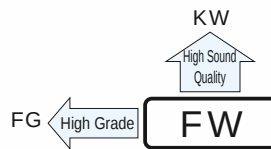
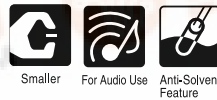


ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

FW Standard, For Audio Equipment
series

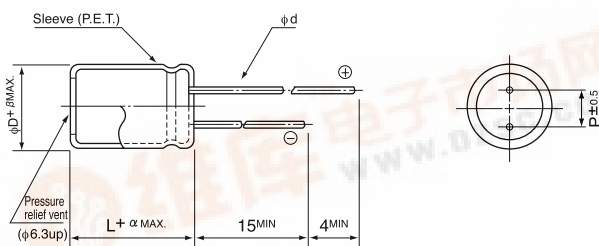


- Adapted to the RoHS directive (2002/95/EC).

Specifications

Item	Performance Characteristics																											
Category Temperature Range	-40 ~ +85°C																											
Rated Voltage Range	6.3 ~ 100V																											
Rated Capacitance Range	0.1 ~ 33000μF																											
Capacitance Tolerance	±20% at 120Hz, 20°C																											
Leakage Current	After 1 minute's application of rated voltage, leakage current is not more than 0.03 CV or 4 (μA) , whichever is greater. After 2 minutes' application of rated voltage, leakage current is not more than 0.01 CV or 3 (μA) , whichever is greater.																											
tan δ	<table><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, Temperature : 20°C
	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																			
For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF.																												
Stability at Low Temperature	Measurement frequency : 120Hz																											
	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																		
Endurance	After 2000 hours' application of voltage at 85°C, capacitors meet the characteristic requirements listed at right.					Capacitance change		Within ±20% of initial value																				
						tan δ		200% or less of initial specified value																				
						Leakage current		Initial specified value 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.																											
Marking	Printed with black color letter on Gold sleeve.																											

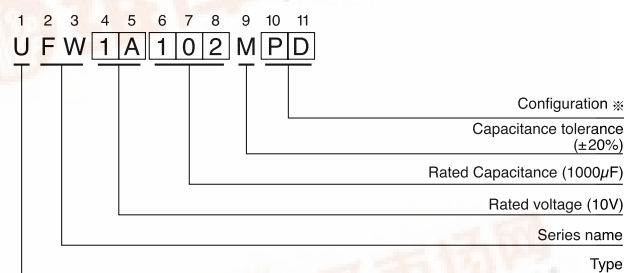
Radial Lead Type



	5	6.3	8	10	12.5	16	18	20	22	25
φD	5	6.3	8	10	12.5	16	18	20	22	25
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10	10	12.5
φd	0.5	0.5	0.6	0.6	0.6	0.8	0.8	1.0	1.0	1.0
β	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0

α	(φD < 20) 1.5
	(φD ≥ 20) 2.0

Type numbering system (Example : 10V 1000μF)



※ Configuration

φ D	Pb-free leadwire Pb-free PET sleeve
5	DD
6.3	ED
8~10	PD
12.5~18	HD
20~25	RD

- Please refer to page 21 about the end seal configuration.



ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

FW series

■Dimensions

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

Rated Ripple (mA rms) at 85°C 120Hz

●Frequency coefficient of rated ripple current

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