Intellect Pioneering Battery Technology Co.,Ltd.

UN38.3 TEST REPORT AND DROP TEST

Product Model : Li-Ion Polymer 2300 mAh **Model : IP775048**

TEST ITEM	TEST METHOD	CRITERION	CELL ID	Before The Test			After The Test			Test Results	Conclusion
				I.R(mΩ)	Voltage(V)	mass(g)	I.R(mΩ)	Voltage(V)	mass(g)		
T-1 Altitude Simulation	Test cell is stored at a pressure of 11.6kPa for above six hours at ambient temperature 20 ± 5 ℃.	No mass loss No leakage No venting No disassembly No rupture No fire. The ocv of each test cell after testing is not less than 90%.	1#	112.34	4.172	41.34	112.35	4.170	41.33	No mass loss No leakage No venting No disassembly No rupture No fire	pass
			2#	112.36	4.184	41.31	112.36	4.182	41.31		pass
			3#	112.38	4.189	41.35	112.38	4.187	41.35		pass
T-2 Thermal Test	Test cell is stored for six hours at a test temperature equal to 72±2℃,followed by storage for six hours at a test temperature equal to -40±2℃.And the maximum time interval between test temperature extremes is 30 minutes.This procedure is to be repeated 10 times,after which all test cells are to be stored for 24 hours at ambienet temperature(20±5 ℃),and the total test time is at least one week.		4#	112.45	4.176	41.32	123.13	4.133	41.32		pass
			5#	112.47	4.174	41.38	123.42	4.128	41.37		pass
			6#	112.48	4.187	41.32	123.46	4.125	41.32		pass
			7#	112.37	4.182	41.39	123.35	4.129	41.38		pass
			8#	112.38	4.173	41.30	123.33	4.123	41.30		pass
			9#	112.46	4.188	41.32	123.78	4.125	41.32		pass
T-3 Vibration	The vibration is a sinusoidal waveform with a logarithmic weep between 7 Hz and 200Hz and back to 7 Hz traversed in 15 minutes.This cycle is repeated 12 times for a total of 3 hours for each of three mutually perpendicular mounting positions of the cell.		10#	112.31	4.176	41.35	112.31	4.175	41.35		pass
			11#	112.35	4.184	41.36	112.35	4.182	41.36		pass
			12#	112.38	4.184	41.33	112.39	4.183	41.33		pass
			13#	112.42	4.172	41.37	112.42	4.172	41.36		pass
T-4 Shock	Each cell is subjected to a half-sine shock of peak acceleration of 150gn and pulse duration of 6ms or to a half-sine shock of peak acceleration of 50gn and pulse duration of 11ms,and then it is subjected to three shocks in the positive direction followed by three shocks in the negative direction of three mutually perpendicular mounting positions of the cell for a total of 18 shocks.		14#	112.45	4.178	41.39	112.45	4.178	41.39	No disassembly No rupture No fire	pass
			15#	112.48	4.189	41.32	112.49	4.189	41.32		pass
			16#	112.49	4.177	41.38	112.49	4.177	41.38		pass
			17#	112.33	4.176	41.32	112.33	4.175	41.32		pass
			18#	112.40	4.182	41.36	112.40	4.182	41.35		pass
			19#	112.43	4.183	41.32	112.44	4.182	41.32		pass
T-5 External Short Circuit	The cell is subjected to a short circuit condition with a total external resistance of less than 0.1 ohm at 57±4℃,this short circuit is continued for 1h after the cell external case temperature has returned to 57±4℃,and observe the cell for six hours.	If the external temperature don't exceed 170℃,there is no disassembly within six hours.	20#	112.48	4.190	/	Max Temperature 57℃			No disassembly No fire	pass
			21#	112.34	4.179	/	Max Temperature 57℃				pass
			22#	112.36	4.182	/	Max Temperature 57℃				pass
			23#	112.38	4.180	/	Max Temperature 57℃				pass
T-6 Crush	1. A cell or component cell is to be crushed between two flat surfaces. The crushing is to be gradual with a speed of approximately 1,5 cm/s at the first point of contact. The crushing is to be continued until the first of the three options below is reached. (a) The applied force reaches 13 kN ± 0,78 kN. (b) The voltage of the cell drops by at least 100 mV, (c) The cell is deformed by 50% or more of its original thickness./ 2. A prismatic or pouch cell shall be crushed by applying the force to the widest side. A button/coin cell shall be crushed by applying the force on its flat surfaces.	If the external temperature don't exceed 170℃,there is no disassembly within six hours.	24#	34.59	3.827	/	Max Temperature 23℃			No disassembly No fire	pass
			25#	34.46	3.826	/	Max Temperature 22℃				pass
			26#	34.45	3.821	/	Max Temperature 23℃				pass
			27#	34.48	3.823	/	Max Temperature 22℃				pass
			28#	34.49	3.825	/	Max Temperature 22℃				pass
T-7 Overcharge	The cell is overcharge for 24 hours under the condition of twice max continuous charge current(1C) and twice max charge voltage(8.4V DC),and observe the cell for 7 days.	No disassembly No fire within 7 days	29#	112.42	4.177	/	/	/	/	No disassembly No fire within 7 days	pass
			30#	112.31	4.189	/	/	/	/		pass
			31#	112.38	4.198	/	/	/	/		pass
T-8 Forced Discharge	The cell is connected in series with a 12V D.C. power,and then is forced discharged with max discharge current,and observe the cell for 7 days.	No disassembly No fire within 7 days	32#	34.48	3.295	/	/	/	/	No disassembly No fire within 7 days	pass
			33#	34.45	3.297	/	/	/	/		pass
			34#	34.07	3.298	/	/	/	/		pass
Drop Test	Each package is capable of withstanding a 1.2m drop test in any orientation without damage to cells or batteries contained therein,without shifting of the contents so as to allow battery to battery contact and without release of contents.	No damage to batteries. No battery to battery contact. No release of congents from the package.	35#	112.39	4.181	41.32	112.39	4.181	41.32	No damage to batteries. No battery to battery contact. No release of congents from the package.	pass
			36#	112.28	4.169	41.32	112.28	4.169	41.31		pass
			37#	112.25	4.174	41.38	112.25	4.174	41.38		pass
			38#	112.34	4.169	41.34	112.34	4.168	41.34		pass
			39#	112.29	4.172	41.33	112.29	4.172	41.33		pass

Date of Test : 2018/10/20-2018/11/06 Operator: Hangeng Su Checker:Ruiyuan Chen Approval: Mike Deng