



# The ultimate generation of safe and reliable lithium-ion cell

## The new NCR18650BD-Improved

Maximum safety and superior performance
Stable performance over a range of discharge rate
Low self discharge
High reliability and long life
No need for State of Health (SOH) check*
High energy density and cost efficiency

*\*In case of 4.15V charge at the beginning*



Reduced human risk and damage risk positions your applications as smarter and safer choice



Higher cost effectiveness in terms of electronic and charging system as SOH check is not required



## Safe 'Fit and Forget' solution

Panasonic's new NCR18650BD-Improved is suitable for a wide range of applications offering unbeatable performances, cycle life and safety. It demonstrates stable performance over a wide range of discharge rate and temperature.

By being charged at 4.15V from the start, the improved BD cells do not need State of Health (SOH) check neither a reduction in the charging voltage. Therefore, the application of this cell gives you an edge in the cost reduction related to electronic and charging system.

## NCR18650BD-Improved: Mobility Application

Panasonic has various line-up of cylindrical cell for motive application.

Model		NCR18650PF	NCR18650BD (improved)		NCR18650GA
			Use Case 1	Use Case 2	
Feature		Standard	High Energy / Long Life	High Energy / Long Life	High Energy
Nominal Voltage (V)		3.6	3.6	3.6	3.6
Rated Capacity (mAh) at 20°C		2700	2910	2980	3300
Capacity (mAh) at 25°C	min	2750	2935	3030	3350
	typ.	2900	3080	3180	3450
Energy (Wh)	typ.	10.4	11.1	11.4	12.4
Standard Charge		0.5C-4.2V*	0.3C-4.15V 0.5C @ 25°C-45°C	0.3C-4.2V *	0.5C-4.2V *
Cycle Life		●●●●○	●●●●●	●●●●●	●●●
Life End Control		Reduce charge from 4.2V to 4.15V by SOH 70%	No Need	Reduce charge from 4.2V to 4.15V by SOH 70%	Reduce charge from 4.2V to 4.15V by SOH 70%
Max. Cont. Discharge Current (A)		8	8	8	8
Discharge End Voltage (V)		2.5	2.5	2.5	2.5
Impedance / Resistance (mΩ)	AC (1kHz) SOC50%	24	24	24	24
	DC (0.1-1It) SOC50%	44	44	44	44
Capacity (mAh) at 25°C	Diameter	18.5	18.5	18.5	18.5
	Height	65.3	65.3	65.3	65.3
Weight (g) (max.) (with tube)		48	49.5	49.5	49.5
Energy density (without tube)	Volumetric (Wh/l)	577	613	630	698
	Gravimetric (Wh/kg)	203	211	217	240

\*Need life end control (reduce charge from 4.2V to 4.15V by SOH 70%)