

## RDC Series

• 85°C 2,000Hrs assured.

- Non-solvent proof.
- For SMPS, Inverter.
- RoHS compliant.
- Halogen-free capacitors are also available.



### SPECIFICATIONS

Item	Characteristics																												
Rated Voltage Range	16 ~ 100 V <sub>DC</sub>	160 ~ 500 V <sub>DC</sub>																											
Operating Temperature Range	-40 ~ +85°C	-25 ~ +85°C																											
Capacitance Tolerance	±20% (M) (at 20°C, at 120Hz)																												
Leakage Current	I = 0.02CV(µA) or 3mA, whichever is smaller. Where, I:Max. leakage current(µA) C:Nominal capacitance(µF) V:Rated voltage(V <sub>DC</sub> ) (at 20°C, 5 minutes)																												
※ Dissipation Factor(Tanδ)	<table border="1"> <thead> <tr> <th>Rated Voltage(V<sub>DC</sub>)</th> <th>16</th> <th>25</th> <th>35</th> <th>50~63</th> <th>100</th> <th>160~250</th> <th>315~400</th> <th>450~500</th> </tr> </thead> <tbody> <tr> <td>Tanδ(Max.)</td> <td>0.40</td> <td>0.35</td> <td>0.30</td> <td>0.25</td> <td>0.20</td> <td>0.15</td> <td>0.15</td> <td>0.20</td> </tr> </tbody> </table> <p style="text-align: right;">(at 20°C, 120Hz)</p>		Rated Voltage(V <sub>DC</sub> )	16	25	35	50~63	100	160~250	315~400	450~500	Tanδ(Max.)	0.40	0.35	0.30	0.25	0.20	0.15	0.15	0.20									
Rated Voltage(V <sub>DC</sub> )	16	25	35	50~63	100	160~250	315~400	450~500																					
Tanδ(Max.)	0.40	0.35	0.30	0.25	0.20	0.15	0.15	0.20																					
Temperature Characteristics (Max.Impedance ratio)	<table border="1"> <thead> <tr> <th>Rated Voltage(V<sub>DC</sub>)</th> <th>16</th> <th>25</th> <th>35</th> <th>50~63</th> <th>100</th> <th>160~250</th> <th>315~400</th> <th>450~500</th> </tr> </thead> <tbody> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>4</td> <td>3</td> <td>3</td> <td>2</td> <td>2</td> <td>4</td> <td>4</td> <td>8</td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>15</td> <td>10</td> <td>8</td> <td>6</td> <td>5</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table> <p style="text-align: right;">(at 120Hz)</p>		Rated Voltage(V <sub>DC</sub> )	16	25	35	50~63	100	160~250	315~400	450~500	Z(-25°C)/Z(20°C)	4	3	3	2	2	4	4	8	Z(-40°C)/Z(20°C)	15	10	8	6	5	-	-	-
Rated Voltage(V <sub>DC</sub> )	16	25	35	50~63	100	160~250	315~400	450~500																					
Z(-25°C)/Z(20°C)	4	3	3	2	2	4	4	8																					
Z(-40°C)/Z(20°C)	15	10	8	6	5	-	-	-																					
Load Life	<p>The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 2,000 hours at 85°C.</p> <p>Capacitance change ≤ ±20% of the initial value            Tanδ ≤ 200% of the initial specified value            Leakage Current ≤ The initial specified value</p>																												
Shelf Life	<p>The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them at 85°C for 1,000 hours without voltage applied. The rated voltage shall be applied to the capacitors for a minimum of 30 minutes, at least 25 hours and not more than 48 hours before the measurements.</p> <p>Capacitance change ≤ ±20% of the initial value            Tanδ ≤ 200% of the initial specified value            Leakage Current ≤ The initial specified value</p>																												
Others	Satisfied characteristics KS C IEC 60384-4																												

※ For capacitors with CV products > 100,000 Higher Tanδ value may apply.  
 When the capacitance exceed 1,000µF, 0.01 shall be added every 1,000µF increase.

### RATED RIPPLE CURRENT

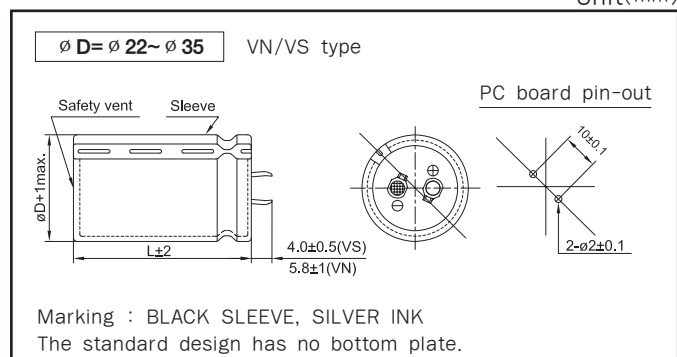
When capacitors are operated in any other condition at 120Hz, the maximum ripple current must be multiplied by the figure shown in the table.

Frequency multiplying factor

V <sub>DC</sub> \ Freq.(Hz)	60	120	300	1k	10k~
16~50V <sub>DC</sub>	0.95	1.00	1.03	1.05	1.08
63~100V <sub>DC</sub>	0.92	1.00	1.07	1.13	1.19
160~250V <sub>DC</sub>	0.81	1.00	1.17	1.32	1.45
315~500V <sub>DC</sub>	0.77	1.00	1.16	1.30	1.41

### DIMENSIONS OF RDC Series

Unit(mm)



## RATINGS OF RDC Series

V <sub>DC</sub> μF / ∅ D	16				25				35			
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35
3,900									22 × 25 2.22			
4,700									22 × 30 2.41	25.4 × 25 2.42		
5,600					22 × 25 2.21				22 × 35 2.75	25.4 × 25 2.64		
6,800					22 × 30 2.40	25.4 × 25 2.56			22 × 40 2.80	25.4 × 30 2.74	30 × 25 2.97	
8,200	22 × 25 2.51				22 × 35 2.72	25.4 × 25 2.80			22 × 45 3.11	25.4 × 35 3.10	30 × 30 3.13	
10,000	22 × 25 2.77				22 × 40 3.09	25.4 × 30 3.12	30 × 25 3.21			25.4 × 40 3.53	30 × 30 3.46	35 × 25 3.20
12,000	22 × 30 2.86	25.4 × 25 2.95			22 × 45 3.48	25.4 × 35 3.43	30 × 30 3.86	35 × 25 3.54		25.4 × 45 3.98	30 × 35 4.01	35 × 30 4.02
15,000	22 × 35 3.29	25.4 × 30 3.46	30 × 25 3.66		22 × 50 4.00	25.4 × 40 3.95	30 × 30 4.00	35 × 25 3.95			30 × 40 4.90	35 × 35 5.01
18,000	22 × 40 3.72	25.4 × 35 3.98	30 × 30 3.98			25.4 × 45 4.45	30 × 35 4.46	35 × 30 4.63			30 × 45 5.43	35 × 40 5.54
22,000	22 × 50 4.37	25.4 × 40 4.26	30 × 30 4.21			25.4 × 50 5.02	30 × 45 5.21	35 × 35 5.16				35 × 45 6.04
27,000		25.4 × 45 4.72	30 × 35 4.82				30 × 50 5.94	35 × 40 5.92				35 × 50 6.89
33,000			30 × 40 5.36	35 × 30 5.15				35 × 45 6.75				
39,000			30 × 45 6.01	35 × 35 5.95				35 × 50 7.56				
47,000			30 × 50 6.79	35 × 40 6.76								
56,000				35 × 45 7.62								

V <sub>DC</sub> μF / ∅ D	50				63				100			
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35
820									22 × 25 1.86			
1,000									22 × 30 1.93			
1,200									22 × 30 2.09	25.4 × 25 2.10		
1,500									22 × 35 2.41	25.4 × 30 2.34	30 × 25 2.46	
1,800					22 × 25 1.82				22 × 40 2.71	25.4 × 35 2.75	30 × 25 2.72	
2,200	22 × 25 1.91				22 × 30 2.31	25.4 × 25 2.30			22 × 45 3.08	25.4 × 40 3.13	30 × 30 3.09	35 × 25 3.14
2,700	22 × 30 2.11	25.4 × 25 2.13			22 × 35 2.43	25.4 × 30 2.43				25.4 × 45 3.57	30 × 35 3.55	35 × 30 3.71
3,300	22 × 30 2.37	25.4 × 25 2.38			22 × 35 2.62	25.4 × 30 2.64	30 × 25 2.78			25.4 × 50 4.06	30 × 40 4.05	35 × 30 4.05
3,900	22 × 35 2.65	25.4 × 30 2.68			22 × 40 2.93	25.4 × 35 2.97	30 × 30 3.00				30 × 45 4.54	35 × 35 4.49
4,700	22 × 40 2.99	25.4 × 35 3.03	30 × 25 2.81		22 × 50 3.39	25.4 × 40 3.36	30 × 30 3.32	35 × 25 3.36			30 × 50 5.11	35 × 40 5.11
5,600	22 × 45 3.36	25.4 × 35 3.31	30 × 30 3.37	35 × 25 3.42		25.4 × 45 3.77	30 × 35 3.75	35 × 25 3.76				35 × 45 5.75
6,800	22 × 50 3.81	25.4 × 40 3.81	30 × 35 3.85	35 × 30 3.85		25.4 × 50 4.27	30 × 40 4.27	35 × 30 4.15				
8,200		25.4 × 50 4.37	30 × 40 4.36	35 × 30 4.41			30 × 45 4.83	35 × 35 4.79				
10,000			30 × 45 4.97	35 × 35 4.92			30 × 50 5.49	35 × 40 5.47				
12,000			30 × 50 5.60	35 × 40 5.58				35 × 45 6.19				
15,000				35 × 45 6.44								
18,000				35 × 50 6.71								

← Case Size ∅ D × L (mm)  
 ← Rated Ripple Current (Arms/85°C, 120Hz)

## RATINGS OF RDC Series

μF \ V <sub>DC</sub> / ∅ D	160				200				250			
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35
330									22 × 30 1.49	25.4 × 25 1.51	30 × 20 1.48	
390									22 × 35 1.67	25.4 × 30 1.63	30 × 25 1.66	
470					22 × 30 1.78	25.4 × 25 1.80			22 × 40 1.88	25.4 × 30 1.86	30 × 25 1.89	35 × 20 1.89
560	22 × 30 1.95				22 × 35 2.00	25.4 × 30 1.97	30 × 25 2.01		22 × 45 2.13	25.4 × 35 2.09	30 × 30 2.14	35 × 25 2.09
680	22 × 30 2.15				22 × 40 2.27	25.4 × 30 2.24	30 × 25 2.28			25.4 × 50 2.44	30 × 35 2.43	35 × 25 2.46
820	22 × 35 2.42	25.4 × 30 2.45			22 × 45 2.58	25.4 × 35 2.53	30 × 30 2.59				30 × 40 2.75	35 × 30 2.77
1,000	22 × 40 2.75	25.4 × 35 2.79				25.4 × 40 2.88	30 × 35 2.95	35 × 25 2.90			30 × 45 3.31	35 × 35 3.22
1,200		25.4 × 40 3.15	30 × 30 3.13	35 × 25 3.27			30 × 40 3.34	35 × 30 3.31				35 × 40 3.42
1,500		25.4 × 45 3.60	30 × 35 3.63	35 × 30 3.57			30 × 45 3.84	35 × 35 3.82				35 × 45 4.06
1,800			30 × 40 4.09	35 × 30 4.05				35 × 40 4.33				
2,200				35 × 35 4.63				35 × 45 4.92				
2,700				35 × 40 5.30								

μF \ V <sub>DC</sub> / ∅ D	315				350				400			
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35
150	22 × 25 0.98								22 × 30 1.02			
180	22 × 30 1.10				22 × 30 1.11				22 × 35 1.14			
220	22 × 35 1.26	25.4 × 25 1.23	30 × 20 1.25		22 × 35 1.26				22 × 40 1.29	25.4 × 30 1.27	30 × 25 1.30	
270	22 × 40 1.43	25.4 × 30 1.41	30 × 25 1.43	35 × 20 1.45	22 × 40 1.49	25.4 × 30 1.46	30 × 25 1.49		22 × 45 1.48	25.4 × 35 1.45	30 × 30 1.48	
330	22 × 45 1.62	25.4 × 35 1.61	30 × 25 1.62	35 × 20 1.61	22 × 45 1.66	25.4 × 35 1.63	30 × 30 1.67			25.4 × 40 1.65	30 × 30 1.65	35 × 25 1.67
390		25.4 × 40 1.79	30 × 30 1.78	35 × 25 1.86		25.4 × 40 1.88	30 × 30 1.88	35 × 25 1.94		25.4 × 45 1.84	30 × 35 1.85	35 × 30 1.88
470			30 × 35 2.02	35 × 30 2.07		25.4 × 45 2.18	30 × 35 2.20	35 × 30 2.25			30 × 40 2.09	35 × 30 2.07
560			30 × 40 2.28	35 × 35 2.33			30 × 45 2.40	35 × 30 2.37				35 × 35 2.34
680				35 × 40 2.66				35 × 35 2.78				35 × 45 2.74
820				35 × 45 3.00				35 × 40 3.15	← Case Size ∅ D × L (mm) ← Rated Ripple Current (Arms/85°C, 120Hz)			

RATINGS OF RDC Series

$\mu F$	$V_{DC}$ $\phi D$	450				500			
		22	25.4	30	35	22	25.4	30	35
68						22 × 30 0.40			
82						22 × 30 0.51	25.4 × 25 0.53		
100							25.4 × 35 0.69		
120		22 × 30 0.91	25.4 × 25 0.91				25.4 × 40 0.86		
150		22 × 35 1.04	25.4 × 30 1.05				25.4 × 45 0.91	30 × 30 0.88	
180		22 × 40 1.18	25.4 × 30 1.15	30 × 25 1.17			25.4 × 50 0.96	30 × 35 0.99	
220		22 × 45 1.33	25.4 × 35 1.31	30 × 30 1.36				30 × 40 1.15	
270			25.4 × 40 1.55	30 × 35 1.60	35 × 25 1.59			30 × 50 1.44	35 × 35 1.36
330				30 × 40 1.90	35 × 30 1.88				35 × 40 1.49
390				30 × 45 2.09	35 × 35 2.08				35 × 45 1.71
470					35 × 40 2.40				35 × 50 2.08
560					35 × 45 2.70	← Case Size $\phi D \times L$ (mm) ← Rated Ripple Current(Arms/85°C, 120Hz)			