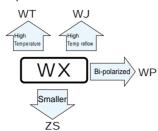
ALUMINUM ELECTROLYTIC CAPACITORS





- Chip type with 5.5mm height.
- Designed for surface mounting on high density PC board.
- Applicable to automatic mounting machine fed with carrier tape.
- Load life of 2000 hours at 85°C.
- Compliant to the RoHS directive (2002/95/EC).

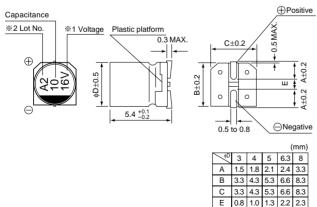




■Specifications

Item	Performance Characteristics												
Category Temperature Range	-40 to +85°C												
Rated Voltage Range	4 to 50V												
Rated Capacitance Range	0.1 to 330μF												
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.												
	Measurement frequency : 120Hz, Temperature : 20°C												
Tangent of loss angle (tan δ)	Rated voltage (V) 4 6		6.3	10		16	2	-	35	50			
	tan δ (MAX.)	0.35 (0.40)	0.26 (0.30)	0.20 (0.2	24)	0.16 (0.19	9) 0.14 (0.16)	0.12 (0.14)	0.12 (0.	14)	Values in () applicable to WR, $\phi 3$ case size.
	Measurement frequency : 120Hz												
Out illing and a second and	Rated vo	Itage (V)	age (V)		6.	3	10	16	25	:	35	50	
Stability at Low Temperature	Impedance ratio	Z-25°C /	Z+20°C	7	4	l l	3	2	2		2	2	
	ZT / Z20 (MAX.)	Z-40°C /	Z+20°C	15	8	3	8	4	4		3	3	
	The specifications listed at right shall be met						citance c	hange Within ±20% of the initial capacitance value (Within ±25% for 4 V and \$43,WR series units)					
Endurance	when the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at					tan δ			200% or less than the initial specified value				ecified value
	85°C. Leakage Cu							ent	nt Less than or equal to the initial specified value				ecified value
Shelf Life	After storing the capacitors under no load at 85°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.					ich is	Capacitance change tan δ Leakage current		Within ±10% of the initial capacitance value Less than or equal to the initial specified value Less than or equal to the initial specified value				
Marking	Black print on the case top.												

■Chip Type

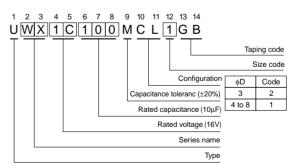


% 1. Voltage mark for 6.3V is $\lceil 6V \rfloor$.

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)



In the case of size φ3 in (),parentheses, use WX in the 2nd and 3rd digit and put a 2 in the 12th digit of type numbering system.



■Dimensions

V		4		6.3		10		16		25		35		50	
Cap. (µF)	Code	0	G	C)J	1A		1C		1E		1V		1H	
0.1	0R1		 											4 (3)	1.0
0.22	R22		 		1		-		1					4 (3)	2.0
0.33	R33						1							4 (3)	2.8
0.47	R47		l		i									4 (3)	4.0
1	010		 		}		}							4 (3)	8.4 (8.0)
2.2	2R2		i i		}		1					3	8.4	4 (3)	13 (10)
3.3	3R3				!		1					3	10	4	17
4.7	4R7		l I				i		i i	4 (3)	16 (12)	4	18	• 5	20 (18)
10	100		 		1		1	4 (3)	23 (18)	• 5	27 (24)	• 5	29 (24)	∘ 6.3	33 (30)
22	220	3	19	4 (3)	28 (21)	• 5	33 (30)	• 5	37 (30)	∘ 6.3	42 (38)	∘ 6.3	46 (39)	□8	52 (43)
33	330	4	28	• 5	37 (34)	• 5	41 (34)	∘ 6.3	49 (44)	。 6.3	52 (46)	□8	62 (53)	8	71
47	470	4	33	• 5	45 (40)	∘ 6.3	52 (47)	∘ 6.3	58 (52)	□ 8	70 (60)	8	80		
56	560	5	42	∘ 6.3	52 (46)	∘ 6.3	57 (50)	∘ 6.3	63 (57)	□8	76 (65)				
100	101	5	56	∘ 6.3	70 (47)	∘ 6.3	76 (54)	6.3	86	8	110				!
150	151	6.3	79	6.3	71	□8	111 (76)		i I		1				
220	221	6.3	96	□8	110 (74)	8	135		l					Case size	Rated
330	331	8	145	8	170								}	φD (mm)	ripple

^() is also available with $\phi3\text{mm}$ upon request.

Rated ripple current (mArms) at 85°C 120Hz

Size $\phi4$ is available for capacitors marked. " \bullet " Size $\phi5$ is available for capacitors marked. " \circ " Size $\phi6.3$ is available for capacitors marked. " \Box "

In such a case, WR will be put at 2nd and 3rd 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 UR(p.104), UG(p.110) series if high C/V products are reqired.
- Please refer to page 3 for the minimum order quantity.

[•] In the case of size $\phi 3$ in (),parentheses, use WX at 2nd and 3rd digit and put 2 at the 12th digit of type numbering system. () = $\phi 3$ units and WR Series