ALUMINUM ELECTROLYTIC CAPACITORS

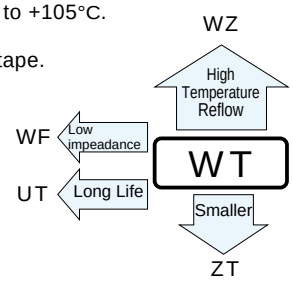
nichicon

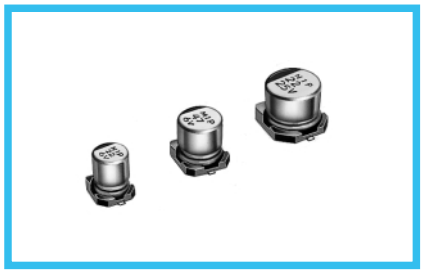
WT

Chip Type, Wide Temperature Range

series

- Chip type operating over wide temperature range of to –55 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).





■Specifications

Item	Performance Characteristics
Category Temperature Range	–55 to +105°C
Rated Voltage Range	4 to 50V
Rated Capacitance Range	0.1 to 1500µF
Capacitance Tolerance	±20% at 120Hz, 20°C
Leakage Current	After 2 minutes' application of rated voltage, leakage current is not more than 0.01CV or 3 (µA) , whichever is greater.
Tangent of loss angle (tan δ)	Measurement frequency : 120Hz at 20°C

Rated voltage (V)	4	6.3	10	16	25	35	50
tan δ (MAX.)	0.40	0.30	0.24	0.20	0.16	0.14	0.14

Stability at Low Temperature — Measurement frequency : 120Hz

Rated voltage (V)		4	6.3	10	16	25	35	50
Impedance ratio ZT / Z20 (MAX.)	Z–25°C / Z+20°C	7	4	3	2	2	2	2
	Z–40°C / Z+20°C	15	8	8	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.

Capacitance change	Within ±25% of the initial capacitance value for capacitors of ϕ3mm unit, and 16V or less. Within ±20% of the initial capacitance value for capacitors of 25V or more.
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.

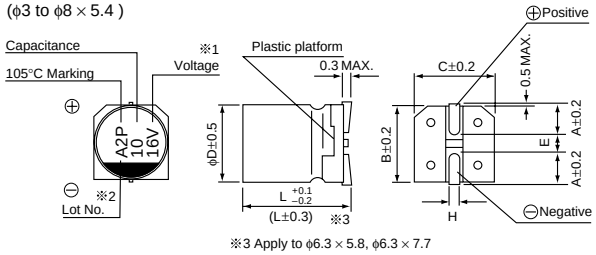
Resistance to soldering heat — The capacitors are kept on a hot plate for 30 seconds, which is maintained at 250°C. The capacitors shall meet the characteristic requirements listed at right when they are removed from the plate and restored to 20°C.

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.

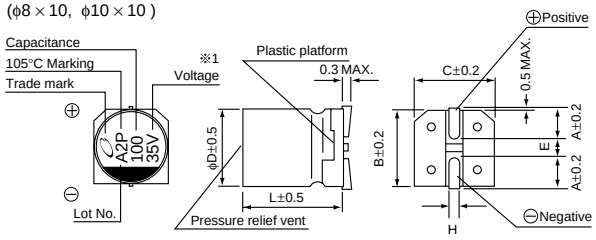
■Chip Type

(ϕ3 to ϕ8 × 5.4)



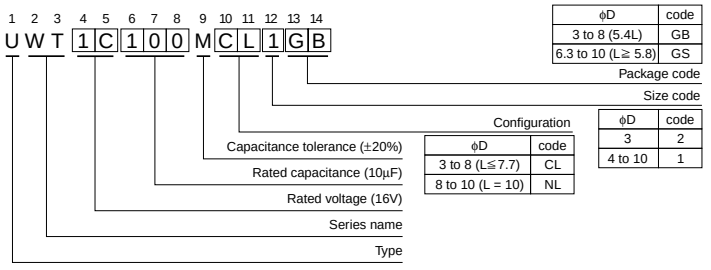
※3 Apply to ϕ6.3 × 5.8, ϕ6.3 × 7.7

(ϕ8 × 10, ϕ10 × 10)



※1. Voltage mark for 6.3V is「6V」. In case of marking for ϕ3 units, "V" for rated voltage is omitted.
※2. In case of marking for ϕ3 units. Lot No is expressed by a digit (month code).

Type numbering system (Example : 16V 10µF)



(mm)

ϕD × L	3 × 5.4	4 × 5.4	5 × 5.4	6.3 × 5.4	6.3 × 5.8	6.3 × 7.7	8 × 5.4	8 × 10	10 × 10
A	1.5	1.8	2.1	2.4	2.4	2.4	3.3	2.9	3.2
B	3.3	4.3	5.3	6.6	6.6	6.6	8.3	8.3	10.3
C	3.3	4.3	5.3	6.6	6.6	6.6	8.3	8.3	10.3
E	0.8	1.0	1.3	2.2	2.2	2.2	2.3	3.1	4.5
L	5.4	5.4	5.4	5.4	5.8	7.7	5.4	10	10
H	0.5 to 0.8	0.5 to 0.8	0.5 to 0.8	0.5 to 0.8	0.5 to 0.8	0.5 to 0.8	0.5 to 0.8	0.8 to 1.1	0.8 to 1.1

● Dimension table in next page.

WT series

■Dimensions

Cap. (μF) \ V	Code	4		6.3		10		16		25		35		50	
		0G		0J		1A		1C		1E		1V		1H	
0.1	0R1													4×5.4(3)	1.0
0.22	R22													4×5.4(3)	2.6
0.33	R33													4×5.4(3)	3.2
0.47	R47													4×5.4(3)	3.8
1	010													4×5.4(3)	6.3 (5.9)
2.2	2R2											3×5.4	7.5	4×5.4(3)	11 (9)
3.3	3R3											3×5.4	9	4×5.4	14
4.7	4R7									4×5.4(3)	13 (10)	4×5.4	15	5×5.4	19
10	100							4×5.4(3)	18 (14)	5×5.4	23	5×5.4	25	6.3×5.4	30
22	220	4×5.4	22	4×5.4	22	5×5.4	27	5×5.4	30	6.3×5.4	38	6.3×5.4	42	●8×5.4	51 (45)
33	330	5×5.4	30	5×5.4	30	5×5.4	35	6.3×5.4	40	6.3×5.4	48	● 8×5.4	59 (52)	6.3×7.7	60
47	470	5×5.4	36	5×5.4	36	6.3×5.4	46	6.3×5.4	50	● 8×5.4	66 (59)	6.3×5.8	63	6.3×7.7	63
100	101	6.3×5.4	60	6.3×5.4	60	6.3×5.4	60	6.3×5.4	60	6.3×7.7	91	6.3×7.7	84	8×10	140
150	151	6.3×5.8	86	6.3×5.8	86	6.3×5.8	86	6.3×7.7	95	8×10	140	8×10	155	10×10	180
220	221	● 8×5.4	102 (91)	● 8×5.4	102 (91)	6.3×7.7	105	6.3×7.7	105	8×10	155	8×10	190	10×10	220
330	331	6.3×7.7	105	6.3×7.7	105	8×10	195	8×10	195	8×10	190	10×10	300		
470	471	8×10	210	8×10	210	8×10	210	8×10	230	10×10	300				
680	681	8×10	210	8×10	210	10×10	310	10×10	310						
1000	102	8×10	230	8×10	230	10×10	310							Case size	Rated ripple
1500	152	10×10	310	10×10	310									φD×L (mm)	

Rated ripple current (mArms) at 105°C 120Hz

( ) is also available with φ3mm upon request. In such a case, 2 will be put at 12th digit of type numbering system.
Size φ6.3×5.8 is available for capacitors marked. "●" In such a case, 6 will be put at 12th digit of type numbering system.

●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 UX(p.158), UJ(p.164) series if high C/V products are reqired.
- Please refer to page 3 for the minimum order quantity.