

1.2 CHARACTERISTICS AND APPLICATIONS

MAIN APPLICATIONS

Both mechanical and electrical properties, together with reliability, ensure that **VARTA** Microbattery lithium batteries meet the requirements of modern electronics. They

are therefore ideally suited as power sources for the long term supply of microelectronic circuitry.

MAIN CHARACTERISTICS

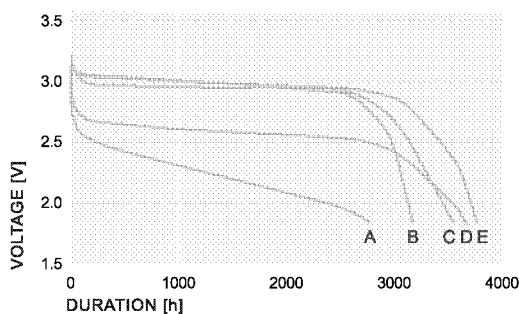
- ✦ Long life expectancy and long operational life
- ✦ Low self discharge rate
- ✦ High energy density
- ✦ High cell voltage (3 V)
- ✦ Wide temperature range
- ✦ High operating safety
- ✦ High reliability
- ✦ Resistance to corrosion with stainless steel case
- ✦ No leakage problems with an organic non-corrosive electrolyte

TEMPERATURE CHARACTERISTICS

FIG. 7

Temperature characteristics of CR 1/2 AA and CR AA cylindrical cells
(Load: 5.6 k Ω CR AA, 12 k Ω CR 1/2 AA)

A = -40 °C
B = +80 °C
C = +60 °C
D = -20 °C
E = +23 °C



SYSTEM PROPERTIES OF VARTA Microbattery LITHIUM CELLS

Series	CR Series Cylindrical Cells	CR Series Button Cells
System	Li/MnO ₂	Li/MnO ₂
Gravimetric energy density	250–300 Wh/kg	250–300 Wh/kg
Nominal voltage	3.0 V	3.0 V
Open circuit voltage	3.2 V	3.2 V
Available capacity range	950–2000 mAh	25–560 mAh
Storage life	>10 years ¹⁾	>5 years ¹⁾
Self discharge $\delta=20^{\circ}\text{C}$	<1% p.a.	<1% p.a.
Operating temperature	-30 ... +75 °C ²⁾	-20 ... +65 °C
Maximum temperature range (short term) ³⁾	-40 ... +80 °C ⁴⁾	-40 ... +80 °C ⁴⁾
Storage temperature ⁵⁾	-55 ... +75 °C ²⁾	-55 ... +70 °C

TAB. 1

¹⁾ CR 2/3 AH, CR P2, (>5 years)

²⁾ CR 2/3 AH { -20 ... -65 °C), CR 2 NP { -20 ... +70 °C)

³⁾ max. two weeks

⁴⁾ μA -range

⁵⁾ Recommended room temperature