

ALUMINUM ELECTROLYTIC CAPACITORS

UCX Chip Type, High Reliability Low temperature ESR specification



- Chip type, high temperature range, for +135°C use.
- 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 compliant. Please contact us for details.

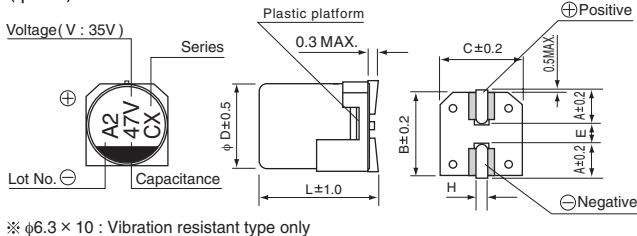


Specifications

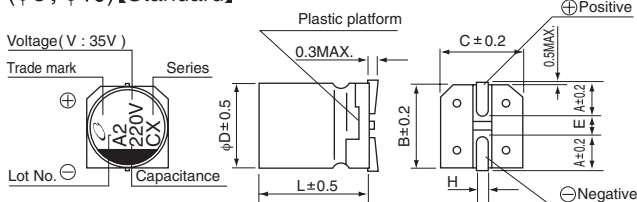
Item	Performance Characteristics												
Category Temperature Range	-40 to +135°C												
Rated Voltage Range	10 to 50V												
Rated Capacitance Range	47 to 3300μF												
Capacitance Tolerance	±20% at 120Hz, 20°C												
Leakage Current	After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01CV or 3(μA), whichever is greater.												
Tangent of loss angle (tan δ)	Rated voltage (V)	10	16	25	35	50	Measurement frequency : 120Hz at 20°C						
	tan δ (MAX.)	0.30	0.23	0.18	0.16	0.16							
Stability at Low Temperature	Rated voltage (V)	10	16	25	35	50	Measurement frequency : 120Hz						
	Impedance ratio (MAX.)	Z-40°C / Z+20°C	12	8	6	4		4					
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 135°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 135°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 shall be kept on the 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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Leakage current	Less than or equal to the initial specified value												
Marking	Black print on the case top.												

Chip Type

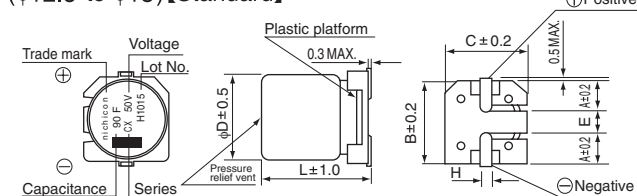
(φ6.3) [Vibration Resistance]



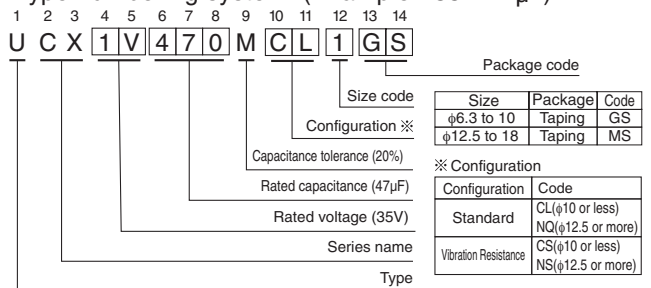
(φ8, φ10) [Standard]



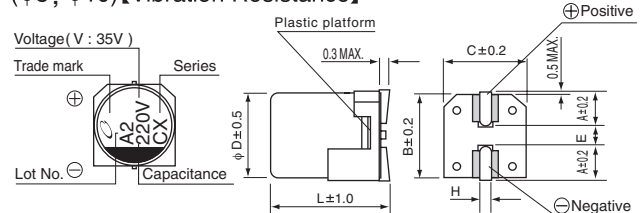
(φ12.5 to φ18) [Standard]



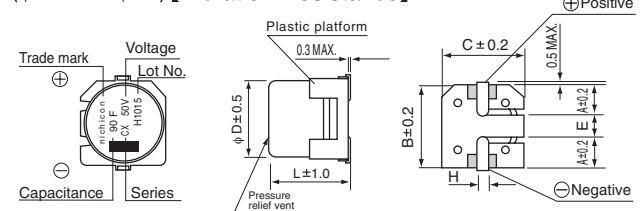
Type numbering system (Example : 35V 47μF)



(φ8, φ10) [Vibration Resistance]



(φ12.5 to φ18) [Vibration Resistance]



Standard

	(mm)				
φDXL	8×10	10×10	12.5×13.5	16×16.5, 21.5	18×16.5, 21.5
A	2.9	3.2	4.8	5.4	6.4
B	8.3	10.3	13.6	17.1	19.1
C	8.3	10.3	13.6	17.1	19.1
E	3.1	4.5	4	6.3	6.3
L	10	10	13.5	16.5, 21.5	16.5, 21.5
H	0.8 to 1.1	0.8 to 1.1	1.0 to 1.4	1.0 to 1.4	1.0 to 1.4

Vibration Resistance

	(mm)					
φDXL	6.3×10	8×10	10×10	12.5×13.5	16×16.5, 21.5	18×16.5, 21.5
A	2.4	2.9	3.2	4.8	5.4	6.4
B	6.6	8.3	10.3	13.6	17.1	19.1
C	6.6	8.3	10.3	13.6	17.1	19.1
E	2.2	3.1	4.5	4	6.3	6.3
L	10	10	10	13.5	16.5, 21.5	16.5, 21.5
H	0.5 to 0.8	1.1 to 1.5	1.1 to 1.5	1.0 to 1.4	1.0 to 1.4	1.0 to 1.4

■ Aid electrode

Voltage

V	10	16	25	35	50
Code	A	C	E	V	H

● Dimension table in next page.



■ Dimensions

Cap.(μ F)	V Code	10				16				25				35				50				
		1A				1C				1E				1V				1H				
47	470													6.3 X 10 0.25 4 15 197 8 X 10 0.20 3 12 270	8 X 10 0.25 3.5 15 270							
68	680													8 X 10 0.20 3 12 270								
100	101					6.3 X 10 0.25 4 15 197 8 X 10 0.20 3 12 270					8 X 10 0.20 3 12 270					6.3 X 10 0.25 4 15 197 8 X 10 0.20 3 12 270	10 X 10 0.2 2.5 12 500					
220	221	8 X 10 0.20 3 12 270				8 X 10 0.20 3 12 270					10 X 10 0.15 2 10 500					10 X 10 0.15 2 10 500						
330	331	8 X 10 0.20 3 12 270 10 X 10 0.15 2 10 500				10 X 10 0.15 2 10 500					10 X 10 0.15 2 10 500											
390	391																	12.5 X 13.5 0.09 1.3 6.5 750				
470	471	10 X 10 0.15 2 10 500				10 X 10 0.15 2 10 500									12.5 X 13.5 0.07 1.0 5.0 750	16 X 16.5 0.07 0.70 3.5 1000						
560	561													12.5 X 13.5 0.07 1.0 5.0 750	16 X 16.5 0.07 0.70 3.5 1000							
680	681													12.5 X 13.5 0.07 1.0 5.0 750	18 X 16.5 0.07 0.70 3.5 1200							
820	821									12.5 X 13.5 0.07 1.0 5.0 750					16 X 16.5 0.05 0.50 2.5 1200	18 X 16.5 0.07 0.70 3.5 1200						
1000	102									12.5 X 13.5 0.07 1.0 5.0 750					16 X 16.5 0.05 0.50 2.5 1200	16 X 21.5 0.05 0.40 2.0 1600						
1200	122									16 X 16.5 0.05 0.50 2.5 1200					18 X 16.5 0.05 0.50 2.5 1400	18 X 21.5 0.04 0.32 1.6 1900						
1500	152									16 X 16.5 0.05 0.50 2.5 1200					16 X 21.5 0.04 0.32 1.6 1900 18 X 16.5 0.05 0.50 2.5 1400							
1800	182									16 X 16.5 0.05 0.50 2.5 1200					18 X 21.5 0.035 0.28 1.4 2200							
2200	222									18 X 16.5 0.05 0.50 2.5 1400					18 X 21.5 0.035 0.28 1.4 2200							
2700	272									16 X 21.5 0.04 0.32 1.6 1900												
3300	332									18 X 21.5 0.035 0.28 1.4 2200												

MAX. ESR (Ω) at 20°C / -40°C 100kHz, Rated ripple current(mArms) at 135°C 100kHz

● In this case, [6] will be put at 12th digit of type numbering system.

● 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

- Taping specifications are given in page 23.
- Recommended land size, soldering by reflow are given in page 18, 19.
- Please refer to page 3 for the minimum order quantity.