

# ALUMINUM ELECTROLYTIC CAPACITORS

**KA** series For High Grade Audio Equipment, Wide Temperature Range.



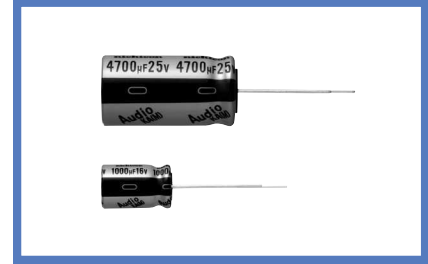
**NEW**

- 105°C high quality capacitors for audio equipment.
- Selected materials to create superior acoustic sound.
- Compliant to the RoHS directive (2002/95/EC).

**KA**

High Sound Quality

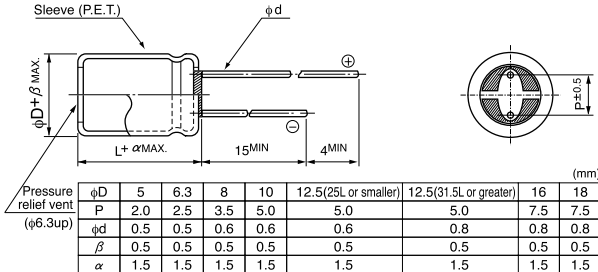
**KT**



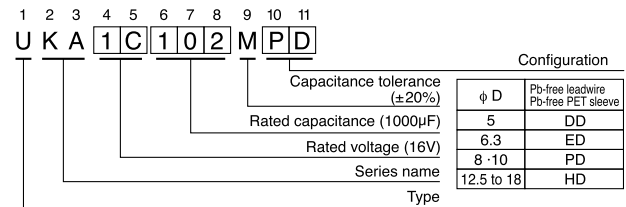
## Specifications

Item	Performance Characteristics																					
Category Temperature Range	-55 to +105°C																					
Rated Voltage Range	6.3 to 50V																					
Rated Capacitance Range	22 to 22000µF																					
Capacitance Tolerance	±20% at 120Hz, 20°C																					
Leakage Current	After 1 minute's application of rated voltage, leakage current is not more than 0.03CV or 4 (µA), whichever is greater. 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)	<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>0.26</td> <td>0.22</td> <td>0.18</td> <td>0.16</td> <td>0.14</td> </tr> </table> <p>Measurement frequency : 120Hz at 20°C For capacitors with more than 1000µF, add 0.02 for every increase of 1000µF.</p>	Rated voltage (V)	6.3	10	16	25	35	50	tan δ (MAX.)	0.30	0.26	0.22	0.18	0.16	0.14							
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Stability at Low Temperature	<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 rowspan="2">tan δ (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> </tr> <tr> <td>Z-40°C / Z+20°C</td> <td>10</td> <td>8</td> <td>6</td> <td>4</td> <td>3</td> </tr> </table> <p>Measurement frequency : 120Hz</p>	Rated voltage (V)	6.3	10	16	25	35	50	tan δ (MAX.)	Z-25°C / Z+20°C	5	4	3	2	2	Z-40°C / Z+20°C	10	8	6	4	3	
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	Z-40°C / Z+20°C	10	8	6	4	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 2000 hours at 105°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 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.																					
Marking	Printed with black color letter on pearl blue sleeve.																					

## Radial Lead Type



## Type numbering system (Example : 16V 1000µF)



## Dimensions

Cap (µF)	V	Code	6.3		10		16		25		35		50	
			OJ		1A		1C		1E		1V		1H	
22	220		5 × 11	45	5 × 11	45	5 × 11	54	5 × 11	58	5 × 11	61	5 × 11	68
33	330		5 × 11	55	5 × 11	58	5 × 11	65	5 × 11	68	5 × 11	75	5 × 11	90
47	470		5 × 11	65	5 × 11	68	5 × 11	79	5 × 11	83	5 × 11	93	6.3 × 11	115
100	101		5 × 11	95	5 × 11	105	5 × 11	115	6.3 × 11	140	6.3 × 11	150	8 × 11.5	190
220	221		6.3 × 11	160	6.3 × 11	175	6.3 × 11	190	8 × 11.5	240	8 × 11.5	260	10 × 12.5	300
330	331		6.3 × 11	195	8 × 11.5	240	8 × 11.5	265	8 × 11.5	290	10 × 12.5	350	10 × 16	410
470	471		8 × 11.5	270	8 × 11.5	280	8 × 11.5	315	10 × 12.5	380	10 × 16	460	12.5 × 20	530
1000	102		10 × 12.5	420	10 × 16	500	10 × 16	560	10 × 20	680	12.5 × 25	860	12.5 × 31.5	1040
2200	222		10 × 20	710	12.5 × 20	810	12.5 × 20	920	12.5 × 31.5	1200	12.5 × 40	1260	16 × 35.5	1470
3300	332		12.5 × 20	910	12.5 × 25	1050	12.5 × 31.5	1270	12.5 × 35.5	1400	16 × 35.5	1610	18 × 35.5	1770
4700	472		12.5 × 25	1120	12.5 × 35.5	1300	12.5 × 35.5	1480	16 × 31.5	1710	18 × 35.5	1910		
6800	682		12.5 × 35.5	1360	12.5 × 40	1570	16 × 31.5	1780	18 × 35.5	2040				
10000	103		12.5 × 40	1650	16 × 35.5	1890	18 × 35.5	2060						
15000	153		16 × 35.5	2010	18 × 40	2400								
22000	223		18 × 40	2350									Case size φD × L (mm)	Rated ripple

## Frequency coefficient of rated ripple current

Cap. (µF)	Frequency	50Hz	120Hz	300Hz	1kHz	10kHz or more
22 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 22000		0.85	1.00	1.10	1.13	1.15

Rated ripple current (mArms) at 105°C 120Hz

Design, Specifications are subject to change without notice.