ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

UP series

6mmL Chip Type, Bi-Polarized

For SMD | BP 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 fed with carrier tape.
- Compliant to the RoHS directive (2011/65/EU).

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.
Tangent of loss angle (tan δ)	Measurement frequency : 120Hz at 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

The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 1000 hours at 105°C with the polarity every 250 hours.

Capacitance change	Within ±20% of the initial capacitance value
tan δ	200% 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 105°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

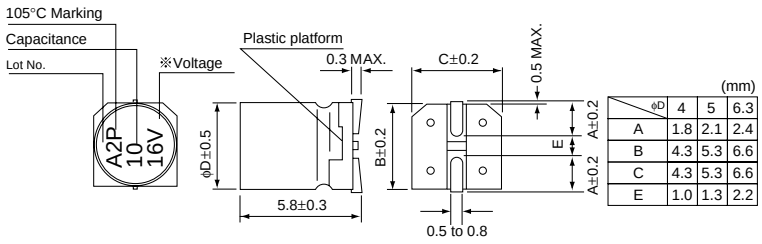
The capacitors are kept on a hot plate for 30 seconds, which is maintained at 250°C. The capacitors shall meet the characteristic requirements listed at right when they are removed from the plate and restored to 20°C.

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.

■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

Taping code
Configuration
Capacitance tolerance (±20%)
Rated capacitance (10μF)
Rated voltage (16V)
Series name
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 current (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.166) series if high CV products are required.
- Please refer to page 3 for the minimum order quantity.