File MH62037
Project 4787941825

June 22, 2017

REPORT

On

COMPONENT – Lithium Batteries - Component

Hengdian Group Dmegc Magnetics Co Ltd
Dongyang, Zhejiang

DESCRIPTION

PRODUCT COVERED:

USR Component – Secondary, lithium-ion cells as noted below.

Model Number	Chemistry	Shape/Type
All models	LiNiCoMnO2+6C===LixC6+Li1-xNiCoMnO2	Cylindrical/ lithium-ion

ELECTRICAL RATING:

See also Conditions of Acceptability for charge limit specifications.

Model Number	Voltage (Nominal), Vdc	Capacity, (Nominal), Ah
INR18650-29E	3.7	2.9

TECHNICAL CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

*USR indicates compliance with the requirements outlined in UL 1642, Standard for Lithium Batteries. Sixth Edition, Dated September 29, 2020.

Use - For use only in products where the acceptability of the combination is determined by UL LLC.

Conditions of Acceptability - The use of these cells may be considered generally acceptable under the conditions given below:

1. The cells should be used within their manufacturer's specified temperature ranges as noted in Table below:

Models	Manufacturer Specified Temperature ranges	
INR18650-29E	Charging Temperature Range	0-60 ℃
	Discharging Temperature Range	-20-80 ℃
	Upper Limit Charging Voltage	4.25 V
	Upper charging Temp limit(T3)	60 ℃
	Lower charging Temp limit(T2)	0 ℃

The end product shall be designed to prevent the high temperature excursions on cell surface from exceeding 100°C (212°F).

2. These cells are to be used only in devices where servicing of the cell circuit and installation and replacement of the lithium-ion cells will be done by a trained technician. These cells are intended to be installed in a protective enclosure in the end use application that prevents access to the cells and associated cell circuitry by the user during charging and discharging of the cells.

3. These cells shall be installed within an enclosure that provides mechanical protection in the end use application, so that they protected from physical abuse that could result in damage to the cells including internal short circuits or shorting of terminals. Enclosures provided in the end use application shall prevent access to the cells through the use of simple tools or through openings.

4. The suitability of these cells for multi cell applications including series or parallel connections shall be determined in the end use. Cells used in multi-cell applications shall be of the same type, ratings and age to prevent the potential for explosions and fire due to cell imbalance.

5. For cells intended for series applications, protection shall be provided in the end use application to prevent cell reversal due to a forced discharge condition. A forced discharge test shall be conducted in the end use application for series connected cell applications.

6. These cells have been subjected to an abnormal charge test which subjects the cells to a constant current (CC) charge method followed by a constant voltage (CV) charge method. The test limit parameters for the abnormal charge test are outlined in the table below. The charging circuit in the end use application shall limit the charging current and charging voltage to the levels noted in the table under both normal and single fault condition. If the charging current and voltage in the end use application cannot be maintained at or below the levels noted in the table or if the charging method is different from the CC/CV method noted above, additional evaluation and testing may be necessary.

Model	Maximum Charging Current (Ic), A	Maximum Charging Voltage (Vc), V dc
INR18650-29E	5.8	4.25

MARKINGS/INSTRUCTIONS:

The Recognized manufacturer’s name, trade name or trademark or other descriptive markings or traceable ID code; Catalog number or model designation or equivalent; and date of manufacturer on the cell.

The cell or smallest package containing the cell shall be marked with the UL Recognition Mark.

The date of manufacture may be in the form of a code.

YYMMDD:
YY: represent the manufacture year, 17 represent year 2017, 18 represent year 2018 etc;
MM: represent the manufacture month, 01 to 12 represent January, 12 represent December, etc;
DD: represent the manufacture date, 01 to 31.