Panasonic
ideas for life

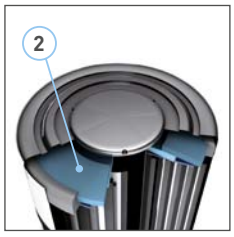
NCR-18650B

LITHIUM-ION / NNP + HRL TECHNOLOGY

A perfect combination of high energy density (e.g. NNP technology), safety (e.g. PSS and HRL technology) and long-life shows what is possible with Lithium-Ion battery technology from Panasonic. Excellent battery safety on one hand, and superior battery performance on the other: this is what Panasonic stands for.

LI-ION • 3D ILLUSTRATION

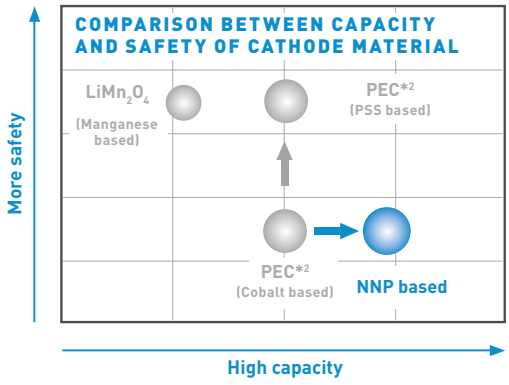
1 Positive pole
2 Positive Temperature Coefficient Device (PTC)
3 Gasket
4 Collector
5 Insulator
6 Cathode
7 Anode
8 Negative pole (cell can)
9 Separator
10 Current Interrupt Device (CID)
11 Exhaust gas hole



Nickel Oxide Based New Platform (NNP)

This new Lithium-Ion battery technology contains on one side a unique high capacity Nickel based positive electrode and on the other side a material and processing technology. The latter prevents deformation of the Alloy-based negative electrode when subjected to repeated charge and discharge. This is what our **Nickel Oxide Based New Platform (NNP)** stands for.*1

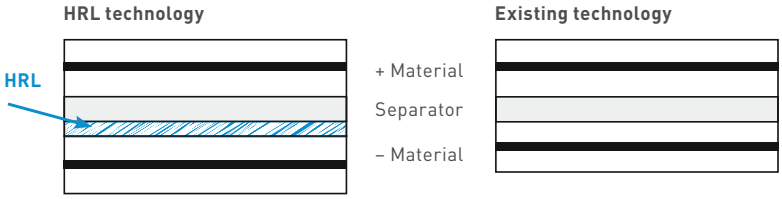
Characteristics of the Panasonic NNP technology:
- ➜ Good cycle life performance
- ➜ High energy density
- ➜ The new Nickel positive electrode excels in durability in actual use and charge retention
- ➜ Low self-discharge
- ➜ Long storage reliability through reduced metal elution



Heat Resistance Layer (HRL)

Nowadays all electronic devices getting more powerful, sophisticated and feature-laden and therefore require more robust and safer batteries. Increasing energy-density, however, raises the risk of overheating and ignition due to internal short-circuiting. Panasonic deploys the **Heat Resistance Layer (HRL)** technology to improve the safety of Lithium-Ion batteries significantly. This heat resistance layer consists of an insulating metal oxide on the surface of the electrodes which prevents the battery from overheating if an internal short-circuit occurs.

Safety is the base for everything. Higher energy can be established based on safety technology.



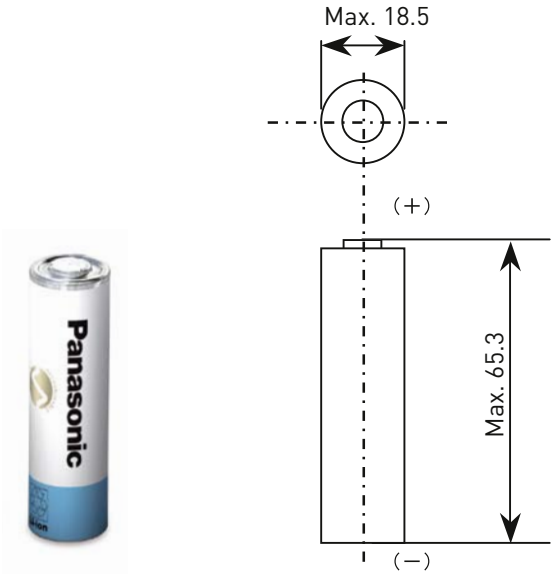
*1 Panasonic Lithium-Ion cells must always be equipped with a safety unit.
*2 PEC: Panasonic Energy Company.

Panasonic BATTERIES
Quality is our Business.

NCR-18650B

LITHIUM-ION / NNP + HRL TECHNOLOGY

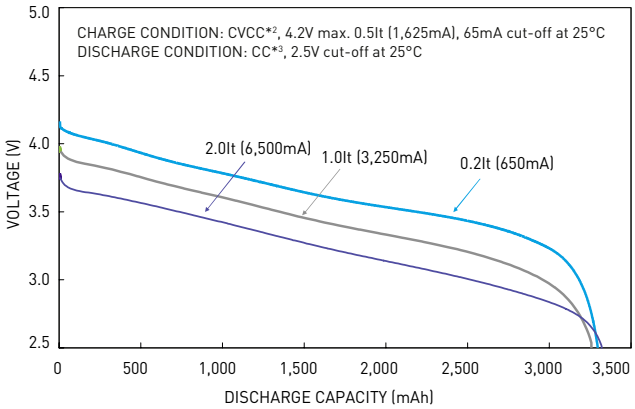
DIMENSIONS (MM)

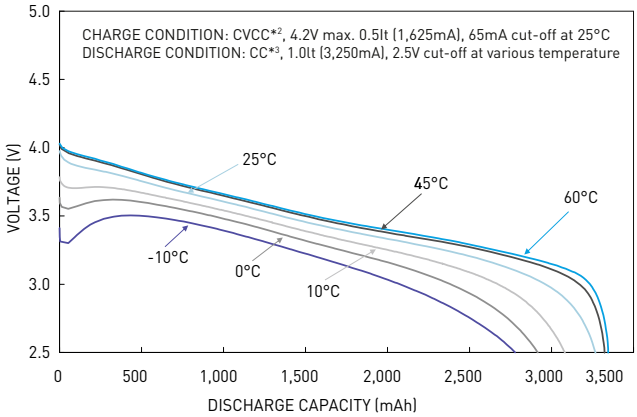


SPECIFICATIONS

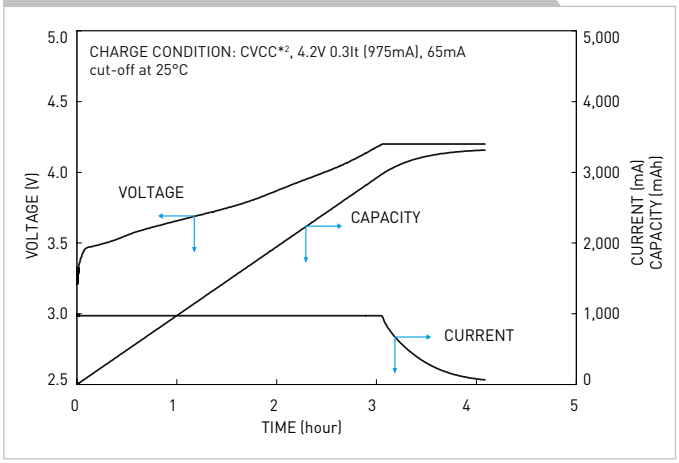
Model number	NCR-18650B
Nominal voltage (V)	3.6
Nominal capacity*1 - Minimum (mAh)	3,250
Nominal capacity*1 - Typical (mAh)	3,350
Dimensions - Diameter (mm)	18.5
Dimensions - Height (mm)	65.3
Approx. w^eight (g)	47.5

TYPICAL DISCHARGE CHARACTERISTICS

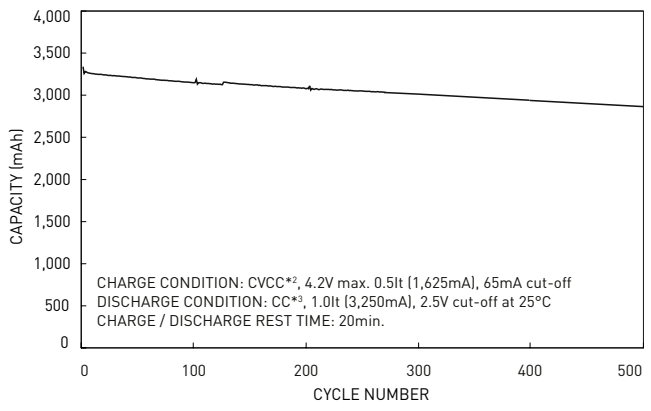




TYPICAL CHARGE CHARACTERISTICS



TYPICAL CYCLE CHARACTERISTICS



*1 Charge: Constant Voltage / Constant Current, 4.2V, max. 1,625mA, 65mA cut-off; Discharge: Constant Current, 650mA, 2.5V cut-off; Temperature: 25°C
*2 CVCC: Constant Voltage / Constant Current *3 CC: Constant Current

⚠ Notice to Readers

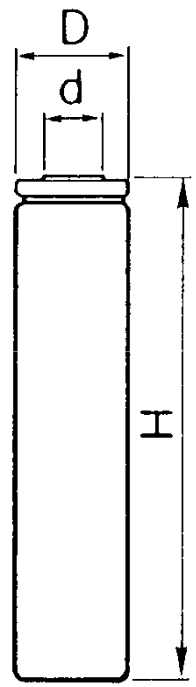
We are unable to support single cell business or accept orders from consumers. We design Lithium-Ion battery packs including a suitable safety unit device based on the technical specification of the customer. Due to the need for careful review when selecting Lithium-Ion battery solutions please contact your local Panasonic Sales Office. In order to avoid a lack of supply please check the battery availability with your Panasonic sales team before design-in.

Panasonic

Panasonic Industrial Devices Sales Europe I Winsbergring 15 I 22525 Hamburg I Website: http://industrial.panasonic.com/eu

Cell Type NCR18650B

Specifications

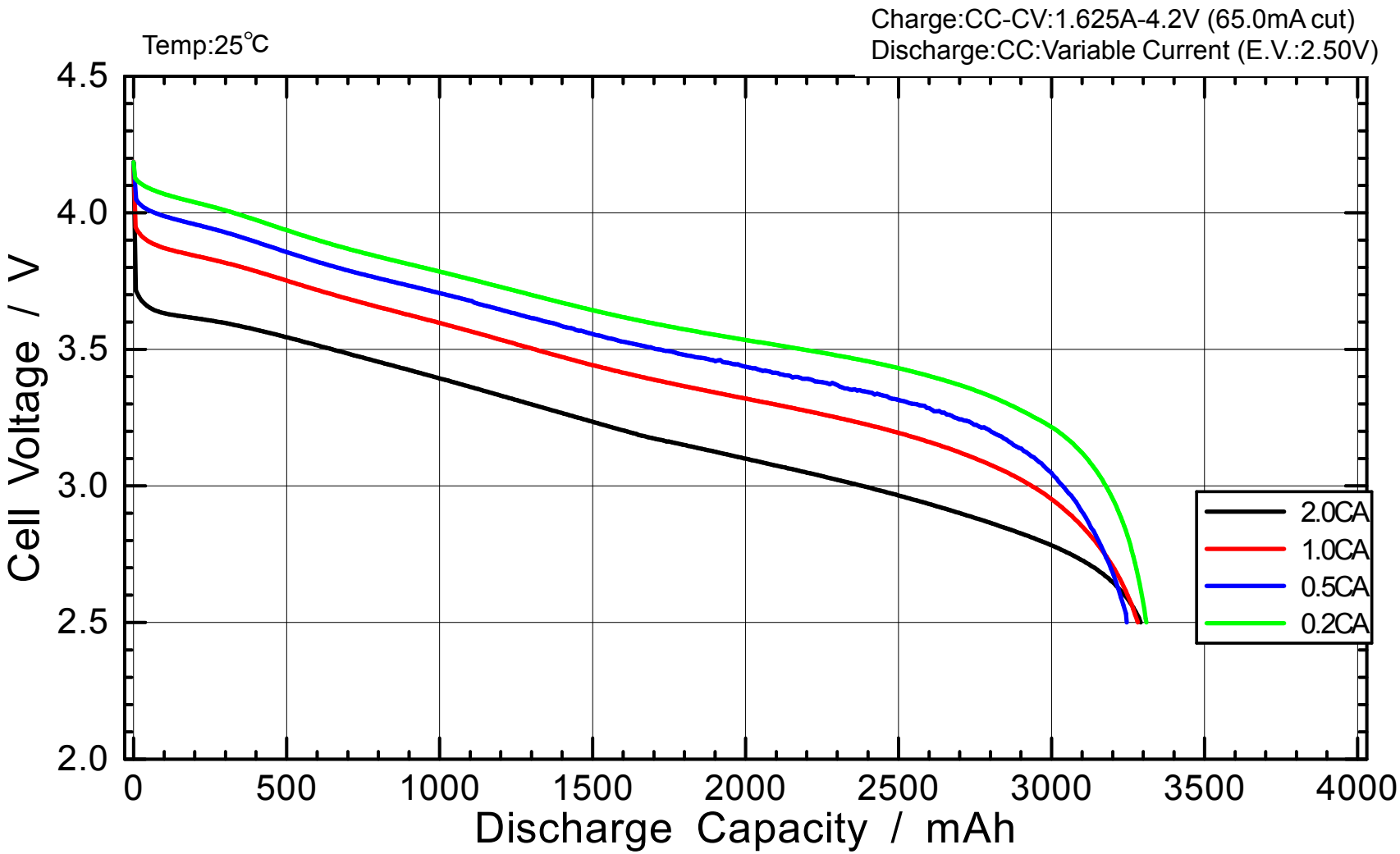


Dimensions(Typ.) of Bare Cell	H	64.93mm
	D	18.2mm
	d	7.9mm

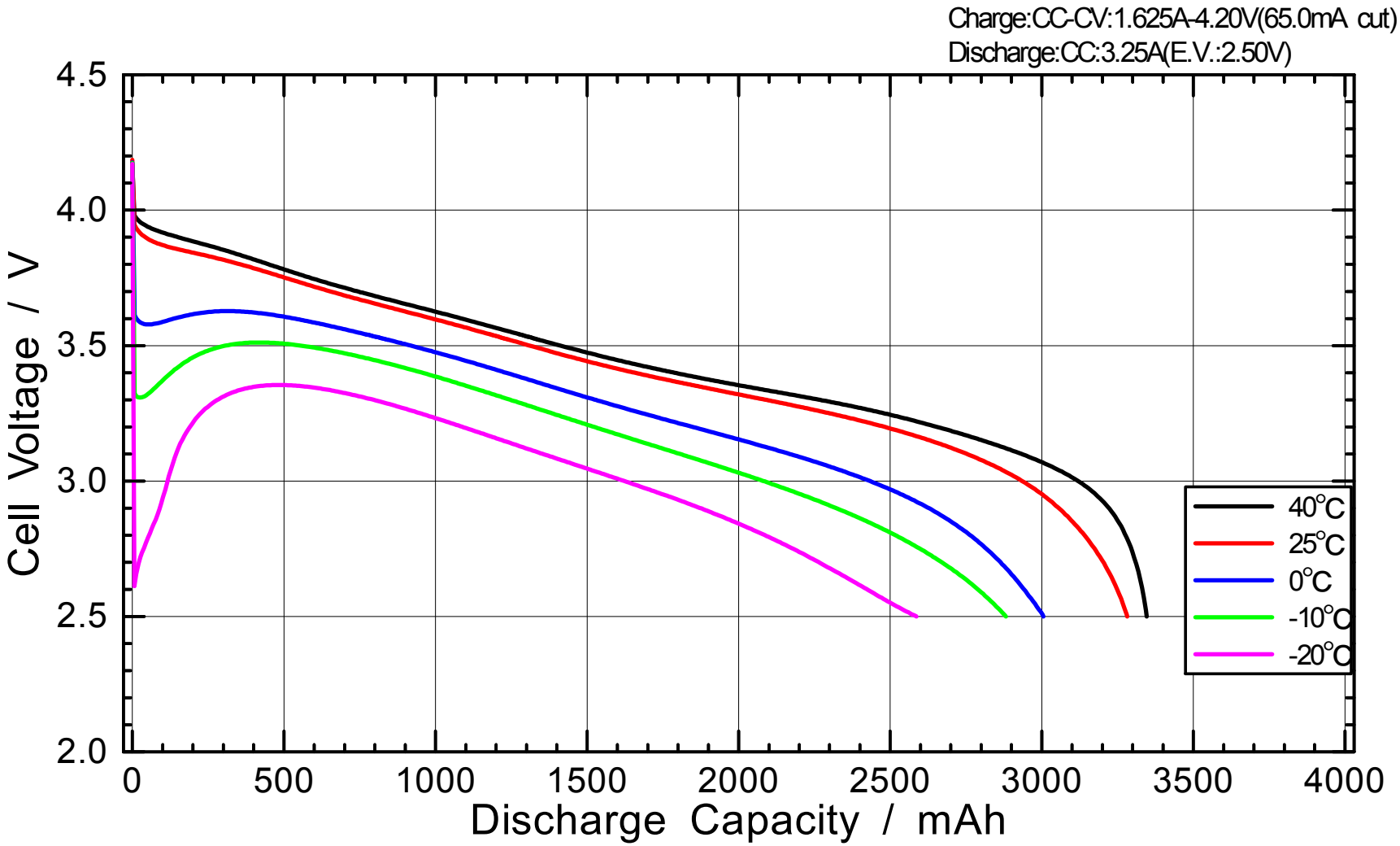
Discharged State after Assembling

Rated Capacity (at 20℃)		Min.3200mAh
Nominal Capacity (at 25℃)		Min.3250mAh
		Typ.3350mAh
Nominal Voltage		3.6V
Charging Method		Constant Current -Constant Voltage
Charging Voltage		4.2V
Charging Current		Std.1625mA
Charging Time		4.0hrs.
Ambient Temperature	Charge	+10～+45℃
	Discharge	-20～+60℃
	Storage	-20～+50℃
Weight (Max.)		47.5g
Dimensions (Max.) Maximum size without tube	(D)	18.25mm
	(H)	65.10mm
Volumetric Energy Density		676Wh/l
Gravimetric Energy Density		243Wh/kg

Discharge Rate Characteristics for NCR18650B



Discharge Temperature Characteristics for NCR18650B



Charge Characteristics for NCR18650B