

## Preliminary Data Sheet – CP1454 A4X (CoinPower®)<sup>1</sup>

	Type Designation Type Number VKB Number Cell Code System	CP1454 A4X 63145 63145 301 551 INR1454 Graphite – layered metal oxide (LiNixMnyCozO2)
	UL Recognition	MH13654
† h	Nominal Voltage [V] Typical Capacity [mAh] Nominal Capacity [mAh]	3.7 (average) 111 (at 0.1C from 4.3 V to 3.0 V at RT) 108 (at 0.2C from 4.3 V to 3.0 V at RT)
	Rated Capacity C [mAh]	105 (at 0.2C from 4.3 V to 3.0 V at RT)
d	Dimensions [mm] (without Tags) Diameter Height Weight. approx [g]	14.1 +0.0/-0.3 5.4 +0.2/-0.1 2.4 +0.2/-0.2
CPU54 AA CPU54 AA Lion 37, GERMAN	Charging Method Charge Voltage [V]	Constant Current + Constant Voltage 4.30 ± 0.05
	Initial Charge Current [mA]	Standard Charge <sup>2</sup> : 52.5 Fast Charge <sup>2</sup> : 105 Rapid Charge <sup>3</sup> : 210
	Charging Cut-Off (a) or (b) a) by time [h]	Standard Charge: 3.5 Fast/Rapid Charge: 2
	b) by min current [mA]	2.2
	Discharge Cut-Off Voltage [V]	3.0
	Max. Pulse Discharge Current [mA]	330 @ 2s
	Max. Continuous Discharge Current [mA]	220
	Operating Temperature [°C]	Charge: 0 to 45 Discharge: -20 to 60
	Cell Surface Temperature [°C]	60
	Storage Temperature Capacity Recovery Rate <sup>4</sup> [%]	1 Year at -20 to 20 °C > 90 3 Month at -20 to 45 °C > 90 1 Month at -20 to 60 °C > 85
	Impedance Initial [Ω]	< 0.5 @ 1kHz
	Cycle Life 0.5C/0.5C, 20 °C⁵ [Cycles]	>500 (> 80% of C <sub>ini</sub> )
	Safety	UN 38.3 passed relevant tests acc. IEC 62133 passed
	Internal Approval Overcharge Test (4,8V, 3C, 12h)	passed

 <sup>&</sup>lt;sup>1</sup> Recommendations regarding Charging/Discharging and Safety (cf. Handling Precautions/Advanced Product Information) have to be accepted. Cell must not be used without external safety electronics (PCM – Protection Circuit Module)! The CoinPower cell may exclusively be used for the intended purpose. For medical applications please contact VARTA Microbattery. This product is protected by patents, please see: <a href="http://www.varta-ag.com/patents">www.varta-ag.com/patents</a>
<sup>2</sup> "CoinPower A4-Version Charging Document" must be observed.
<sup>3</sup> "CoinPower A4-Version Charging Document" must be observed.
<sup>4</sup> After storage at initial cell voltage of 3.6 to 3.7 V / cell
<sup>5</sup> typical values