



**THE DATASHEET OF
UCH1V221MCS1GS**



ALUMINUM ELECTROLYTIC CAPACITORS

UCH

Chip Type, High Reliability.
Low temperature ESR specification.



For SMD



Long Life

- Added ESR specification after the test at -40°C.
- Applicable to automatic mounting machine fed with carrier tape.
- Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).
- AEC-Q200 Qualified. Please contact us for details.

UCH ← Low ESR **UCZ**



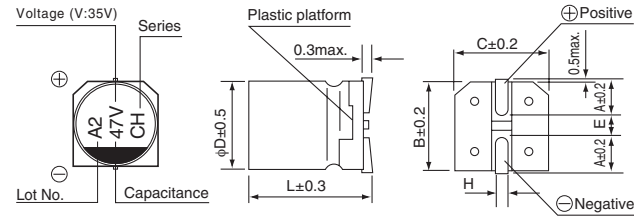
Specifications

Item	Performance Characteristics												
Category Temperature Range	-40 to +125°C												
Rated Voltage Range	25 to 63V												
Rated Capacitance Range	33 to 560μF												
Capacitance Tolerance	±20% at 120Hz, 20°C												
Leakage Current ※	After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01CV (μA).												
Tangent of loss angle (tan δ)	<table border="1"> <tr> <td>Rated voltage (V)</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> </tr> <tr> <td>tan δ (max.)</td> <td>0.18</td> <td>0.16</td> <td>0.16</td> <td>0.14</td> </tr> </table>	Rated voltage (V)	25	35	50	63	tan δ (max.)	0.18	0.16	0.16	0.14	Measurement frequency : 120Hz at 20°C	
Rated voltage (V)	25	35	50	63									
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Stability at Low Temperature	<table border="1"> <tr> <td>Rated voltage (V)</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> </tr> <tr> <td>Impedance ratio ZT / Z20 (max.)</td> <td>Z(-40°C) / Z(+20°C)</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> </tr> </table>	Rated voltage (V)	25	35	50	63	Impedance ratio ZT / Z20 (max.)	Z(-40°C) / Z(+20°C)	3	3	3	3	Measurement frequency : 120Hz
Rated voltage (V)	25	35	50	63									
Impedance ratio ZT / Z20 (max.)	Z(-40°C) / Z(+20°C)	3	3	3	3								
Endurance	The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at 125°C.	<table border="1"> <tr> <td>Capacitance change</td> <td>Within ±30% of the initial capacitance value</td> </tr> <tr> <td>tan δ</td> <td>300% or less than the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table>	Capacitance change	Within ±30% of the initial capacitance value	tan δ	300% or less than the initial specified value	Leakage current	Less than or equal to the initial specified value					
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tan δ	300% or less than the initial specified value												
Leakage current	Less than or equal to the initial specified value												
Shelf Life	After storing the capacitors under no load at 125°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above.												
Resistance to soldering heat	The capacitors are kept on a hot plate for 30 seconds, which is maintained at 250°C. The capacitors shall meet the characteristic requirements listed at right when they are removed from the plate and restored to 20°C.	<table border="1"> <tr> <td>Capacitance change</td> <td>Within ±10% of the initial capacitance value</td> </tr> <tr> <td>tan δ</td> <td>Less than or equal to the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table>	Capacitance change	Within ±10% of the initial capacitance value	tan δ	Less than or equal to the initial specified value	Leakage current	Less than or equal to the initial specified value					
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tan δ	Less than or equal to the initial specified value												
Leakage current	Less than or equal to the initial specified value												
Marking	Black print on the case top.												

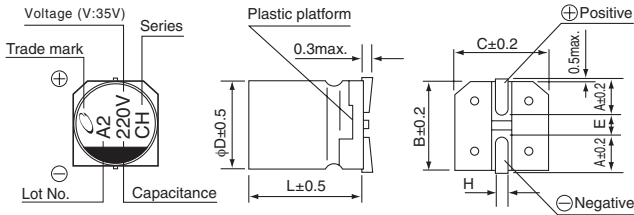
※ I : Leakage Current (μA), C : Rated Capacitance (μF), V : Rated Voltage (V)

Chip Type

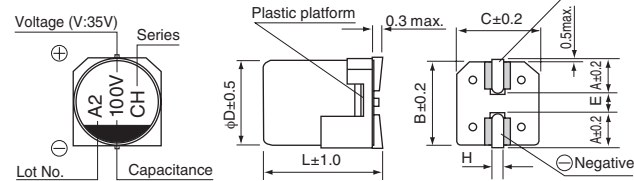
(φ6.3) 【Standard】



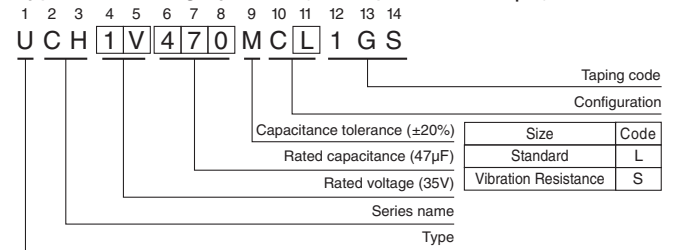
(φ8, φ10) 【Standard】



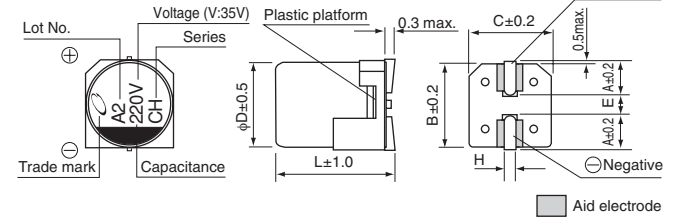
(φ6.3) 【Vibration Resistance】



Type numbering system (Example : 35V 47μF)



(φ8, φ10) 【Vibration Resistance】



Voltage	Standard			Vibration Resistance				
	25	35	50/63	6.3×7.7	8×10	10×10		
Code	E	V	H	J				
φ6.3	A	2.4	2.9	3.2	A	2.4	2.9	3.2
	B	6.6	8.3	10.3	B	6.6	8.3	10.3
φ8	C	6.6	8.3	10.3	C	6.6	8.3	10.3
	E	2.2	3.1	4.5	E	2.2	3.1	4.5
φ10	L	7.7	10	10	L	7.7	10	10
	H	0.5 to 0.8	0.8 to 1.1	0.8 to 1.1	H	0.5 to 0.8	1.1 to 1.5	1.1 to 1.5

● Frequency coefficient of rated ripple current

Frequency	50Hz	120Hz	300Hz	1kHz	10kHz or more
Coefficient	0.35	0.50	0.64	0.83	1.00

● Dimension table in next page.

UCH

■ Dimensions



Rated Voltage (V) (code)	Rated Capacitance (μ F)	Case Size ϕ D \times L (mm)	tan δ	Leakage Current (μ A) (at 20°C after 2 minutes)	ESR (Ω) max.			Rated Ripple (mArms) (125°C/100kHz)	Part Number
					Initial 20°C 100kHz	Initial -40°C 100kHz	after endurance test 2000hours -40°C 400kHz		
25 (1E)	150	6.3 \times 7.7	0.18	37.5	0.30	3.0	6.0	197	UCH1E151MC□1GS
	330	8 \times 10	0.18	82.5	0.20	2.0	4.5	270	UCH1E331MC□1GS
	560	10 \times 10	0.18	140	0.15	1.5	3.5	500	UCH1E561MC□1GS
35 (1V)	47	6.3 \times 7.7	0.16	16.45	0.30	3.0	6.0	197	UCH1V470MC□1GS
	100	6.3 \times 7.7	0.16	35	0.30	3.0	6.0	197	UCH1V101MC□1GS
	220	8 \times 10	0.16	77	0.20	2.0	4.5	270	UCH1V221MC□1GS
	330	10 \times 10	0.16	115.5	0.15	1.5	3.5	500	UCH1V331MC□1GS
50 (1H)	47	6.3 \times 7.7	0.16	23.5	0.80	8.0	—	150	UCH1H470MC□1GS
	100	8 \times 10	0.16	50	0.40	6.0	—	250	UCH1H101MC□1GS
	220	10 \times 10	0.16	110	0.25	3.0	—	400	UCH1H221MC□1GS
63 (1J)	33	6.3 \times 7.7	0.14	20.79	0.80	8.0	—	150	UCH1J330MC□1GS
	68	8 \times 10	0.14	42.84	0.40	6.0	—	250	UCH1J680MC□1GS
	100	10 \times 10	0.14	63	0.25	3.0	—	400	UCH1J101MC□1GS

□ : Enter the appropriate configuration code.

- For taping specifications, recommended land size/soldering by reflow and minimum order quantity, please refer to the Guidelines for Aluminum Electrolytic Capacitors.

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