

納入仕様書
Product Specifications




貴社名 : _____
 Customer's name

貴社部品名 : _____
 Customer's parts name

貴社部品番号 : _____
 Customer's parts number

ソニー部品名 : USS142BMVR2(AE)
 SONY parts name

ソニー部品番号 : F-4992-283-0
 SONY parts number

承認 Approved by	確認 Checked by	作成 Prepared by
		

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変更履歴

History of revisions

変更年月日 Date		変更事項 Description	承認 Approved by	作成 Prepared by
Ver.1.0	2012. 11.15	1 ST issue		

Lithium-Ion Battery Specifications

1 General

1.1 Scope

This specification is applicable to Lithium-Ion Battery provided by Sony.

1.2 Product Category

Lithium-Ion Battery

1.3 Sony parts name

USS142BMVR2 F-4992-283-0

1.4 Cell Type

US14500VR2

1.5 Applicable Safety Standard

UL1642

2 Rating

Item	Rating	Note
3.1 Nominal Capacity	715mAh(Typ) 680mAh(Min)	0.2ItA (136mA) Discharge, 3.0V/cell cut off Rated Charge
3.2 Nominal Voltage	3.6V	
3.3 Discharge cut-off voltage	3.0V	
3.4 Charge Current(Standard)	0.68A	
3.5 Charge Voltage	4.20 ± 0.05V	Max: 4.25V
3.6 Charge Time	Approx 2.5h	Charge Current: 0.68A
3.7 Continuous maximum charge current	2.0A	
3.8 Continuous maximum discharge current	2.0A	(at 23°C)
3.9 Weight	19.3g +/-0.8g	
3.10 Operating temperature range	Charge	0~+45°C
	Discharge	-20~+60°C
3.11 Storage temperature range	Storage	-20~+45°C Outgoing
	Long Storage	20°C Recommended

3 Form, dimensions and appearance

3.1 Form and dimensions

As shown in Outline drawing

3.2 Appearance

It shall be free from any defects such as remarkable scratches, breaks, cracks, discoloration, leakage, or deformation. It shall be clean, and have equality and product value.

4 Performance

4.1 Standard Test Condition

Temperature $23 \pm 2^\circ\text{C}$, Humidity $65 \pm 20\%$. However, temperature $15 \sim 30^\circ\text{C}$, humidity $25 \sim 85\%$ is also acceptable as far as the test reliability is assured.

4.2 Testing Instrument or Apparatus

4.2.1 Dimension Measuring Instrument

The dimension measurement shall be implemented by instruments with equal or more precision scale of 0.01mm specified by JIS B 7502(outside micrometer) or JIS B 7503(dial gauge).

4.2.2 Voltmeter and Ammeter

Voltmeters and ammeters shall be equal or more precision instruments specified by JIS C 1102 (Indication Electric Instrument Level 0.1).

4.2.3 Impedance Meter

Impedance shall be measured by a sinusoidal alternating current method (1kHz LCR meter).

4.3 Standard Charge

Standard charging is defined as charging at a constant voltage of $4.20\text{V} (\pm 0.005\text{V})$ and a constant current of 0.680A for 2.5hours in $23^\circ\text{C} \pm 2^\circ\text{C}$ atmosphere.

4.4 Standard Discharge

Discharging at a constant current of 0.340A down to 3.0V in $23^\circ\text{C} \pm 2^\circ\text{C}$ atmosphere.

4.5 Electrical Performance

Item	Condition	Specification
4.5.1 Open-Circuit Voltage	Shipping condition	More than 3.62V Less than 3.67V And the same lot is within 0.05V .
4.5.2 Impedance	After standard charge within 3 days.(1kHz)	More than $50\text{m}\Omega$ Less than $100\text{m}\Omega$
4.5.3.1 Capacity	After standard charging, discharge at $0.2\text{ItA} (136\text{mA})$ cut-off voltage 3.0V	680mAh or more
4.5.3.2 Capacity(2)	After standard charging, standard discharging.	646mAh or more
4.5.3.3 Capacity(3)	After standard charging, discharge at $1.0\text{ItA} (680\text{mA})$ cut-off voltage 3.0V	612mAh or more
4.5.4 Charge/Discharge Cycle	Standard charging \Leftrightarrow Discharge at 0.68A , 3.0V After 300cycles	510mAh or more
	Standard charging \Leftrightarrow Discharge at 0.68A , 3.0V After 500cycles	408mAh or more

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4.5.5 Storage Characteristics	After standard charging, stored at 23°C for 28days. Remaining capacity measured by standard discharging.	612mAh or more
	After above measurement, recovery capacity measured by standard charging and standard discharging.	646mAh or more
	After standard charging, stored at 45°C for 28days. Remaining capacity measured by standard discharging.	578mAh or more
	After above measurement, recovery capacity measured by standard charging and standard discharging.	612mAh or more
4.5.6 Long-term storage characteristics	After standard charging, stored at 23°C for 365days. Recovery capacity measured by standard discharging.	612mAh or more
4.5.7 Discharging temperature characteristics Standard charging Discharging:0.34A Cut-off Voltage:3.0V	The capacity discharged under the ambient temperature listed below after standard charge	
	Discharge Temperature	Capacity
	-10°C	476mAh or more
	0°C	544mAh or more
	23°C	646mAh or more
45°C	646mAh or more	
4.5.8 Charging temperature characteristics Charging:4.20V 0.68A, 2.5h Standard discharging	The capacity charged under the ambient temperature listed below after standard discharge	
	Charge Temperature	Capacity
	0°C	544mAh or more
	23°C	646mAh or more
	45°C	646mAh or more

4.6 Reliability

Item	Condition	Specification
4.6.1 Heat cycle test	After standard charging, 75°C,6h <=> -40°C,6h For 10 cycles, then storage at 20+/-5°C, 24h	No leakage, No interception
4.6.2 Shock test	After standard charging, P-tile from height of 1.2m. Dropped in each X,Y and Z for 3 times, with guide like as tube. Standard discharging capacity of the 2 nd times.	No leakage 578mAh or more
4.6.3 Vibration test	After standard charging, vibration is to be applied. Standard discharging capacity of the 2 nd time. Sinusoidal Oscillation 10~60Hz, 20.6m/s ² 60~80Hz, 13.7m/s ² 80~100Hz, 6.9m/s ² 100~125Hz, 3.9m/s ² 5min sweep, each XYZ for 1h	No leakage 578mAh or more

5 Protector

Current interception equipment: When pressure rises in the cell, the current is intercepted.

Explosion Protective Value: When pressure rises in the cell, pressure is opened.

PTC: Trip is by 10A and about 7s (Reference value)

6 Delivery condition

It shall be discharged approx. 55%.

7 Identification and Marking

The code is on the surface of the cell by three steps. (Fig.1)

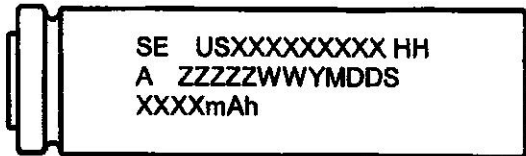


Fig.1

7.1 Lot number (Manufacturing date of cells) (Fig.1: YMDDS)

ZZZZZ : Serial No.

WW : Winder No.

Y : Year ('02=I '03=J '04=K...)

M : Month (Jan.=A Feb.=B...Sep.=I Oct.=J Nov.=K Dec.=L)

DD : Day (01,02,...29,30,31)

S : Electrode History (A , B , C .. , Z)

7.2 Model name (Fig.1: USxxxxxxxx)

US14500VR2

7.3 Manufacturer (Fig.1: SE)

SE: For UL standard (Trade name for Sony Energy Devices Corporation)

7.4 Factory (Fig.1: A)

G: Sony Electronics(Singapore) Pte.Ltd.

Specification (Fig.1:HH)

R2 (Printing:R2)

7.5 Rated Capacity (Fig.1: xxxx mAh)

680 mAh

The code is on the surface of the tube. (Fig.2, Fig.3)

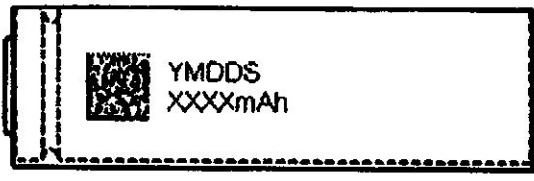






Fig.2



Fig.3

- 7.6 2Dimensional code (Fig.2: )
- 7.7 Lot number (Fig.2: YMDDS)
Refer to 7.1
- 7.8 Rated capacity (Fig.2: xxxx mAh)
Refer to 7.6

- 7.9 Recycle Mark (Fig.3:   )
Display on the surface of the tube.

8 Caution

Warning for Using the Lithium Ion Rechargeable Battery

- 8.1 Observe the following in using the battery
 - Do not heat or throw into the fire.
 - Do not disassemble.
 - Do not set up or leave in high temperature (60°C or more) in device.
 - Do not short Positive (+) terminal and Negative (-) terminal with a metal.
 - Do not wet in the water.
 - Do not give a hard shock or drop.
 - Do not solder with the cell directly.
 - Do not solder with PTC or Thermal Protector directly.
- 8.2 Charging
 - Charge within the limits of 0°C ~ +45°C temperature.
 - Do not charge reversal.
 - Charge only with charger exclusively designed for this battery.
- 8.3 Discharging
 - Discharge within the limits of -20°C ~ +60°C temperature.
 - Avoid discharging below 3.0 V. Do not over-discharge below 1.0 V.
 - Discharge within a designated current.
 - Use only as a power source for a designated device.

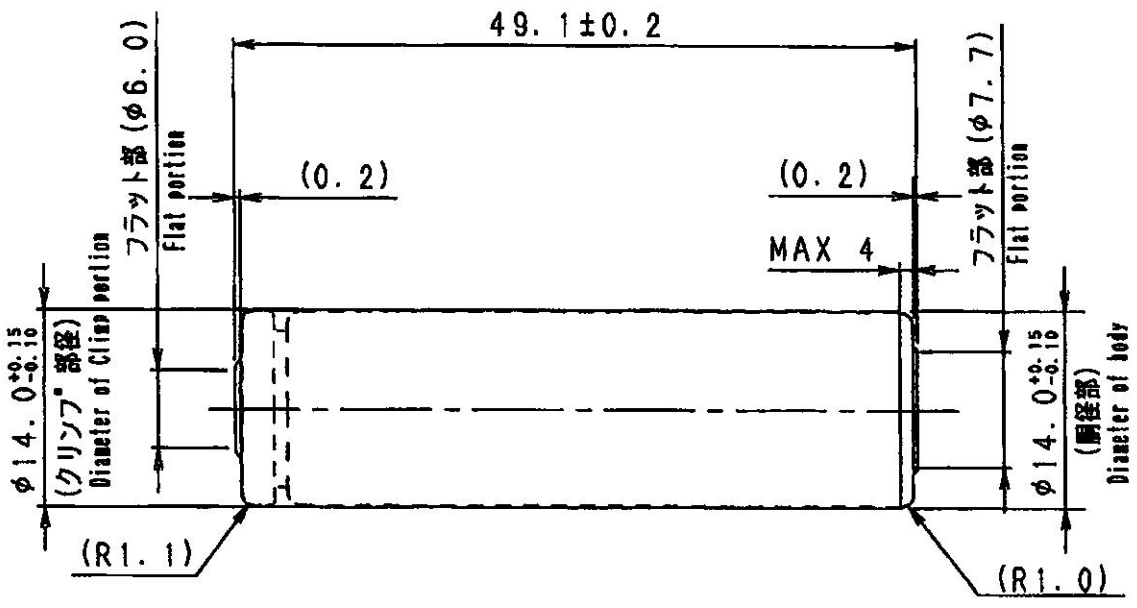
8.4 Storage

- Discharge enough for the long-term storage.
- Store dry and low temperature area. Do not store in a high temperature area.

8.5 Note

If any doubt or inconvenience on this specification arises, modification and revision shall be made per mutual agreement.

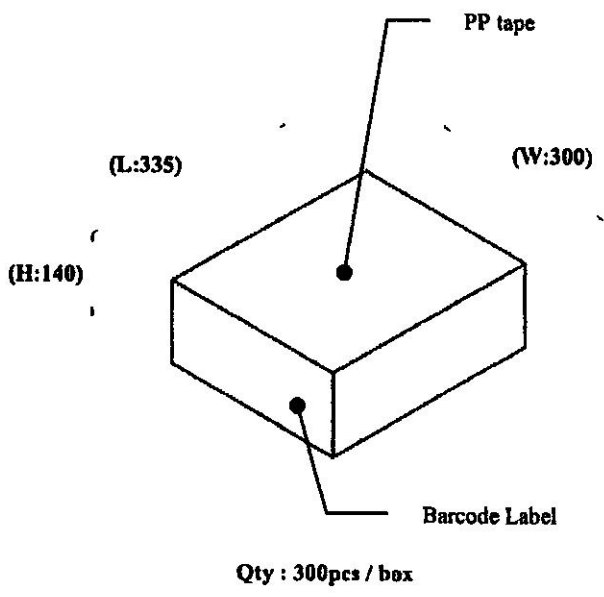
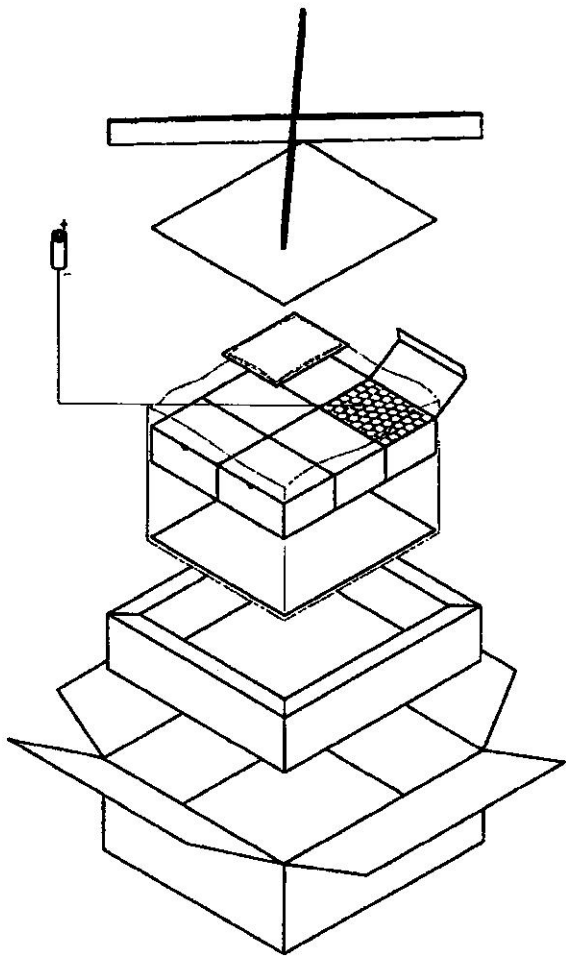
9 Dimension Drawing



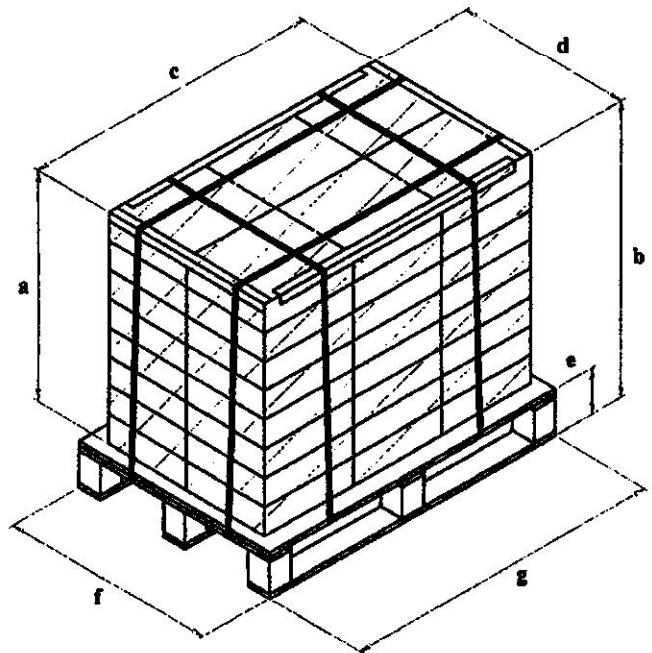
Material of TUBE : Polyethylene terephthalate t0.11
Material of CAN : Ni plated Steel
Material of Cathode terminal : Ni plated Stainless Steel
チューブ材質 : ポリエチレンテレフタレート t0.11
カン材質 : Niメッキ鋼板 t0.3 (Ni plated Steel)
正極端子材質 : SUS430 t0.4 Niメッキ (Ni plated Stainless Steel)

仕様書番号 Spec. No.	KU21921	Ver.	1.0	仕様書ページ Spec. page	9/11
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10 Packing Instruction




11 Packing instructions, pallet



- Size (mm)
- a : 1120
 - b : 1246
 - c : 1005
 - d : 600
 - e : 126
 - f : 800
 - g : 1200

Parts name marking

A part name is marked on the bar code label of master carton. This bar code label is stuck to two places of the master carton.

CUSTOMER PARTS CODE		
MODEL NAME (Sony)	US8142BWR2 (AE)	
PARTS CODE (Sony)	F49922830	
CELL NAME (Sony)	US14500VR2	
SUPPLIER	Sony Corporation	
CELL LOT No. & QTY		
LOT NO.		
CARTON NO.		
QUANTITY	300PCS	
REMARKS:		