



**THE DATASHEET OF
UWZ1H221MCL1GS**



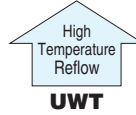
ALUMINUM ELECTROLYTIC CAPACITORS

UWZ

Chip Type, Wide Temperature Range
High Temperature (260°C) Reflow



UWZ



- Corresponding with 260°C peak reflow soldering
Recommended reflow condition : 260°C peak 5 sec 230°C over 60 sec 2 times
(φ8 × 6.2, φ10 × 10 : 1 time)
- Chip type operating over wide temperature range of to -55 to +105°C.
- Applicable to automatic mounting machine fed with carrier tape.
- Compliant to the RoHS directive (2011/65/EU, (EU)2015/863).
- AEC-Q200 Qualified. Please contact us for details.

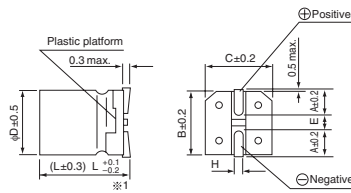
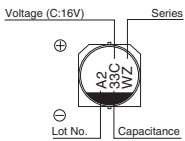
Specifications

Item	Performance Characteristics																							
Category Temperature Range	-55 to +105°C																							
Rated Voltage Range	6.3 to 50V																							
Rated Capacitance Range	1 to 1500μF																							
Capacitance Tolerance	±20% at 120Hz, 20°C																							
Leakage Current ※	After 2 minutes' application of rated voltage at 20°C, 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																							
	<table border="1"> <tr> <td>Rated voltage (V)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <td>tan δ (max.)</td> <td>0.30</td> <td>0.24</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.14</td> </tr> </table>	Rated voltage (V)	6.3	10	16	25	35	50	tan δ (max.)	0.30	0.24	0.20	0.16	0.14	0.14									
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Stability at Low Temperature	Measurement frequency : 120Hz																							
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ZT / Z20 (max.)	Z(-40°C) / Z(+20°C)	8	8	4	4	3	3																	
Endurance	<p>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.</p> <table border="1"> <tr> <td>Capacitance change</td> <td>Within ±25% of the initial capacitance value for capacitors of 16V or less. Within ±20% of the initial capacitance value for capacitors of 25V or more.</td> </tr> <tr> <td>tan δ</td> <td>200% or less than the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table>	Capacitance change	Within ±25% of the initial capacitance value for capacitors of 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																	
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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	<p>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.</p> <table border="1"> <tr> <td>Capacitance change</td> <td>Within ±10% of the initial capacitance value</td> </tr> <tr> <td>tan δ</td> <td>Less than or equal to the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table>	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																	
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Leakage current	Less than or equal to the initial specified value																							
Marking	Black print on the case top.																							

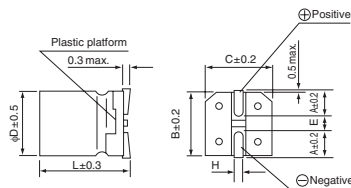
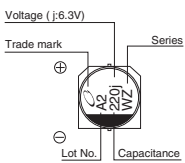
※ I : Leakage Current (μA), C : Rated Capacitance (μF), V : Rated Voltage (V)

Chip Type

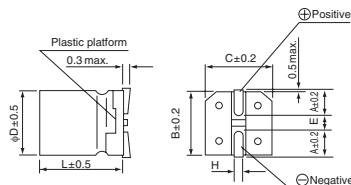
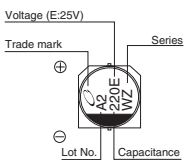
(φ4 to φ6.3)



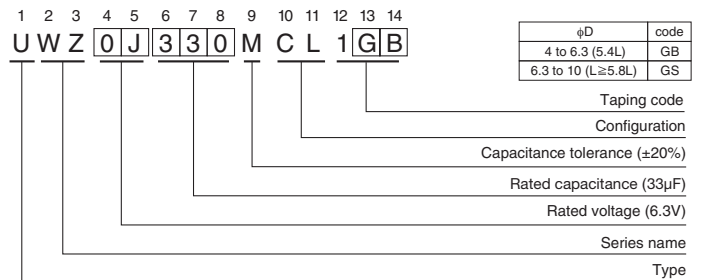
(φ8 × 6.2)



(φ8 × 10, φ10×10)



Type numbering system (Example : 6.3V 33μF)



φD × L	(mm)							
	4 × 5.4	5 × 5.4	6.3 × 5.4	6.3 × 5.8	6.3 × 7.7	8 × 6.2	8 × 10	10 × 10
A	1.8	2.1	2.4	2.4	2.4	3.3	2.9	3.2
B	4.3	5.3	6.6	6.6	6.6	8.3	8.3	10.3
C	4.3	5.3	6.6	6.6	6.6	8.3	8.3	10.3
E	1.0	1.3	2.2	2.2	2.2	2.3	3.1	4.5
L	5.4	5.4	5.4	5.8	7.7	6.2	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	0.8 to 1.1	0.8 to 1.1

Voltage

V	6.3	10	16	25	35	50
Code	j	A	C	E	V	H

● 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

● Dimension table in next page.

UWZ

■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μF)	Case Size φD×L (mm)	tan δ	Leakage Current (μA) (at 20°C after 2 minutes)	Rated Ripple (mArms) (105°C/120Hz)	Part Number
6.3 (0J)	22	4×5.4	0.30	3	22	UWZ0J220MCL1GB
	33	5×5.4	0.30	3	30	UWZ0J330MCL1GB
	47	5×5.4	0.30	3	36	UWZ0J470MCL1GB
	100	6.3×5.4	0.30	6.3	60	UWZ0J101MCL1GB
	150	6.3×5.8	0.30	9.45	86	UWZ0J151MCL1GS
	220	8×6.2	0.30	13.86	102	UWZ0J221MCL1GS
	330	6.3×7.7	0.30	20.79	105	UWZ0J331MCL1GS
	470	8×10	0.30	29.61	210	UWZ0J471MCL1GS
	680	8×10	0.30	42.84	210	UWZ0J681MCL1GS
	1000	10×10	0.30	63	230	UWZ0J102MCL1GS
	1500	10×10	0.30	94.5	310	UWZ0J152MCL1GS
10 (1A)	22	5×5.4	0.24	3	27	UWZ1A220MCL1GB
	33	5×5.4	0.24	3.3	35	UWZ1A330MCL1GB
	47	6.3×5.4	0.24	4.7	46	UWZ1A470MCL1GB
	100	6.3×5.4	0.24	10	60	UWZ1A101MCL1GB
	150	6.3×5.8	0.24	15	86	UWZ1A151MCL1GS
	220	6.3×7.7	0.24	22	105	UWZ1A221MCL1GS
	330	8×10	0.24	33	195	UWZ1A331MCL1GS
	470	8×10	0.24	47	210	UWZ1A471MCL1GS
	680	10×10	0.24	68	310	UWZ1A681MCL1GS
	1000	10×10	0.24	100	310	UWZ1A102MCL1GS
16 (1C)	10	4×5.4	0.20	3	18	UWZ1C100MCL1GB
	22	5×5.4	0.20	3.52	30	UWZ1C220MCL1GB
	33	6.3×5.4	0.20	5.28	40	UWZ1C330MCL1GB
	47	6.3×5.4	0.20	7.52	50	UWZ1C470MCL1GB
	100	6.3×5.4	0.20	16	60	UWZ1C101MCL1GB
	150	6.3×7.7	0.20	24	95	UWZ1C151MCL1GS
	220	6.3×7.7	0.20	35.2	105	UWZ1C221MCL1GS
	330	8×10	0.20	52.8	195	UWZ1C331MCL1GS
	470	8×10	0.20	75.2	210	UWZ1C471MCL1GS
	680	10×10	0.20	108.8	310	UWZ1C681MCL1GS
25 (1E)	4.7	4×5.4	0.16	3	13	UWZ1E4R7MCL1GB
	10	5×5.4	0.16	3	23	UWZ1E100MCL1GB
	22	6.3×5.4	0.16	5.5	38	UWZ1E220MCL1GB
	33	6.3×5.4	0.16	8.25	48	UWZ1E330MCL1GB
	47	8×6.2	0.16	11.75	66	UWZ1E470MCL1GS
	100	6.3×7.7	0.16	25	91	UWZ1E101MCL1GS
	150	8×10	0.16	37.5	140	UWZ1E151MCL1GS
	220	8×10	0.16	55	155	UWZ1E221MCL1GS
	330	10×10	0.16	82.5	190	UWZ1E331MCL1GS
	470	10×10	0.16	117.5	300	UWZ1E471MCL1GS

UWZ



■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μ F)	Case Size ϕ D \times L (mm)	$\tan \delta$	Leakage Current (μ A) (at 20°C after 2 minutes)	Rated Ripple (mArms) (105°C/120Hz)	Part Number
35 (1V)	4.7	4 \times 5.4	0.14	3	15	UWZ1V4R7MCL1GB
	10	5 \times 5.4	0.14	3.5	25	UWZ1V100MCL1GB
	22	6.3 \times 5.4	0.14	7.7	42	UWZ1V220MCL1GB
	33	8 \times 6.2	0.14	11.55	59	UWZ1V330MCL1GS
	47	6.3 \times 5.8	0.14	16.45	63	UWZ1V470MCL1GS
	100	6.3 \times 7.7	0.14	35	84	UWZ1V101MCL1GS
	150	8 \times 10	0.14	52.5	155	UWZ1V151MCL1GS
	220	10 \times 10	0.14	77	190	UWZ1V221MCL1GS
	330	10 \times 10	0.14	115.5	300	UWZ1V331MCL1GS
50 (1H)	1	4 \times 5.4	0.14	3	6.3	UWZ1H010MCL1GB
	2.2	4 \times 5.4	0.14	3	11	UWZ1H2R2MCL1GB
	3.3	4 \times 5.4	0.14	3	14	UWZ1H3R3MCL1GB
	4.7	5 \times 5.4	0.14	3	19	UWZ1H4R7MCL1GB
	10	6.3 \times 5.4	0.14	5	30	UWZ1H100MCL1GB
	22	8 \times 6.2	0.14	11	51	UWZ1H220MCL1GS
	33	6.3 \times 7.7	0.14	16.5	60	UWZ1H330MCL1GS
	47	6.3 \times 7.7	0.14	23.5	63	UWZ1H470MCL1GS
	100	8 \times 10	0.14	50	140	UWZ1H101MCL1GS
	150	10 \times 10	0.14	75	180	UWZ1H151MCL1GS
	220	10 \times 10	0.14	110	220	UWZ1H221MCL1GS

- For taping specifications, recommended land size/soldering by reflow and minimum order quantity, please refer to the Guidelines for Aluminum Electrolytic Capacitors.

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