THE DATASHEET OF

UCX1A471MCL1GS

ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

UCX

Chip Type, High Reliability
Low temperature ESR specification

For SMD　Low Impedance

UCX

High Temperature

UCZ

- 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 Qualified. Please contact us for details.

Value marked with an ※ in the dimension table are scheduled to be discontinued and are not recommended for new designs.

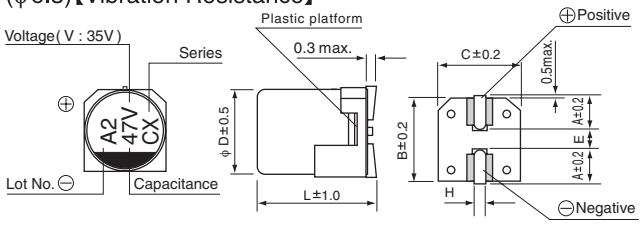
■Specifications

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 (μA).
Tangent of loss angle (tan δ)	Rated voltage (V): 10 / 16 / 25 / 35 / 50 tan δ (max.): 0.30 / 0.23 / 0.18 / 0.16 / 0.16 Measurement frequency : 120Hz at 20°C For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF. (φ12.5 to φ18)
Stability at Low Temperature	Rated voltage (V): 10 / 16 / 25 / 35 / 50 Impedance ratio (max.) Z(–40°C) / Z(+20°C): 12 / 8 / 6 / 4 / 4 Measurement frequency : 120Hz
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. 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
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. 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
Marking	Black print on the case top.

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

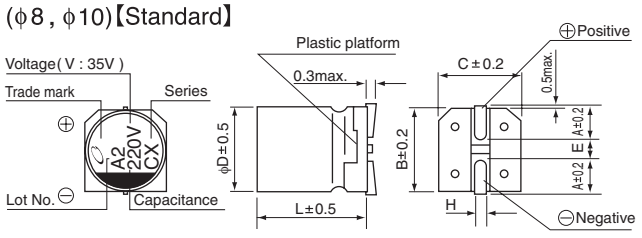
■Chip Type ※ Not recommended.

(φ6.3)【Vibration Resistance】

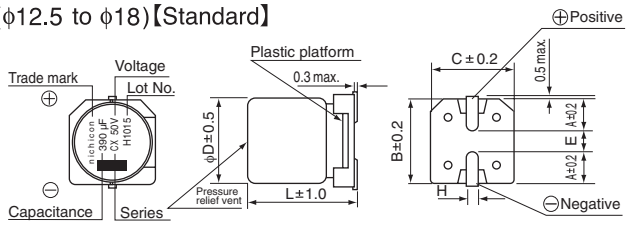


※ φ6.3 × 10 : Vibration resistant type only

(φ8, φ10)【Standard】



(φ12.5 to φ18)【Standard】



Type numbering system (Example : 35V 47μF)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
U	C	X	1	V	4	7	0	M	C	L	1	G	S

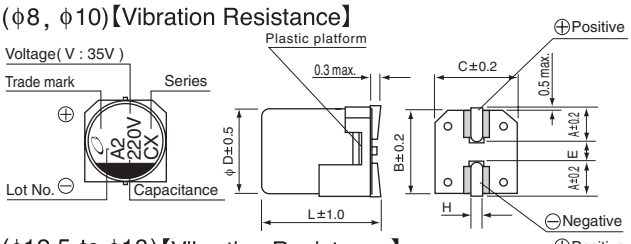
- 1 2 3 : Type
- 4 5 6 7 8 : Rated capacitance (47μF)
- 9 : Capacitance tolerance (20%)
- 10 11 : Configuration ※
- 12 : Size code
- 13 14 : Taping code

Size	Code
φ6.3 to 10	GS
φ12.5 to 18	MS

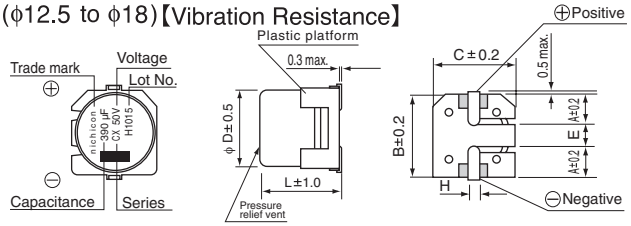
※ Configuration

Configuration	Code
Standard	CL(φ10 or less) NJ(φ12.5 or more)
Vibration Resistance	CS(φ10 or less) NS(φ12.5 or more)

(φ8, φ10)【Vibration Resistance】



(φ12.5 to φ18)【Vibration Resistance】



Standard (mm)

φDXL	8X10	10X10	12.5X13.5	16X16.5, 21.5	18X16.5, 21.5
A	2.9	3.2	5.15	5.65	6.65
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	(3.3)	(5.8)	(5.8)
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	6.3X10	8X10	10X10	12.5X13.5	16X16.5, 21.5	18X16.5, 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	(4.0)	(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

Voltage

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

Aid electrode

●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.

UCX

■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μF)	Case Size φD×L (mm)	tan δ	Leakage Current (μA) (at 20℃ after 2 minutes)	ESR (Ω) max. (20℃/−40℃/100kHz)			Rated Ripple (mArms) (135℃/100kHz)	Part Number
					Initial 20℃	Initial −40℃	after endurance test 1000hours −40℃		
10 (1A)	220	8×10	0.30	22	0.20	3.00	12	270	UCX1A221M□□1GS
	330	8×10	0.30	33	0.20	3.00	12	270	UCX1A331M□□6GS
	330	10×10	0.30	33	0.15	2.00	10	500	UCX1A331M□□1GS
	470	10×10	0.30	47	0.15	2.00	10	500	UCX1A471M□□1GS
16 (1C)	100	6.3×10	0.23	16	0.25	4.00	15	197	※UCX1C101MCS6GS
	100	8×10	0.23	16	0.20	3.00	12	270	UCX1C101M□□1GS
	220	8×10	0.23	35.2	0.20	3.00	12	270	UCX1C221M□□1GS
	330	10×10	0.23	52.8	0.15	2.00	10	500	UCX1C331M□□1GS
	470	10×10	0.23	75.2	0.15	2.00	10	500	UCX1C471M□□1GS
25 (1E)	100	8×10	0.18	25	0.20	3.00	12	270	UCX1E101M□□1GS
	220	10×10	0.18	55	0.15	2.00	10	500	UCX1E221M□□1GS
	330	10×10	0.18	82.5	0.15	2.00	10	500	UCX1E331M□□1GS
	820	12.5×13.5	0.18	205	0.070	1.00	5.0	750	UCX1E821M□□1MS
	1000	12.5×13.5	0.18	250	0.070	1.00	5.0	750	UCX1E102M□□1MS
	1200	16×16.5	0.18	300	0.050	0.50	2.5	1200	UCX1E122M□□1MS
	1500	16×16.5	0.18	375	0.050	0.50	2.5	1200	UCX1E152M□□1MS
	1800	16×16.5	0.18	450	0.050	0.50	2.5	1200	UCX1E182M□□1MS
	2200	18×16.5	0.20	550	0.050	0.50	2.5	1400	UCX1E222M□□1MS
	2700	16×21.5	0.20	675	0.040	0.32	1.6	1900	UCX1E272M□□1MS
	3300	18×21.5	0.22	825	0.035	0.28	1.4	2200	UCX1E332M□□1MS
35 (1V)	47	6.3×10	0.16	16.45	0.25	4.00	15	197	※UCX1V470MCS6GS
	47	8×10	0.16	16.45	0.20	3.00	12	270	UCX1V470M□□1GS
	68	8×10	0.16	23.8	0.20	3.00	12	270	UCX1V680M□□1GS
	100	6.3×10	0.16	35	0.25	4.00	15	197	※UCX1V101MCS6GS
	100	8×10	0.16	35	0.20	3.00	12	270	UCX1V101M□□1GS
	220	10×10	0.16	77	0.15	2.00	10	500	UCX1V221M□□1GS
	470	12.5×13.5	0.16	164.5	0.070	1.00	5.0	750	UCX1V471M□□1MS
	560	12.5×13.5	0.16	196	0.070	1.00	5.0	750	UCX1V561M□□1MS
	680	12.5×13.5	0.16	238	0.070	1.00	5.0	750	UCX1V681M□□1MS
	820	16×16.5	0.16	287	0.050	0.50	2.5	1200	UCX1V821M□□1MS
	1000	16×16.5	0.16	350	0.050	0.50	2.5	1200	UCX1V102M□□1MS
	1200	18×16.5	0.16	420	0.050	0.50	2.5	1400	UCX1V122M□□1MS
	1500	16×21.5	0.16	525	0.040	0.32	1.6	1900	UCX1V152M□□6MS
	1500	18×16.5	0.16	525	0.050	0.50	2.5	1400	UCX1V152M□□1MS
	1800	18×21.5	0.16	630	0.035	0.28	1.4	2200	UCX1V182M□□1MS
	2200	18×21.5	0.18	770	0.035	0.28	1.4	2200	UCX1V222M□□1MS
50 (1H)	47	8×10	0.16	23.5	0.25	3.50	15	270	UCX1H470M□□1GS
	100	10×10	0.16	50	0.20	2.50	12	500	UCX1H101M□□1GS
	390	12.5×13.5	0.16	195	0.090	1.30	6.5	750	UCX1H391M□□1MS
	470	16×16.5	0.16	235	0.070	0.70	3.5	1000	UCX1H471M□□1MS
	560	16×16.5	0.16	280	0.070	0.70	3.5	1000	UCX1H561M□□1MS
	680	18×16.5	0.16	340	0.070	0.70	3.5	1200	UCX1H681M□□1MS
	820	18×16.5	0.16	410	0.070	0.70	3.5	1200	UCX1H821M□□1MS
	1000	16×21.5	0.16	500	0.050	0.40	2.0	1600	UCX1H102M□□1MS
	1200	18×21.5	0.16	600	0.040	0.32	1.6	1900	UCX1H122M□□1MS

□□ : 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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