UPGRADE

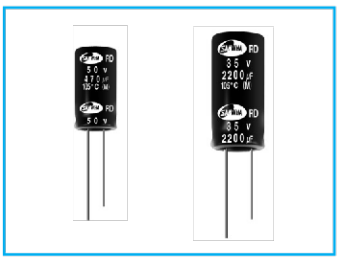
RD

Wide Temperature Range Series

Solvent Proof
WV≦100V

- Standard series for general purpose
- High CV value
- Wide operating temperature range of -55 ~ +105°C
- Complied to the RoHS directive

SD ⟹ RD
Wide temp.



Item	Characteristics
Operating temperature range	WV: 6.3 ~ 100 / 160 ~ 350 / 400, 450 Temperature range: -55 ~ +105°C / -40 ~ +105°C / -25 ~ +105°C
Leakage current max.	WV≦100: I = 0.01CV or 3μA whichever is greater (after 2 min); I = 0.03CV or 4μA whichever is greater (after 1 min) WV＞100: I = 0.02CV+15μA (after 5 min)
Capacitance tolerance	±20% at 120Hz, 20°C
Dissipation factor max. (at 120Hz, 20°C)	Capacitance ＞ 1000μF : tanδ increases by 0.02 for each 1000μF from below value.

WV	6.3	10	16	25	35	50	63	100	160~250	350~450
tanδ	0.28	0.24	0.20	0.16	0.14	0.12	0.10	0.08	0.15	0.20

Low temperature characteristics (Impedance ratio at 120Hz)

WV	6.3	10	16	25	35	50~100	160	200~350	400	450
Z-25°C/Z+20°C	5	4	3	2	2	2	3	4	6	10
Z-40°C/Z+20°C	10	8	6	4	3	3	4	8	—	—

Load life (after application of the rated voltage for 2000 hours at 105°C)

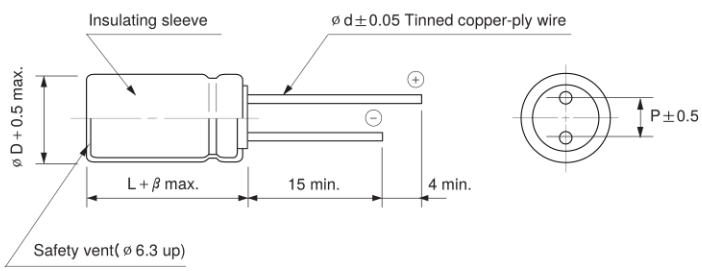
Leakage current	Less than specified value
Capacitance change	Within ±20% of initial value
tanδ	Less than 200% of specified value

ø5, 6.3 and ø8 products are for 1000 hours

Shelf life (at 105°C): After 1000 hours no load test, leakage current, capacitance and tanδ are same as load life value.

DRAWING

Unit : mm



ø D	5	6.3	8	10	12.5	16	18	22	25.4
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10.0	12.5
ø d	0.5	0.5	0.6	0.6	0.6	0.8	0.8	1.0	1.0
α	0.5							1.0	
β	1.5			2.0					

RD series

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

WV / μF	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	500
2.2						5×11 24	5×11 26	5×11 26	6.3×11 23	6.3×11 23	6.3×11 23	8×11.5 28	8×11.5 28	10×12.5 27	
3.3						5×11 29	5×11 32	5×11 32	6.3×11 29	6.3×11 29	8×11.5 34	8×11.5 34	10×12.5 39	10×16 36	
4.7						5×11 35	5×11 38	5×11 38	6.3×11 34	8×11.5 40	8×11.5 40	10×12.5 47	10×12.5 47	10×16 43	10×16 59
6.8						5×11 42	5×11 46	5×11 46	8×11.5 49	10×12.5 56	10×12.5 56	10×16 62	10×16 62	10×20 56	10×16 72
10						5×11 51	5×11 56	5×11 56	10×12.5 68	10×12.5 68	10×12.5 68	10×16 75	10×20 82	12.5×20 80	12.5×25 88
15						5×11 62	5×11 68	6.3×11 78	10×16 92	10×16 92	10×16 92	10×20 100	12.5×20 118	12.5×25 107	12.5×30 115
22						5×11 75	5×11 83	6.3×11 95	10×16 111	10×16 111	10×20 121	12.5×20 143	12.5×25 155	16×25 144	16×25 159
33						5×11 92	6.3×11 116	8×11.5 137	10×20 149	10×20 149	12.5×20 175	12.5×25 190	16×25 211	16×31.5 193	16×31.5 207
47					★ 5×11 96	★6.3×11 127	6.3×11 139	10×12.5 190	12.5×20 208	12.5×20 208	12.5×25 227	16×25 252	16×31.5 276	16×35.5 242	18×31.5 261
68				★ 5×11 108	6.3×11 132	8×11.5 180	8×11.5 197	10×16 251	12.5×25 273	16×20 279	16×25 303	16×31.5 332	18×35.5 373	18×40 352	18×31.5 335
100			★ 5×11 119	6.3×11 151	•6.3×11 160	8×11.5 218	8×11.5 239	10×20 332	12.5×25 331	16×25 368	16×31.5 402	18×35.5 407	18×40 427	22×41 486	
150		5×11 134	6.3×11 167	6.3×11 185	8×11.5 231	10×12.5 310	10×12.5 340	12.5×20 477	16×25 450	16×35.5 517	18×35.5 554	18×40 523	22×41 596		
220	5×11 146	★ 5×11 162	• 6.3×11 203	8×11.5 264	8×11.5 280	10×12.5 376	10×16 451	12.5×25 630	16×31.5 596	18×35.5 671	18×40 694	22×41 721			
330	★6.3×11 206	• 6.3×11 228	8×11.5 293	8×11.5 324	10×12.5 399	10×16 504	10×20 603	16×25 856	18×35.5 822	18×40 850	22×41 968				
470	• 6.3×11 246	6.3×11 272	8×11.5 349	10×12.5 449	10×16 521	10×20 657	12.5×20 844	16×25 1021	18×40 1015	22×41 1155					
680	8×11.5 348	10×12.5 449	10×12.5 488	10×16 591	12.5×16 740	12.5×20 927	12.5×25 1107	16×31.5 1344	22×41 1390						
1000	8×11.5 422	10×12.5 544	10×16 648	10×16 782	12.5×20 974	12.5×25 1226	16×25 1490	18×40 1925							
1500	10×16 621	10×16 680	12.5×16 862	12.5×20 1017	16×20 1188	16×25 1442	16×35.5 1770								
2200	10×20 778	10×20 844	12.5×20 1055	12.5×25 1235	16×25 1426	16×25 1442	16×35.5 1770								
3300	12.5×16 983	12.5×20 1148	12.5×25 1323	16×25 1562	16×35.5 1857	18×35.5 1794	18×40 2689								
4700	12.5×20 1219	12.5×25 1421	16×25 1657	16×31.5 1916	16×35.5 2224	18×35.5 2152	← Case size ø D×L (mm) ← Ripple current (mA rms) at 105°C, 120Hz								
6800	12.5×25 1480	16×25 1737	16×31.5 1982	18×35.5 2335											
10000	16×25 1807	16×35.5 2172	18×35.5 2409												
15000	16×35.5 2233	18×35.5 2482													
22000	18×40 2652														

Size ø 8×9 is available for capacitors marked "★"
Size ø 10×9 is available for capacitors marked "●"

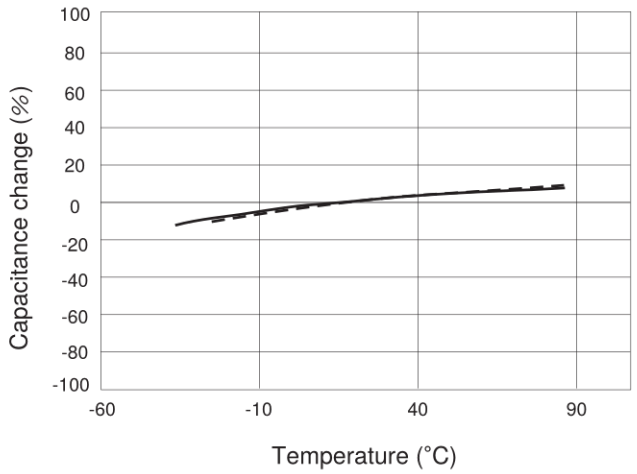
RD series

TYPICAL PERFORMANCE

— 16V 1000μF
····· 400V 10μF

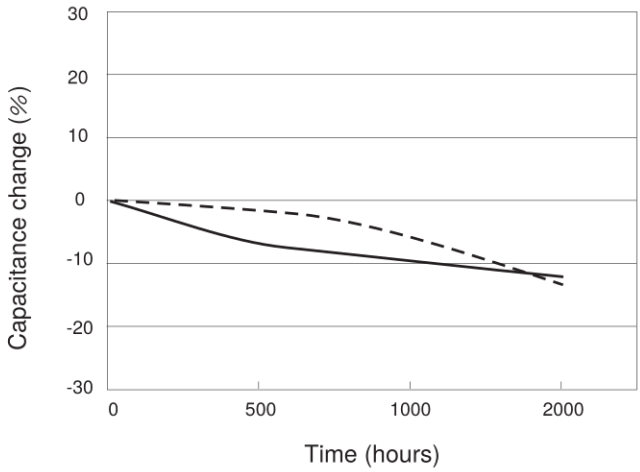
● TEMPERATURE CHARACTERISTICS

Capacitance change vs. temperature

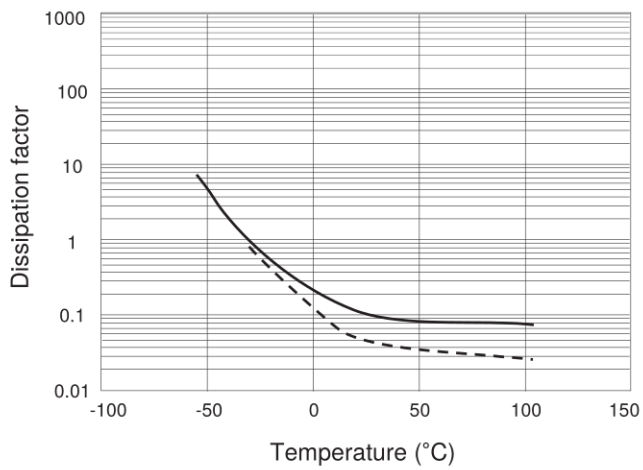


● LOAD LIFE (at +105°C)

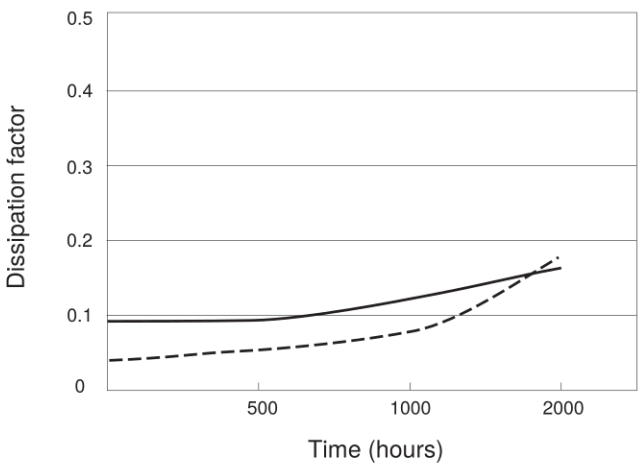
Capacitance change vs. time



Dissipation factor vs. temperature

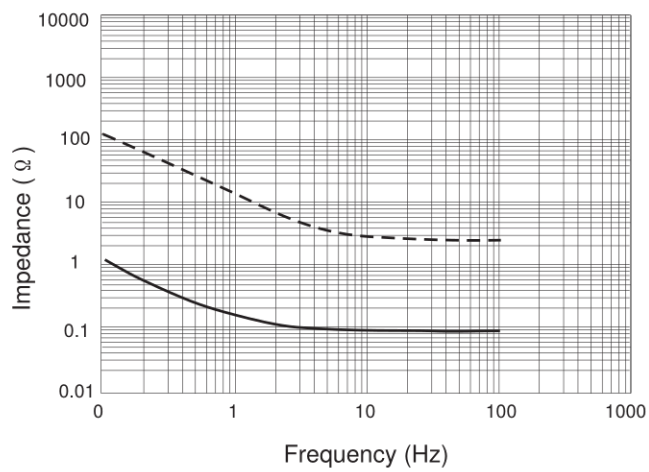
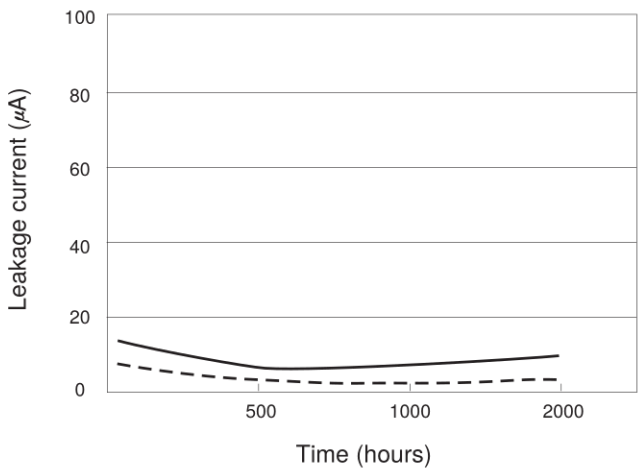


Dissipation factor vs. time



● FREQUENCY CHARACTERISTICS

Impedance vs. frequency



Leakage current vs. time