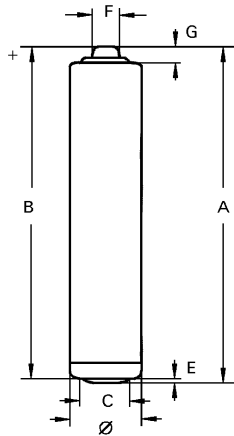


Data Sheet



Type Designation	4003
Designation IEC System	LR03 Zn-MnO ₂ (Alkaline)
Shelf Life (Coding)*	10 years
Nominal Voltage [V]	1.5
Typical Capacity C [mAh]	1270 (discharge with high-resistance)
Permissible Temperature Range	- 20 °C ... 50 °C
Weight, approx. [g]	11,4
Volume [ccm]	3.8
Specific Energy [Wh/kg]	136

Dimensions [mm]

	min:	max:
Ø	9.5	10.5
A	-	44.5
B	43.3	-
C	4.3	-
E	-	0.5
F	-	3.8
G	0.8	-

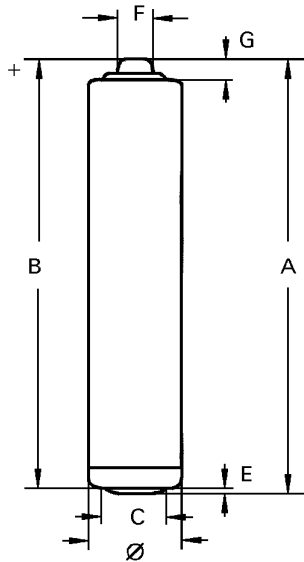
Typical Capacities (at 20°C):


Discharge Type	Load	End Voltage[V]	0.9
1H/12H, 7D/W	50 mA	Time [h]	22,8
Digital audio		Capacity [mAh]	1142
		Energy [mWh]	1417
Discharge Type	Load	End Voltage[V]	0.9
4M/H, 8H/D, 7D/W	5,1 Ω	Time [min]	263
Portable lighting		Capacity [mAh]	1002
		Energy [mWh]	1180
Discharge Type	Load	End Voltage[V]	0.8
1H/D 7D/W	5,1 Ω	Time [min]	285
Toy		Capacity [mAh]	1027
		Energy [mWh]	1180

* In consideration of typical loss of capacity at storage and application.

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Data Sheet



Type Designation	4006
Designation IEC	LR06
System	Zn-MnO ₂ (Alkaline)
Shelf Life (Coding)*	10 years
Nominal Voltage [V]	1.5
Typical Capacity C [mAh]	2970 (discharge with high-resistance)
Permissible Temperature Range	- 20 °C ... 50 °C
Weight, approx. [g]	23,8
Volume [ccm]	7.5

Dimensions [mm]

min: max:

∅	13.5	14.5
A	-	50.5
B	49.2	-
C	7.0	-
E	-	0.5
F	-	5.5
G	1.0	-

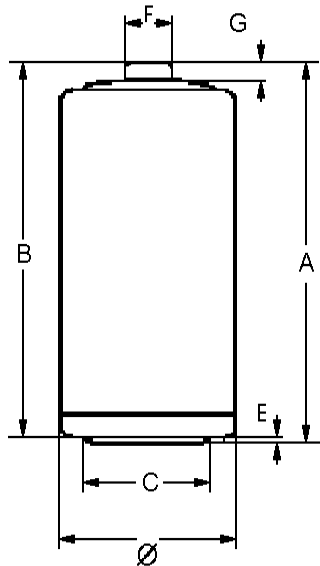
Typical Capacities (at 20°C):


Discharge Type	Load	End Voltage[V]	1.0
1H/8H, 24H/D,7D/W Radio / Clock / Remote Control	50 mA	Time [h]	53,0
		Capacity [Ah]	2,65
		Energy [Wh]	3,40
Discharge Type	Load	End Voltage[V]	0.9
1H/D,7D/W Toy, non-motorized	250 mA	Time [h]	8,8
		Capacity [Ah]	2,05
		Energy [Wh]	2,65
Discharge Type	Load	End Voltage[V]	0.9
4M/H, 8H/D, 7D/W Portable Lighting	3,9 Ω	Time [min]	463
		Capacity [Ah]	2,36
		Energy [Wh]	2,86

* In consideration of typical loss of capacity at storage and application.

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Data Sheet



Type Designation	4014
Designation IEC System	LR14 Zn-MnO ₂ (Alkaline)
Shelf Life (Coding)*	10 years
Nominal Voltage [V]	1.5
Typical Capacity C [mAh]	7800 (discharge with high-resistance)
Permissible Temperature Range	- 20 °C ... 50 °C
Weight, approx. [g]	65,8
Volume [ccm]	26

Dimensions [mm]

min: max:

∅	24.9	26.2
A	-	50.0
B	48.6	-
C	13.0	-
E	-	0.9
F	-	7.5
G	1.5	-



Typical Capacities (at 20°C):

Discharge Type	Load	End Voltage[V]	0.9
4M/15M,8H/D,7D/W	3.9 Ω	Time [h]	22,1
Portable Lighting		Capacity [Ah]	6,44
		Energy [Wh]	7,38
Discharge Type	Load	End Voltage[V]	0.8
1H/D,7D/W	3.9 Ω	Time [h]	24,7
Toy		Capacity [Ah]	6,80
		Energy [Wh]	7,39
Discharge Type	Load	End Voltage[V]	0.9
2H/D,7D/W	400 mA	Time [h]	11,5
Portable stereo		Capacity [Ah]	4,60
		Energy [Wh]	5,02

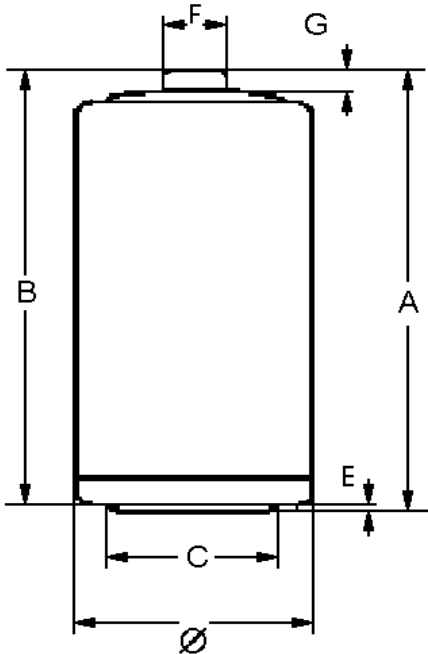
* In consideration of typical loss of capacity at storage and application.

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Subject to change without prior notice!
 Date of issue: 2020-08-20

Data Sheet



Type Designation	4020
Designation IEC	LR20
System	Zn-MnO ₂ (Alkaline)
Shelf Life (Coding)*	10 years
Nominal Voltage [V]	1.5
Typical Capacity C [mAh]	17000 (discharge with high-resistance)
Permissible Temperature Range	- 20 °C ... 60 °C
Weight, approx. [g]	140,4
Volume [ccm]	51.3

Dimensions [mm]	min:	max:
∅	32.3	34.2
A	-	61.5
B	59.5	-
C	18.0	-
E	-	1.0
F	-	9.5
G	1.5	-


Typical Capacities (at 20°C)

4M/15M,8H/D,7D/W	2.2 Ω	Time [h]	27,1
Portable lighting		Capacity [Ah]	14,1
		Energy [Wh]	16,3
Discharge Type	Load	End Voltage[V]	0.8
1H/D,7D/W	2.2 Ω	Time [h]	29,7
Toy		Capacity [Ah]	14,7
		Energy [Wh]	16,2
Discharge Type	Load	End Voltage[V]	0.9
2H/D,7D/W	600 mA	Time [h]	18,8
Portable Stereo		Capacity [Ah]	11,3
		Energy [Wh]	12,5

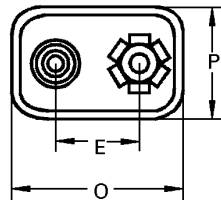
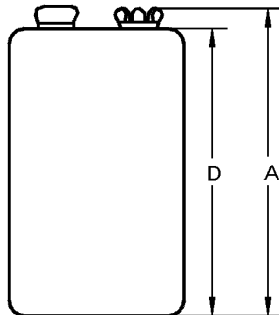
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Data Sheet



Type Designation	4022
Designation IEC	6LR61
System	Zn-MnO ₂ (Alkaline)
Shelf Life (Coding)*	5 years
Nominal Voltage [V]	9
Typical Capacity C [mAh]	640 (discharge with high-resistance)
Permissible Temperature Range	- 20 °C ... 50 °C
Weight, approx. [g]	47
Volume [ccm]	20.8

Dimensions [mm]

min: max:

A	46.5	48.5
D	-	46.4
E	12.45	12.95
O	24.5	26.5
P	15.5	17.5


Typical Capacities (at 20°C)

Discharge Type	Load	End Voltage[V]	7.5
24H/D,7D/W – 1S/1H,24H/1D	10000Ω - 620Ω	Time [h]	540
		Capacity [mAh]	448
		Energy [mWh]	3704
Smoke Detector			
Discharge Type	Load	End Voltage[V]	5.4
1H/D,7D/W	270 Ω	Time [h]	22
		Capacity [mAh]	610
		Energy [mWh]	4625
Toy			
Discharge Type	Load	End Voltage[V]	5.4
2H/D,7D/W	620 Ω	Time [h]	52,6
		Capacity [mAh]	640
		Energy [mWh]	4915
Radio			

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Date of issue: 2020-08-20

Primary Alkaline Manganese Cylindrical

Data Sheet

Type number	4103
Designation IEC System	LR03 Zn-MnO ₂ (Alkaline)
Shelf Life (Coding)*	7 years
Nominal Voltage [V]	1.5
Typical Capacity C [mAh]	1.200 (discharge with high-resistance)
Operating temperature:	- 20°C to 54°C (45 % - 85 % RH)
Storage temperature:	- 30°C to 45°C (45 % - 85 % RH)
Weight, approx. [g]	11
Volume [ccm]	3.8
Dimensions [mm]	

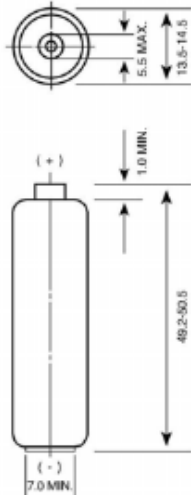
Typical Capacities (at 20°C)

Discharge Type	Load	End Voltage [V]	0.9
4 M/H, 8 H/D, 7 D/W	5.1 Ω	Time [m]	220
Portable Lighting			
Discharge Type	Load	End Voltage [V]	0.9
1 H/D, 7 D/W	10 Ω	Time [m]	480
Tape Recorders			
Discharge Type	Load	End Voltage [V]	0.9
4 H/D, 7 D/W	75 Ω	Time [h]	72.5
Transistor Radios			

* In consideration of typical loss of capacity at storage and application.

Primary Alkaline Manganese Cylindrical

Data Sheet

Type number	4106
Designation IEC System	LR6 Zn-MnO ₂ (Alkaline)
Shelf Life (Coding)*	7 years
Nominal Voltage [V]	1.5
Typical Capacity C [mAh]	2.600 (discharge with high-resistance)
Operating temperature:	- 20°C to 54°C (45 % - 85 % RH)
Storage temperature:	- 30°C to 45°C (45 % - 85 % RH)
Weight, approx. [g]	23
Volume [ccm]	7.69
Dimensions [mm]	

Typical Capacities (at 20°C)

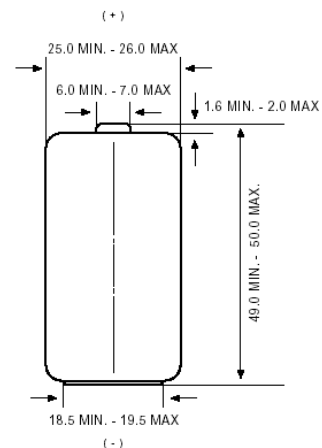
Discharge Type	Load	End Voltage [V]	0.8
1 H/D, 7 D/W	3.9 Ω	Time [min]	430
Motor / Toy			
Discharge Type	Load	End Voltage [V]	0.9
1 H/D, 7 D/W	10 Ω	Time [h]	19.3
Personal Cassette Players/			
Discharge Type	Load	End Voltage [V]	0.9
4 H/D, 7 D/W	43 Ω	Time [h]	92.5
Transistor Radios			

* In consideration of typical loss of capacity at storage and application.

Primary Alkaline Manganese Cylindrical

Data Sheet

Type number	4114
Designation IEC System	LR14 Zn-MnO ₂ (Alkaline)
Shelf Life (Coding)*	7 years
Nominal Voltage [V]	1.5
Typical Capacity C [mAh]	7.800 (discharge with high-resistance)
Operating temperature:	- 20°C to 54°C (45 % - 85 % RH)
Storage temperature:	- 30°C to 45°C (45 % - 85 % RH)
Weight, approx. [g]	69
Volume [ccm]	26.5
Dimensions [mm]	



Typical Capacities (at 20°C)

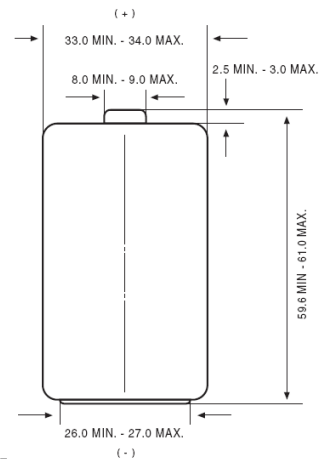
<u>Discharge Type</u>	<u>Load</u>	<u>End Voltage [V]</u>	<u>0.9</u>
4 M/H, 8 H/D, 7 D/W	3.9 Ω	Time [h]	19
Portable Lighting			
<u>Discharge Type</u>	<u>Load</u>	<u>End Voltage [V]</u>	<u>0.9</u>
1 H/D, 7 D/W	3.9 Ω	Time [h]	22
Toys			
<u>Discharge Type</u>	<u>Load</u>	<u>End Voltage [V]</u>	<u>0.9</u>
4 H/D, 7 D/W	20 Ω	Time [h]	118
Transistor Radios			

* In consideration of typical loss of capacity at storage and application.

Primary Alkaline Manganese Cylindrical

Data Sheet

Type number	4120
Designation IEC System	LR20 Zn-MnO ₂ (Alkaline)
Shelf Life (Coding)*	7 years
Nominal Voltage [V]	1.5
Typical Capacity C [mAh]	16.500 (discharge with high-resistance)
Operating temperature:	- 20°C to 54°C (45 % - 85 % RH)
Storage temperature:	- 30°C to 45°C (45 % - 85 % RH)
Weight, approx. [g]	141
Volume [ccm]	51.3
Dimensions [mm]	



Typical Capacities (at 20°C)

Discharge Type	Load	End Voltage [V]	0.9
4 M/H, 8 H/D, 7 D/W	2.2 Ω	Time [h]	21.5

Portable Lighting

Discharge Type	Load	End Voltage [V]	0.8
1 H/D, 7 D/W	2.2 Ω	Time [h]	24

Toys

Discharge Type	Load	End Voltage [V]	0.9
4 H/D, 7 D/W	10 Ω	Time [h]	125

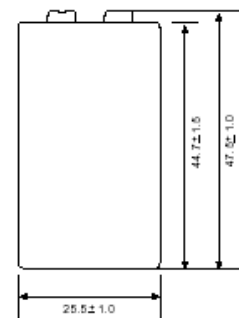
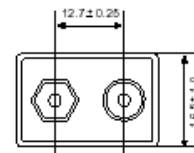
Transistor Radios

* In consideration of typical loss of capacity at storage and application.

Primary Alkaline Manganese Cylindrical

Data Sheet

Type number	4122
Designation IEC System	6LR61 Zn-MnO ₂ (Alkaline)
Shelf Life (Coding)*	7 years
Nominal Voltage [V]	9
Typical Capacity C [mAh]	550 (discharge with high-resistance)
Operating Temperature:	- 20 ~ 60°C, 65 % RH max.
Storage Temperature:	+10 ~ 25°C, 45 ~ 75 % RH.
Weight, approx. [g]	46
Volume [ccm]	20.8
Dimensions [mm]	



Typical Capacities (at 20°C)

Discharge Type	Load	End Voltage [V]	4.8
30 M/D, 7 D/W	180 Ω	Time [h]	14.2

Pocket Calculators

Discharge Type	Load	End Voltage [V]	5.4
1 H/D, 7 D/W	270 Ω	Time [h]	20

Toys

Discharge Type	Load	End Voltage [V]	5.4
2 H/D, 7 D/W	620 Ω	Time [h]	48.2

Transistor Radios

* In consideration of typical loss of capacity at storage and application.