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ELECTRONICS

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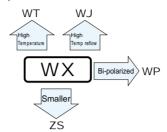
Jameco Part Number 2013155

ALUMINUM ELECTROLYTIC CAPACITORS





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

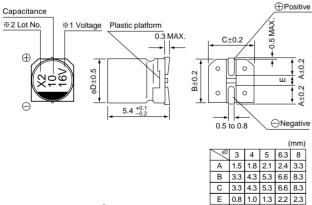




■Specifications

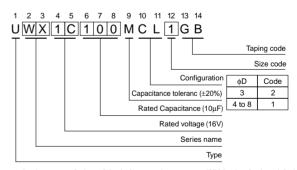
Item	Performance Characteristics													
Category Temperature Range	-40 to +85°C													
Rated Voltage Range	4 to 50V													
Rated Capacitance Range	0.1 to 330μF ±20% at 120Hz, 20°C After 2 minutes' application of rated voltage, leakage current is not more than 0.01CV or 3 (μA) ,whichever is greater.													
Capacitance Tolerance														
Leakage Current														
	Measurement frequency: 120Hz, Temperature: 20°C													
tan δ	Rated voltage (V)	4	6.3	10		16	25	5	35	50		1		
	tan δ (MAX.)	0.35 (0.40)	0.26 (0.30)	0.20 (0.	24)	0.16 (0.19)	0.14 (0.16)	0.12 (0.14)	0.12 (0	14)	Values in (() applicable to WR, ¢3 ca	se size.
	Measurement frequency : 120Hz													
Ctability at Law Taganasatura	Rated voltage (V)			4	6.	.3	10	16	25		35	50		
Stability at Low Temperature	Impedance ratio	Z-25°C /		7	4	4	3	2	2		2	2		
	ZT / Z20 (MAX.)	Z-40°C /	Z+20°C	15	8	3	8	4	4		3	3		
	After 2000 hours' application of rated voltage Capacitance change Within ±20% of initial value (Within ±25% for 4 V and \$\phi_3\$,WR series unit											ınits)		
Endurance	$\begin{array}{llllllllllllllllllllllllllllllllllll$									200% or less of initial specified value				
							Curre					alue or less		
Shelf Life	After storing the capacitors under no load at 85°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.								Initia	Within ±10% of initial value Initial specified value or less Initial specified value or less				
Marking	Black print on the case top.													

■Chip Type



- **1. Voltage mark for 6.3V is \[6V \].
 In case of marking for \(\phi 3 \) units, "V" for rated voltage is omitted.
- \divideontimes 2. In case of marking for ϕ 3 units, Lot No.is expressed by a digit (month code).

Type numbering system (Example : 16V 10µF)



 \bullet In the case of size $\phi 3$ in ($\,$),parentheses, use WX in the 2nd and 3rd digit and put a $\boxed{2}$ in the 12th digit of type numbering system.



■Dimensions

V		4		6.3		10		1	6	25 1E		35 1V		50 1H	
Cap. (µF)	Code	e 0G		0J		1A		1C							
0.1	0R1		 								i			4 (3)	1.0
0.22	R22		i I		!						ļ		!	4 (3)	2.0
0.33	R33										İ			4 (3)	2.8
0.47	R47													4 (3)	4.0
1	010		 								İ			4 (3)	8.4 (8.0)
2.2	2R2		i								!	3	8.4	4 (3)	13 (10)
3.3	3R3		İ								i	3	10	4	17
4.7	4R7		l							4 (3)	16 (12)	4	18	• 5	20 (18)
10	100		 					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		
220	221	6.3	96	□8	110 (74)	8	135							Case size	Rated
330	331	8	145	8	170									φD (mm)	ripple

^() is also available with \$\phi 3mm upon request.

Rated Ripple (mArms) at 85°C 120Hz

() = φ3 units and WR Series

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

e \$\phi\$ is available for capacitors marked. " \circ\" \quad \text{In such a case, MR 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.86), UG(p.91) series if high C/V products are reqired.
- Please refer to page 3 for the minimum order quantity.