

# ALUMINUM ELECTROLYTIC CAPACITORS

# UKW

Standard, For Audio Equipment



- Realization of a harmonious balance of sound quality, made possible by the development of new electrolyte.
- Most suited for AV equipment like DVD, MD.
- Compliant to the RoHS directive (2011/65/EU).

**UKW**

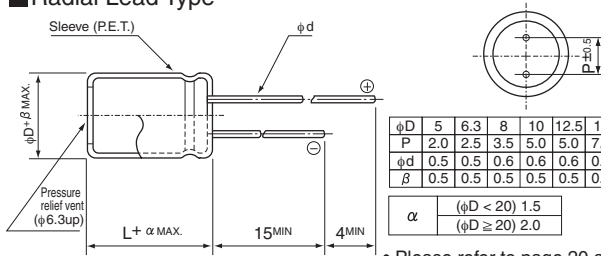


Values marked with an ※ in the dimension table are scheduled to be discontinued and are not recommended for new designs.

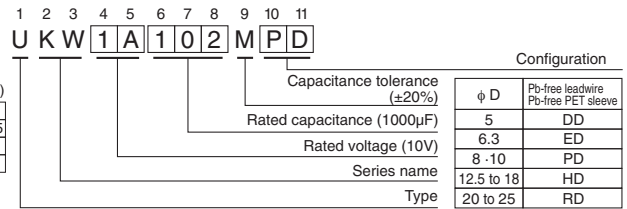
## Specifications

Item	Performance Characteristics																																							
Category Temperature Range	-40 to +85°C																																							
Rated Voltage Range	6.3 to 100V																																							
Rated Capacitance Range	0.1 to 33000μF																																							
Capacitance Tolerance	±20% at 120Hz, 20°C																																							
Leakage Current	After 1 minute's application of rated voltage at 20°C, leakage current is not more than 0.03 CV or 4 (μA), whichever is greater. After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01 CV or 3 (μA), whichever is greater.																																							
Tangent of loss angle (tan δ)	<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> <td>63</td> <td>100</td> </tr> <tr> <td>tan δ (MAX.)</td> <td>0.28</td> <td>0.24</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.08</td> </tr> </table>									Rated voltage (V)	6.3	10	16	25	35	50	63	100	tan δ (MAX.)	0.28	0.24	0.20	0.16	0.14	0.12	0.10	0.08	Measurement frequency : 120Hz at 20°C												
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Stability at Low Temperature	For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF.																																							
	<table border="1"> <tr> <td colspan="2">Rated voltage (V)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> </tr> <tr> <td rowspan="2">Impedance ratio ZT / Z20 (MAX.)</td> <td>Z-25°C / Z+20°C</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z-40°C / Z+20°C</td> <td>12</td> <td>10</td> <td>8</td> <td>5</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> </tr> </table>										Rated voltage (V)		6.3	10	16	25	35	50	63	100	Impedance ratio ZT / Z20 (MAX.)	Z-25°C / Z+20°C	5	4	3	2	2	2	2	2	Z-40°C / Z+20°C	12	10	8	5	4	3	3	3	Measurement frequency : 120Hz
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Endurance	The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at 85°C.					<table border="1"> <tr> <td>Capacitance change</td> <td>Within ±20% of the initial capacitance value</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 ±20% of the initial capacitance value	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 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.																																							
Marking	Printed with gold color letter on black sleeve.																																							

## Radial Lead Type



## Type numbering system (Example : 10V 1000μF)



• Please refer to page 20 about the end seal configuration.

## Dimensions

Cap. (μF)	V	6.3	10	16	25	35	50	63	100	
Code		0J	1A	1C	1E	1V	1H	1J	2A	
0.1	0R1						※5 × 11	1.1	※5 × 11	2.1
0.22	R22						※5 × 11	2.4	※5 × 11	4.7
0.33	R33						※5 × 11	3.5	※5 × 11	7.0
0.47	R47						※5 × 11	5.0	※5 × 11	10
1	010						※5 × 11	10	※5 × 11	21
2.2	2R2						5 × 11	23	5 × 11	30
3.3	3R3						5 × 11	35	5 × 11	40
4.7	4R7						5 × 11	40	5 × 11	45
10	100						5 × 11	65	5 × 11	70
22	220						5 × 11	95	5 × 11	100
33	330					5 × 11	105	6.3 × 11	140	8 × 11.5
47	470				5 × 11	115	5 × 11	120	6.3 × 11	165
100	101		5 × 11	145	5 × 11	155	6.3 × 11	185	6.3 × 11	200
220	221		6.3 × 11	230	6.3 × 11	250	8 × 11.5	320	10 × 12.5	370
330	331	6.3 × 11	265	6.3 × 11	270	8 × 11.5	360	10 × 12.5	420	10 × 12.5
470	471	6.3 × 11	310	6.3 × 11	330	8 × 11.5	420	10 × 12.5	530	10 × 16
1000	102	8 × 11.5	530	10 × 12.5	630	10 × 16	770	10 × 20	950	12.5 × 20
2200	222	10 × 20	980	10 × 20	1050	12.5 × 20	1250	12.5 × 25	1550	16 × 25
3300	332	10 × 20	1170	12.5 × 20	1420	12.5 × 25	1700	16 × 25	1950	16 × 35.5
4700	472	12.5 × 20	1350	12.5 × 25	1800	16 × 25	2100	16 × 31.5	2360	18 × 35.5
6800	682	12.5 × 25	1600	16 × 25	2150	16 × 35.5	2500	18 × 35.5	2590	20 × 40
10000	103	16 × 25	2000	16 × 35.5	2500	18 × 35.5	2640	20 × 40	3000	22 × 50
15000	153	16 × 35.5	2550	18 × 35.5	2720	20 × 40	3400	22 × 50	3800	25 × 50
22000	223	18 × 40	3200	20 × 40	3700	22 × 50	4200	25 × 50	4500	
33000	333	22 × 50	3900	22 × 50	4500	25 × 50	4800			

## Frequency coefficient of rated ripple current

Cap. (μF)	Frequency	50Hz	120Hz	300Hz	1kHz	10kHz or more
0.1 to 47		0.75	1.00	1.35	1.57	2.00
100 to 470		0.80	1.00	1.23	1.34	1.50
1000 to 33000		0.85	1.00	1.10	1.13	1.15

Rated ripple current (mA rms) at 85°C 120Hz

Please refer to page 20, 21, 22 about the formed or taped product spec.  
Please refer to page 4 for the minimum order quantity.