ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

UP series

6mmL Chip Type, Bi-Polarized

For SMD | Bi-polarized | Anti-Solvent Feature

- Chip type, bi-polarized withstanding high temperature range up to +105°C.
- Designed for surface mounting on high density PC board.
- Applicable to automatic mounting machine using carrier tape.
- Adapted to the RoHS directive (2002/95/EC).

UN ← Extended range : UP ← High Temperature : WP

■Specifications

Item	Performance Characteristics
Category Temperature Range	−55 to +105°C
Rated Voltage Range	6.3 to 50V
Rated Capacitance Range	0.1 to 47μF
Capacitance Tolerance	±20% at 120Hz, 20°C
Leakage Current	After 2 minutes' application of rated voltage, leakage current is not more than 0.05 CV or 10 (μA), whichever is greater.
tan δ	Measurement frequency : 120Hz, Temperature : 20°C

Rated voltage (V)	6.3	10	16	25	35	50
tan δ (MAX.)	0.24	0.20	0.17	0.17	0.15	0.15

Stability at Low Temperature — Measurement frequency : 120Hz

Rated voltage (V)		6.3	10	16	25	35	50
Impedance ratio ZT / Z20 (MAX.)	Z−25°C / Z+20°C	4	3	2	2	2	2
	Z−40°C / Z+20°C	8	6	4	4	3	3

Endurance — After 1000 hours' application of rated voltage at 105°C with the polarity inverted every 250 hours, capacitors meet the characteristic requirements listed at right.

Capacitance change	Within ±20% of initial value
tan δ	200% or less of initial specified value
Leakage current	Initial specified value or less

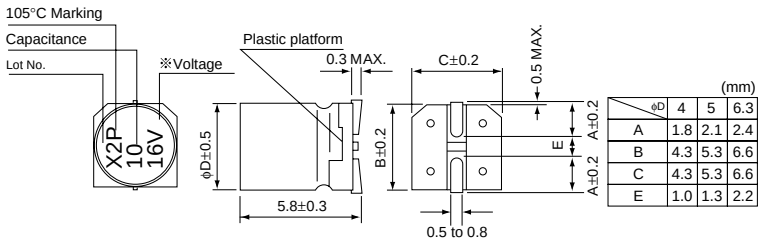
Shelf Life — After storing the capacitors under no load at 105°C for 1000 hours, and after performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they will meet the specified value for endurance characteristics listed above.

Resistance to soldering heat — The capacitors shall be kept on the hot plate maintained at 250°C for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the characteristic requirements listed at right.

Capacitance change	Within ±10% of initial value
tan δ	Initial specified value or less
Leakage current	Initial specified value or less

Marking — Black print on the case top.

■Chip Type



(mm)

φD	4	5	6.3
A	1.8	2.1	2.4
B	4.3	5.3	6.6
C	4.3	5.3	6.6
E	1.0	1.3	2.2

※Voltage mark for 6.3V is「6V」

Type numbering system (Example : 16V 10μF)

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

14: Taping code
11–13: Configuration
9–10: Capacitance tolerance (±20%)
6–8: Rated Capacitance (10μF)
4–5: Rated voltage (16V)
3: Series name
1–2: Type

■Dimensions

Cap.(μF) \ V	Code	6.3		10		16		25		35		50	
		0J		1A		1C		1E		1V		1H	
0.1	0R1											4	1.0
0.22	R22											4	2.0
0.33	R33											4	2.8
0.47	R47											4	4.0
1	010											4	8.4
2.2	2R2									4	8.4	5	13
3.3	3R3							5	12	5	16	5	17
4.7	4R7					4	12	5	16	5	18	6.3	20
10	100			4	17	5	23	6.3	27	6.3	29		
22	220	5	28	6.3	33	6.3	37						
33	330	6.3	37	6.3	41	6.3	49						Rated ripple
47	470	6.3	45									Case size φD (mm)	

Rated Ripple (mArms) at 105°C 120Hz

●Frequency coefficient of rated ripple current

Frequency	50 Hz	120 Hz	300 Hz	1 kHz	10 kHz or more
Coefficient	0.70	1.00	1.17	1.36	1.50

- Taping specifications are given in page 23.
- Recommended land size, soldering by reflow are given in page 18, 19.
- Please select UN(p.93) series if high CV products are required.
- Please refer to page 3 for the minimum order quantity.