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Certification

M170329-1

model name : ML2032			
<input checked="" type="checkbox"/> Lithium metal cell or battery		<input type="checkbox"/> Lithium-ion cell or battery	
Lithium content		Watt-hour rating	
<input checked="" type="checkbox"/> cell	<input type="checkbox"/> battery(pack)	<input type="checkbox"/> cell	<input type="checkbox"/> battery(pack)
<input checked="" type="checkbox"/> $\leq 0.3\text{g}$	<input type="checkbox"/> $\leq 0.3\text{g}$	<input type="checkbox"/> $\leq 2.7\text{Wh}$	<input type="checkbox"/> $\leq 2.7\text{Wh}$
<input type="checkbox"/> $\leq 1\text{g}$	<input type="checkbox"/> $\leq 2\text{g}$	<input type="checkbox"/> $\leq 20\text{Wh}$	<input type="checkbox"/> $\leq 100\text{Wh}$
<input type="checkbox"/> $> 1\text{g}$	<input type="checkbox"/> $> 2\text{g}$	<input type="checkbox"/> $> 20\text{Wh}$	<input type="checkbox"/> $> 100\text{Wh}$
		Nominal Voltage	3 V
		Rated Capacity	65 mAh

Transport tests and results

Test number	Designation	Results	Remarks
T-1	Altitude	Accepted	
T-2	Thermal cycling	Accepted	
T-3	Vibration	Accepted	
T-4	Shock	Accepted	
T-5	External short circuit	Accepted	
T-6	Crush	Accepted	
T-7	Overcharge	Not applicable	for rechargeable battery(Pack) only
T-8	Forced Discharge	Accepted	

We certify that above results are confirmed in accordance with the Manual of Tests and Criteria of the UN Recommendations on the Transport of Dangerous Goods(5th revised edition Amendment2), Part III, sub-section 38.3

Name / Title of Signatory

Takashi Kimura / Deputy General Manager, Design Dept.

Signature

March 29, 2017

Test	T.1: Altitude simulation										
Item (Status)	ML2032 (First cycle, fully charged)										
Date	Nov. 12, 2002	Place	Kyoto Facility					Temp.			
Performed by	Takahiro Fujisaki							Number of test specimen: 10			
Test procedure Test cells shall be stored at a pressure of 11.6 kPa or less for at least six hours at ambient temperature (20 ± 5 °C).											
Test result											
No.	1	2	3	4	5	6	7	8	9	10	
Lot No.	02-8	02-8	02-8	02-8	02-8	02-8	02-8	02-8	02-8	02-8	
Test condition	Test time 6 hr Pressure: less than 11.6kPa										
Initial	Voltage(V_1) [V]	3.108	3.110	3.109	3.108	3.112	3.112	3.108	3.112	3.111	3.109
	Mass(M_1) [g]	2.941	2.946	2.938	2.939	2.947	2.946	2.940	2.936	2.944	2.950
After Test	Voltage(V_1) [V]	3.108	3.110	3.109	3.108	3.112	3.112	3.108	3.111	3.111	3.109
	Mass(M_1) [g]	2.941	2.946	2.938	2.939	2.947	2.947	2.940	2.936	2.944	2.950
	Leakage	No	No	No	No	No	No	No	No	No	No
	Venting	No	No	No	No	No	No	No	No	No	No
	Disassembly	No	No	No	No	No	No	No	No	No	No
	Rupture	No	No	No	No	No	No	No	No	No	No
Fire	No	No	No	No	No	No	No	No	No	No	
There is no mass loss, no leakage, no venting, no disassembly, no rupture and no fire. The open circuit voltage of each test cell after testing is not less than 90% of its voltage immediately prior to this procedure.											

Test	T.1: Altitude simulation										
Item (Status)	ML2032 (First cycle, fully discharged)										
Date	Nov. 12, 2002	Place	Kyoto Facility							Temp.	
Performed by	Takahiro Fujisaki								Number of test specimen: 10		
Test procedure Test cells shall be stored at a pressure of 11.6 kPa or less for at least six hours at ambient temperature (20 ± 5 °C).											
Test result											
No.	1	2	3	4	5	6	7	8	9	10	
Lot No.	02-8	02-8	02-8	02-8	02-8	02-8	02-8	02-8	02-8	02-8	
Test condition	Test time 6 hr Pressure: less than 11.6kPa										
Initial	Voltage(V_1) [V]	-	-	-	-	-	-	-	-	-	
	Mass(M_1) [g]	2.945	2.947	2.951	2.935	2.937	2.946	2.941	2.953	2.938	
After Test	Voltage(V_2) [V]	-	-	-	-	-	-	-	-	-	
	Mass(M_2) [g]	2.945	2.947	2.951	2.935	2.937	2.946	2.941	2.953	2.937	
	Leakage	No	No	No	No	No	No	No	No	No	
	Venting	No	No	No	No	No	No	No	No	No	
	Disassembly	No	No	No	No	No	No	No	No	No	
	Rupture	No	No	No	No	No	No	No	No	No	
Fire	No	No	No	No	No	No	No	No	No		
There is no mass loss, no leakage, no venting, no disassembly, no rupture and no fire.											

Test	T.2: Thermal test				
Item (Status)	ML2032 (First cycle, fully charged)				
Date	Nov. 13, 2002	Place	Kyoto Facility	Temp.	
Performed by	Takahiro Fujisaki			Number of test specimen: 10	

Test procedure

Test cells are to be stored for at least six hours at a test temperature equal to $75 \pm 2^\circ\text{C}$, followed by storage for at least six hours at a test temperature equal to $-40 \pm 2^\circ\text{C}$. 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 ambient temperature ($20 \pm 5^\circ\text{C}$).

Test result

No.		1	2	3	4	5	6	7	8	9	10
Lot No.		02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08
Test condition		Setting temperature: $75^\circ\text{C}/-40^\circ\text{C}$ Setting time: 6h									
Initial	Voltage(V_i) [V]	3.108	3.110	3.109	3.108	3.112	3.112	3.108	3.111	3.111	3.109
	Mass(M_i) [g]	2.941	2.946	2.938	2.939	2.947	2.947	2.940	2.936	2.944	2.950
After Test	Voltage(V_f) [V]	3.072	3.073	3.072	3.072	3.073	3.074	3.071	3.074	3.074	3.073
	Mass(M_f) [g]	2.941	2.946	2.938	2.939	2.949	2.947	2.940	2.936	2.944	2.950
	Leakage	No	No	No	No	No	No	No	No	No	No
	Venting	No	No	No	No	No	No	No	No	No	No
	Disassembly	No	No	No	No	No	No	No	No	No	No
	Rupture	No	No	No	No	No	No	No	No	No	No
	Fire	No	No	No	No	No	No	No	No	No	No

There is no mass loss, no leakage, no venting, no disassembly, no rupture and no fire. The open circuit voltage of each test cell after testing is not less than 90% of its voltage immediately prior to this procedure.

Test	T.2: Thermal test				
Item (Status)	ML2032 (First cycle, fully discharged)				
Date	Nov. 13, 2002	Place	Kyoto Facility	Temp.	
Performed by	Takahiro Fujisaki			Number of test specimen: 10	

Test procedure

Test cells are to be stored for at least six hours at a test temperature equal to $75 \pm 2^\circ\text{C}$, followed by storage for at least six hours at a test temperature equal to $-40 \pm 2^\circ\text{C}$. 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 ambient temperature ($20 \pm 5^\circ\text{C}$).

Test result

No.		1	2	3	4	5	6	7	8	9	10
Lot No.		02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08
Test condition		Setting temperature: 75°C/-40°C Setting time: 6h									
Initial	Voltage(V _i) [V]	-	-	-	-	-	-	-	-	-	-
	Mass(M _i) [g]	2.945	2.947	2.951	2.935	2.937	2.946	2.941	2.953	2.937	2.943
After Test	Voltage(V _f) [V]	-	-	-	-	-	-	-	-	-	-
	Mass(M _f) [g]	2.944	2.947	2.951	2.935	2.937	2.946	2.941	2.953	2.937	2.943
	Leakage	No	No	No	No	No	No	No	No	No	No
	Venting	No	No	No	No	No	No	No	No	No	No
	Disassembly	No	No	No	No	No	No	No	No	No	No
	Rupture	No	No	No	No	No	No	No	No	No	No
	Fire	No	No	No	No	No	No	No	No	No	No

There is no mass loss, no leakage, no venting, no disassembly, no rupture and no fire.

Test	T.3: Vibration			
Item (Status)	ML2032 (First cycle, fully charged)			
Date	Nov. 23, 2002	Place	Kyoto Facility	Temp.
Performed by	Takahiro Fujisaki			Number of test specimen: 10

Test procedure

Cells are firmly secured to the platform of the vibration machine without distorting the cells in such a manner as to faithfully transmit the vibration. The vibration shall be a sinusoidal waveform with a logarithmic sweep between 7 Hz and 200 Hz and back to 7 Hz traversed in 15 minutes. This cycle shall be repeated 12 times for a total of 3 hours for each of three mutually perpendicular mounting positions of the cell. One of the directions of vibration must be perpendicular to the terminal face.

The logarithmic frequency sweep is as follows: from 7 Hz a peak acceleration of 1 g_n is maintained until 18 Hz is reached. The amplitude is then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until a peak acceleration of 8 g_n occurs (approximately 50 Hz). A peak acceleration of 8 g_n is then maintained until the frequency is increased to 200 Hz.

Test result

No.		1	2	3	4	5	6	7	8	9	10
Lot No.		02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08
Test condition											
Initial	Voltage(V _i) [V]	3.072	3.073	3.072	3.072	3.073	3.074	3.071	3.074	3.074	3.073
	Mass(M _i) [g]	2.941	2.946	2.938	2.939	2.949	2.947	2.940	2.936	2.944	2.950
After Test	Voltage(V _f) [V]	3.070	3.073	3.071	3.070	3.072	3.074	3.071	3.073	3.073	3.071
	Mass(M _f) [g]	2.941	2.946	2.938	2.939	2.949	2.947	2.940	2.936	2.943	2.950
	Leakage	No	No	No	No	No	No	No	No	No	No
	Venting	No	No	No	No	No	No	No	No	No	No
	Disassembly	No	No	No	No	No	No	No	No	No	No
	Rupture	No	No	No	No	No	No	No	No	No	No
	Fire	No	No	No	No	No	No	No	No	No	No

There is no mass loss, no leakage, no venting, no disassembly, no rupture and no fire. The open circuit voltage of each test cell after testing is not less than 90% of its voltage immediately prior to this procedure.

Test	T.3: Vibration				
Item (Status)	ML2032 (First cycle, fully discharged)				
Date	Nov. 23, 2002	Place	Kyoto Facility		Temp.
Performed by	Takahiro Fujisaki				Number of test specimen: 10


Test procedure

Cells are firmly secured to the platform of the vibration machine without distorting the cells in such a manner as to faithfully transmit the vibration. The vibration shall be a sinusoidal waveform with a logarithmic sweep between 7 Hz and 200 Hz and back to 7 Hz traversed in 15 minutes. This cycle shall be repeated 12 times for a total of 3 hours for each of three mutually perpendicular mounting positions of the cell. One of the directions of vibration must be perpendicular to the terminal face. The logarithmic frequency sweep is as follows: from 7 Hz a peak acceleration of 1 g_n is maintained until 18 Hz is reached. The amplitude is then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until a peak acceleration of 8 g_n occurs (approximately 50 Hz). A peak acceleration of 8 g_n is then maintained until the frequency is increased to 200 Hz.

Test result

No.	1	2	3	4	5	6	7	8	9	10
Lot No.	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08
Test condition										
Initial	Voltage(V_i) [V]	-	-	-	-	-	-	-	-	-
	Mass(M_i) [g]	2.944	2.947	2.951	2.935	2.937	2.946	2.941	2.953	2.937
After Test	Voltage(V_f) [V]	-	-	-	-	-	-	-	-	-
	Mass(M_f) [g]	2.944	2.947	2.950	2.935	2.937	2.946	2.941	2.953	2.937
	Leakage	No	No	No	No	No	No	No	No	No
	Venting	No	No	No	No	No	No	No	No	No
	Disassembly	No	No	No	No	No	No	No	No	No
	Rupture	No	No	No	No	No	No	No	No	No
	Fire	No	No	No	No	No	No	No	No	No

There is no mass loss, no leakage, no venting, no disassembly, no rupture and no fire.

Test	T.4: Shock				
Item (Status)	 ML2032 (First cycle, fully charged)				
Date	Nov. 27, 2002	Place	Kyoto Facility	Temp.	
Performed by	Takahiro Fujisaki			Number of test specimen: 10	

Test procedure

Test cells shall be secured to the testing machine by means of a rigid mount which will support all mounting surfaces of each test battery. Each cell shall be subjected to a half-sine shock of peak acceleration of 150 g_n and pulse duration of 6 milliseconds. Each cell shall be 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.

Test result

No.		1	2	3	4	5	6	7	8	9	10
Lot No.		02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08
Test condition											
Initial	Voltage(V _i) [V]	3.070	3.073	3.071	3.070	3.072	3.074	3.071	3.073	3.073	3.071
	Mass(M _i) [g]	2.941	2.946	2.938	2.939	2.949	2.947	2.940	2.936	2.943	2.950
After Test	Voltage(V _f) [V]	3.070	3.074	3.072	3.071	3.072	3.074	3.071	3.073	3.073	3.072
	Mass(M _f) [g]	2.941	2.946	2.938	2.939	2.949	2.947	2.940	2.936	2.943	2.950
	Leakage	No	No	No	No	No	No	No	No	No	No
	Venting	No	No	No	No	No	No	No	No	No	No
	Disassembly	No	No	No	No	No	No	No	No	No	No
	Rupture	No	No	No	No	No	No	No	No	No	No
	Fire	No	No	No	No	No	No	No	No	No	No

There is no mass loss, no leakage, no venting, no disassembly, no rupture and no fire. The open circuit voltage of each test cell after testing is not less than 90% of its voltage immediately prior to this procedure.

Test	T.4: Shock			
Item (Status)	ML2032 (First cycle, fully discharged)			
Date	Nov. 27, 2002	Place	Kyoto Facility	Temp.
Performed by	Takahiro Fujisaki			Number of test specimen: 10


Test procedure

Test cells shall be secured to the testing machine by means of a rigid mount which will support all mounting surfaces of each test battery. Each cell shall be subjected to a half-sine shock of peak acceleration of 150 g_n and pulse duration of 6 milliseconds. Each cell shall be 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.

Test result

No.	1	2	3	4	5	6	7	8	9	10
Lot No.	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08
Test condition										
Initial	Voltage(V _i) [V]	-	-	-	-	-	-	-	-	-
	Mass(M _i) [g]	2.944	2.947	2.950	2.935	2.937	2.946	2.941	2.953	2.937
After Test	Voltage(V _f) [V]	-	-	-	-	-	-	-	-	-
	Mass(M _f) [g]	2.944	2.947	2.949	2.935	2.937	2.946	2.941	2.953	2.937
	Leakage	No	No	No	No	No	No	No	No	No
	Venting	No	No	No	No	No	No	No	No	No
	Disassembly	No	No	No	No	No	No	No	No	No
	Rupture	No	No	No	No	No	No	No	No	No
	Fire	No	No	No	No	No	No	No	No	No

There is no mass loss, no leakage, no venting, no disassembly, no rupture and no fire.

Test	T.5: External short circuit				
Item (Status)	 ML2032 (First cycle, fully charged)				
Date	Nov. 28, 2002	Place	Kyoto Facility	Temp.	
Performed by	Takahiro Fujisaki			Number of test specimen: 10	

Test procedure

The cell to be tested shall be temperature stabilized so that its external case temperature reaches 55 ± 2 °C and then the cell shall be subjected to a short circuit condition with a total external resistance of less than 0.1 ohm at 55 ± 2 °C. This short circuit condition is continued for at least one hour after the cell external case temperature has returned to 55 ± 2 °C. The cell must be observed for a further six hours for the test to be concluded.

Test result

No.		1	2	3	4	5	6	7	8	9	10
Lot No.		02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08
Test condition		Setting Temperature of chamber: 55°C Resistance: Less than 0.1 ohm									
Initial	Voltage(V ₁) [V]	3.070	3.074	3.072	3.071	3.072	3.074	3.071	3.073	3.073	3.072
	Mass(M ₁) [g]	2.941	2.946	2.938	2.939	2.949	2.947	2.940	2.936	2.943	2.950
max. temperature [°C]		59.4	59.7	59.3	55.9	59.3	59.2	59.8	60.1	60.2	59.9
After Test	Leakage	—	—	—	—	—	—	—	—	—	—
	Venting	—	—	—	—	—	—	—	—	—	—
	Disassembly	No	No	No	No	No	No	No	No	No	No
	Rupture	No	No	No	No	No	No	No	No	No	No
	Fire	No	No	No	No	No	No	No	No	No	No

Cells' external temperature does not exceed 170 °C and there is no disassembly, no rupture and no fire within six hours of this test.

Test	T.5: External short circuit			
Item (Status)	ML2032 (First cycle, fully discharged)			
Date	Nov. 28, 2002	Place	Kyoto Facility	Temp.
Performed by	Takahiro Fujisaki			Number of test specimen: 10

Test procedure

The cell to be tested shall be temperature stabilized so that its external case temperature reaches 55 ± 2 °C and then the cell shall be subjected to a short circuit condition with a total external resistance of less than 0.1 ohm at 55 ± 2 °C. This short circuit condition is continued for at least one hour after the cell external case temperature has returned to 55 ± 2 °C. The cell must be observed for a further six hours for the test to be concluded.

Test result

No.	1	2	3	4	5	6	7	8	9	10
Lot No.	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08
Test condition	Setting Temperature of chamber: 55°C Resistance: Less than 0.1 ohm									
Initial	Voltage(V _t) [V]	-	-	-	-	-	-	-	-	-
	Mass(M _t) [g]	2.944	2.947	2.949	2.935	2.937	2.946	2.941	2.953	2.937
max. Temperature [°C]		55.6	55.5	55.4	55.5	55.6	55.5	55.6	55.8	55.8
After Test:	Leakage	-	-	-	-	-	-	-	-	-
	Venting	-	-	-	-	-	-	-	-	-
	Disassembly	No	No	No	No	No	No	No	No	No
	Rupture	No	No	No	No	No	No	No	No	No
	Fire	No	No	No	No	No	No	No	No	No

Cells' external temperature does not exceed 170 °C and there is no disassembly, no rupture and no fire within six hours of this test.

Test	T.6: Crush									
Item (Status)	ML2032 (Undischarged)									
Date	Dec. 2, 2013		Place	Kyoto Facility			Temp.			
Performed by	Atsushi Yamano					Number of test specimen: 5				
Test procedure <p>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.</p> <p>(a) The applied force reaches 13 kN \pm 0.78 kN; (b) The voltage of the cell drops by at least 100 mV; or (c) The cell is deformed by 50% or more of its original thickness.</p> <p>Once the maximum pressure has been obtained, the voltage drops by 100 mV or more, or the cell is deformed by at least 50% of its original thickness, the pressure shall be released.</p> <p>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. For cylindrical cells, the crush force shall be applied perpendicular to the longitudinal axis. Each test cell or component cell is to be subjected to one crush only. The test sample shall be observed for a further 6 h. The test shall be conducted using test cells or component cells that have not previously been subjected to other tests.</p>										
Test result										
No.	1	2	3	4	5	6	7	8	9	10
Test condition	Crushing speed: 1.5cm/s Ram diameter: 32 mm Pressure: 13KN (17 Mpa) Direction of the force : Widest side									
Initial	Voltage(V _i) [V]	3.123	3.124	3.126	3.125	3.123	—	—	—	—
	Mass(M _i) [g]	2.907	2.897	2.906	2.905	2.902	—	—	—	—
Max. Temperature [°C]	30°C<	30°C<	30°C<	30°C<	30°C<	—	—	—	—	—
After Test	Leakage	—	—	—	—	—	—	—	—	—
	Venting	—	—	—	—	—	—	—	—	—
	Disassembly	No	No	No	No	No	—	—	—	—
	Rupture	—	—	—	—	—	—	—	—	—
	Fire	No	No	No	No	No	—	—	—	—
<p>Cells' external temperature does not exceed 170 °C and there is no disassembly and no fire within six hours of this test.</p>										

Test	T.6: Crush										
Item (Status)	ML2032 (Fully discharged)										
Date	Dec. 2, 2013	Place	Kyoto Facility							Temp.	
Performed by	Atsushi Yamano								Number of test specimen: 5		
Test procedure <p>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.</p> <p>(a) The applied force reaches 13 kN \pm 0.78 kN; (b) The voltage of the cell drops by at least 100 mV; or (c) The cell is deformed by 50% or more of its original thickness.</p> <p>Once the maximum pressure has been obtained, the voltage drops by 100 mV or more, or the cell is deformed by at least 50% of its original thickness, the pressure shall be released.</p> <p>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. For cylindrical cells, the crush force shall be applied perpendicular to the longitudinal axis. Each test cell or component cell is to be subjected to one crush only. The test sample shall be observed for a further 6 h. The test shall be conducted using test cells or component cells that have not previously been subjected to other tests.</p>											
Test result											
No.	1	2	3	4	5	6	7	8	9	10	
Test condition	Crushing speed: 1.5cm/s Ram diameter: 32 mm Pressure: 13KN (17 Mpa) Direction of the force : Widest side										
Initial	Voltage(V ₁) [V]	—	—	—	—	—	—	—	—	—	
	Mass(M ₁) [g]	2.911	2.918	2.908	2.896	2.909	—	—	—	—	
Max. Temperature [°C]	30°C<	30°C<	30°C<	30°C<	30°C<	—	—	—	—	—	
After Test	Leakage	—	—	—	—	—	—	—	—	—	
	Venting	—	—	—	—	—	—	—	—	—	
	Disassembly	No	No	No	No	No	—	—	—	—	
	Rupture	—	—	—	—	—	—	—	—	—	
	Fire	No	No	No	No	No	—	—	—	—	
<p>Cells' external temperature does not exceed 170 °C and there is no disassembly and no fire within six hours of this test.</p>											

Test	T.8: Forced discharge			
Item (Status)	ML2032 (First cycle, fully discharged)			
Date	Nov. 17, 2002	Place	Kyoto Facility	Temp.
Performed by	Takahiro Fujisaki			Number of test specimen: 10

Test procedure

Each cell shall be forced discharged at ambient temperature by connecting it in series with a 12 V D.C. power supply at an initial current equal to the maximum discharge current specified by the manufacturer.

The specified discharge current is to be obtained by connecting a resistive load of the appropriate size and rating in series with the test cell. Each cell shall be forced discharged for a time interval (in hours) equal to its rated capacity divided by the initial test current (in Ampere).

Test result

No.	1	2	3	4	5	6	7	8	9	10
Lot No.	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08
Test condition	Discharge current: 3mA Forced discharge time: 22hr									
Initial	Voltage(V _i) [V]	-	-	-	-	-	-	-	-	-
	Mass(M _i) [g]	-	-	-	-	-	-	-	-	-
After Test	Voltage(V _f) [V]									
	Mass(M _f) [g]									
	Leakage	-	-	-	-	-	-	-	-	-
	Venting	-	-	-	-	-	-	-	-	-
	Disassembly	No	No	No	No	No	No	No	No	No
	Rupture	-	-	-	-	-	-	-	-	-
	Fire	No	No	No	No	No	No	No	No	No

There is no disassembly and no fire within seven days of the test.

Test	T.8: Forced discharge									
Item (Status)	ML2032 (After 50 cycles, fully discharged)									
Date	Nov. 17, 2002	Place	Kyoto Facility					Temp.		
Performed by	Takahiro Fujisaki							Number of test specimen: 10		
Test procedure Each cell shall be forced discharged at ambient temperature by connecting it in series with a 12 V D.C. power supply at an initial current equal to the maximum discharge current specified by the manufacturer. The specified discharge current is to be obtained by connecting a resistive load of the appropriate size and rating in series with the test cell. Each cell shall be forced discharged for a time interval (in hours) equal to its rated capacity divided by the initial test current(in Ampere).										
Test result										
No.	1	2	3	4	5	6	7	8	9	10
Lot No.	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08	02-08
Test condition		Discharge current: 3mA Forced discharge time: 22hr								
Initial	Voltage(V _i) [V]	-	-	-	-	-	-	-	-	-
	Mass(M _i) [g]	-	-	-	-	-	-	-	-	-
After Test	Voltage(V _f) [V]									
	Mass(M _f) [g]									
	Leakage	-	-	-	-	-	-	-	-	-
	Venting	-	-	-	-	-	-	-	-	-
	Disassembly	No	No	No	No	No	No	No	No	No
	Rupture	-	-	-	-	-	-	-	-	-
Fire	No	No	No	No	No	No	No	No	No	
There is no disassembly and no fire within seven days of the test.										