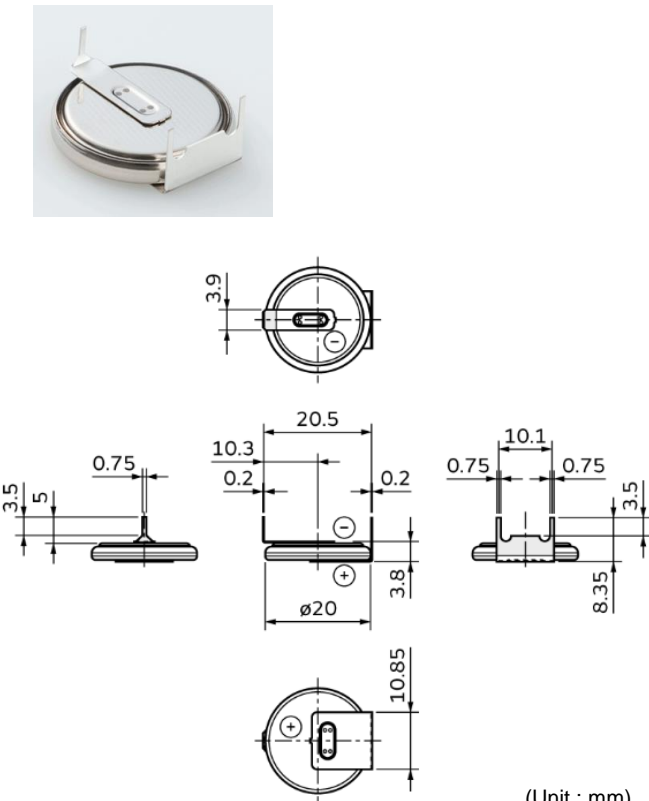
■ Unsuitable Applications

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>

■ Appearance and Dimensions



(Unit : mm)

■ Specifications

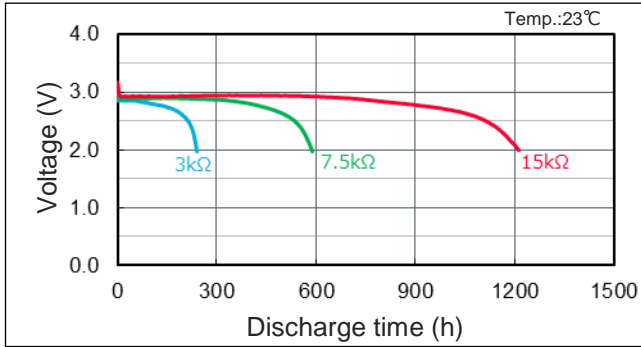
Nominal Voltage	3.0 V
Nominal Capacity (2.0V cutoff)	220 mAh
Recommended Continuous Discharge Current (High capacity usage rate)	≤ 1 mA
Maximum Pulse Discharge current (mA) *Assumption : Current to keep higher than 2V at 50% discharge with 23°C and pulse length 3sec.	30 mA
Weight	3.4 g
Operating Temperature	-40 ~ +85°C
+Tab	Stainless Steel , Partial plating (Ni,Sn)
-Tab	Stainless Steel , Partial plating (Ni,Sn)
*1 Soldering Condition (Recommendation)	Soldering iron temperature: 350°C Max. Heating time: 5sec.Max
UL Recognized components <ul style="list-style-type: none"> ● Certification number : MH12566 ● User replaceable 	

*1 Note

- Do not solder batteries directly. Excessive heating may cause deformation of batteries and components such as gaskets, which may lead to swelling, leakage, explosion or ignition of batteries.
- Observe soldering conditions for tabbed batteries to be specified by manufacturers. Use tabbed batteries if soldering is required. Excessive heating may cause deformation of gaskets, leakages or performance deterioration of batteries.
- Make sure that the battery temperature does not exceed the operating temperature range while soldering (including residual heat).

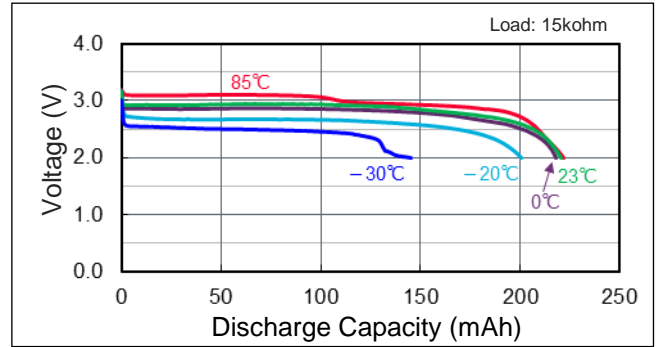
■ Discharge Characteristics on Load

Test Condition: constant discharge

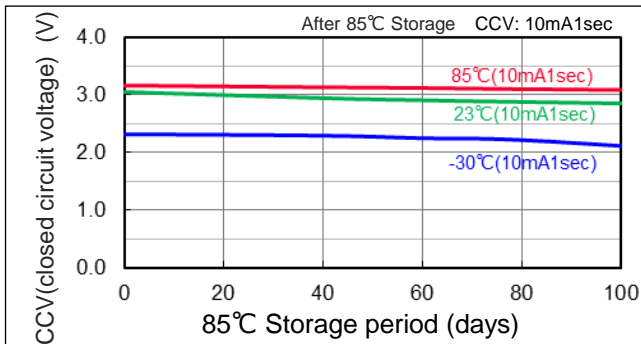


■ Discharge Characteristics on Temperature

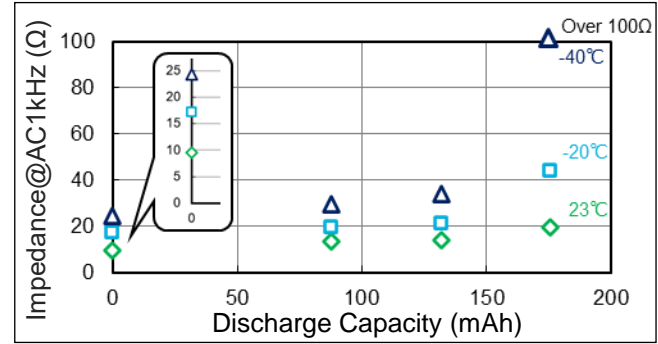
Test Condition: constant discharge



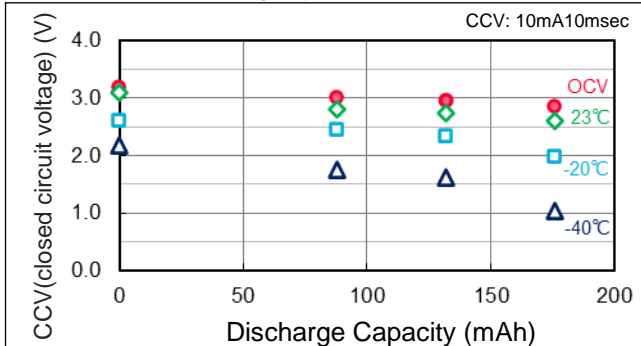
■ Storage Characteristic



■ Discharge Load vs. Discharge Capacity

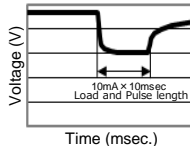


■ Closed Circuit Voltage by Temperature



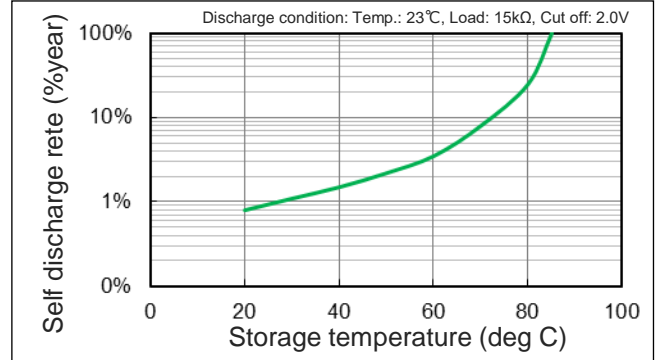
Test method

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).



■ 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.

■ 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.