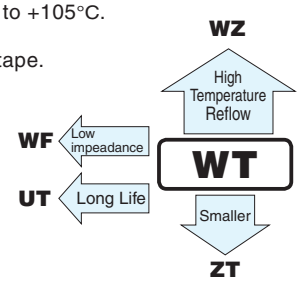
ALUMINUM ELECTROLYTIC CAPACITORS

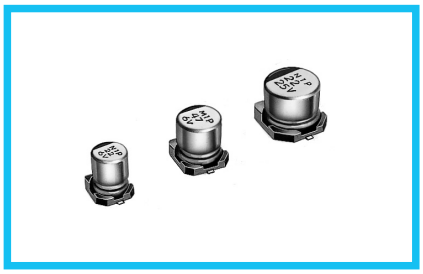
nichicon

WT Chip Type, Wide Temperature Range series

For SMD | Smaller | Anti-Solvent Feature

- 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.

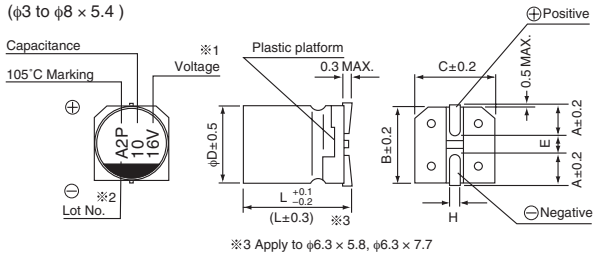
Capacitance change	Within ±10% of the initial capacitance value
tan δ	Less than or equal to the initial specified value
Leakage current	Less than or equal to the initial specified value

Marking

Black print on the case top.

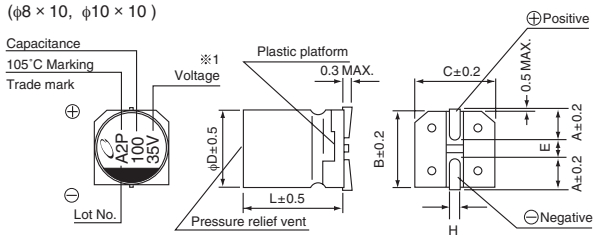
■Chip Type

(φ3 to φ8 × 5.4)



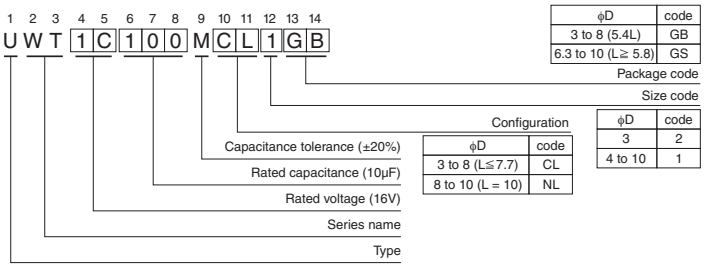
※3 Apply to φ6.3 × 5.8, φ6.3 × 7.7

(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.154), UJ(p.160) series if high C/V products are reqired.
- Please refer to page 3 for the minimum order quantity.

Mouser Electronics

Authorized Distributor

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Nichicon:

UWT1HR47MCL1GB UWT1HR47MCL2GB UWT1V100MCL1GB UWT1V101MCL1GS UWT1V220MCL1GB UWT1V221MNL1GS UWT1V2R2MCL2GB UWT1V330MCL1GB UWT1V331MNL1GS UWT1V3R3MCL2GB UWT1V470MCL1GS UWT1C101MCL1GB UWT1C220MCL1GB UWT1C221MCL1GS UWT1C330MCL1GB UWT1C331MNL1GS UWT1C470MCL1GB UWT1C471MNL1GS UWT1C681MNL1GS UWT1E100MCL1GB UWT1E220MCL1GB UWT1E330MCL1GB UWT1E331MNL1GS UWT1E470MCL1GB UWT1E470MCL6GS UWT1E471MNL1GS UWT1E4R7MCL1GB UWT1E4R7MCL2GB UWT1H010MCL1GB UWT1H010MCL2GB UWT1H0R1MCL1GB UWT1H0R1MCL2GB UWT1H100MCL1GB UWT1H101MNL1GS UWT1H220MCL1GB UWT1H221MNL1GS UWT1H2R2MCL1GB UWT1H2R2MCL2GB UWT1H330MCL1GS UWT1H3R3MCL1GB UWT1H470MCL1GS UWT1H4R7MCL1GB UWT1HR22MCL1GB UWT1HR22MCL2GB UWT1HR33MCL1GB UWT1HR33MCL2GB UWT0G101MCL1GB UWT0G220MCL1GB UWT0G221MCL1GB UWT0G330MCL1GB UWT0G470MCL1GB UWT0J101MCL1GB UWT0J102MNL1GS UWT0J152MNL1GS UWT0J220MCL1GB UWT0J221MCL1GB UWT0J330MCL1GB UWT0J331MCL1GS UWT0J470MCL1GB UWT0J471MNL1GS UWT0J681MNL1GS UWT1A101MCL1GB UWT1A220MCL1GB UWT1A330MCL1GB UWT1A470MCL1GB UWT1C100MCL1GB UWT1C100MCL2GB UWT1E221MNL1GS UWS1V470MCL1GS UWT0G151MCL1GS UWT0G221MCL6GS UWT0G331MCL1GS UWT0G471MNL1GS UWT0G681MNL1GS UWT0G102MNL1GS UWT0G152MNL1GS UWT0J151MCL1GS UWT0J221MCL6GS UWT1A151MCL1GS UWT1A221MCL1GS UWT1A331MNL1GS UWT1A471MNL1GS UWT1A681MNL1GS UWT1A102MNL1GS UWT1C151MCL1GS UWT1E101MCL1GS UWT1E151MNL1GS UWT1V330MCL6GS UWT1V151MNL1GS UWT1H6R8MCL1GB UWT1H220MCL6GS UWT1H151MNL1GS UWT1V101MCS1GS