

## RLS Series

• 85°C 3,000Hrs assured.

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



## SPECIFICATIONS

Item	Characteristics						
Rated Voltage Range	160 ~ 500 V <sub>dc</sub>						
Operating Temperature Range	-25 ~ +85°C						
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)						
Leakage Current	I = 0.02CV or 3mA, whichever is smaller. Where, I: 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"> <tr> <td>Rated Voltage(V<sub>dc</sub>)</td> <td>160~400</td> <td>450~500</td> </tr> <tr> <td>Tanδ(Max.)</td> <td>0.15</td> <td>0.20</td> </tr> </table> (at 20°C, 120Hz)	Rated Voltage(V <sub>dc</sub> )	160~400	450~500	Tanδ(Max.)	0.15	0.20
Rated Voltage(V <sub>dc</sub> )	160~400	450~500					
Tanδ(Max.)	0.15	0.20					
Temperature Characteristics (Max.Impedance ratio)	<table border="1"> <tr> <td>Rated Voltage(V<sub>dc</sub>)</td> <td>160~400</td> <td>450~500</td> </tr> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>4</td> <td>8</td> </tr> </table> (at 120Hz)	Rated Voltage(V <sub>dc</sub> )	160~400	450~500	Z(-25°C)/Z(20°C)	4	8
Rated Voltage(V <sub>dc</sub> )	160~400	450~500					
Z(-25°C)/Z(20°C)	4	8					
Load Life	<p>The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 3,000 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 the 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 24 hours and not more than 48 hours before the measurement.</p> <p>Capacitance change ≤ ±15% of the initial value            Tanδ ≤ 150% 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 exceeds 1,000μF, 0.01 shall be added every 1,000μF increase.

## RATED RIPPLE CURRENT

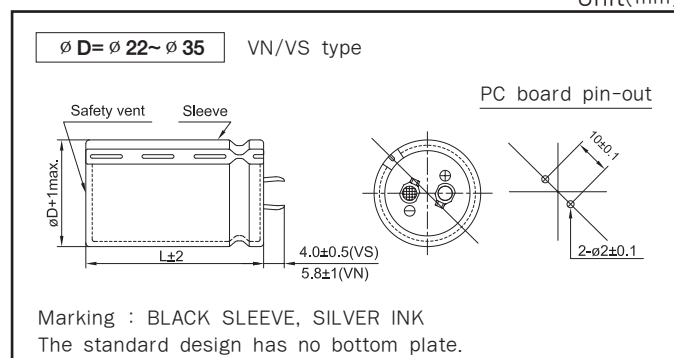
When capacitors are operated in any other condition at 120Hz, the maximum ripple current must be multiplied by the figure shown in the table.

Frequency multiplying factor

V <sub>dc</sub>	Freq.(Hz)	60	120	300	1k	10k~
160~250V <sub>dc</sub>		0.81	1.00	1.17	1.32	1.45
350~500V <sub>dc</sub>		0.77	1.00	1.16	1.30	1.41

## DIMENSIONS OF RLS Series

Unit(mm)



## RATINGS OF RLS Series

V <sub>DC</sub> μF / ∅ D	160				200				250			
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35
150									22 × 20 0.97			
180									22 × 20 1.06			
220					22 × 20 1.18				22 × 25 1.24	25.4 × 20 1.22		
270	22 × 20 1.30				22 × 20 1.37	25.4 × 20 1.35			22 × 30 1.54	25.4 × 20 1.32		
330	22 × 25 1.50				22 × 25 1.51	25.4 × 20 1.49			22 × 30 1.66	25.4 × 25 1.61	30 × 20 1.58	
390	22 × 25 1.62	25.4 × 20 1.62			22 × 30 1.73	25.4 × 25 1.71	30 × 20 1.71		22 × 35 1.88	25.4 × 30 1.88	30 × 25 1.86	35 × 20 1.71
470	22 × 30 1.86	25.4 × 25 1.86			22 × 30 1.97	25.4 × 25 1.95	30 × 20 1.88			25.4 × 35 2.15	30 × 25 2.05	35 × 20 1.88
560	22 × 30 2.15	25.4 × 25 2.15	30 × 20 2.05		22 × 40 2.18	25.4 × 30 2.15	30 × 25 2.15	35 × 20 2.05		25.4 × 35 2.35	30 × 30 2.36	35 × 25 2.35
680	22 × 35 2.35	25.4 × 30 2.33	30 × 25 2.33	35 × 20 2.26	22 × 40 2.48	25.4 × 30 2.48	30 × 25 2.48	35 × 20 2.36			30 × 30 2.71	35 × 25 2.58
820	22 × 40 2.68	25.4 × 30 2.65	30 × 25 2.64	35 × 20 2.49	22 × 45 2.81	25.4 × 40 2.79	30 × 30 2.80	35 × 25 2.83			30 × 35 2.98	35 × 30 2.88
1,000	22 × 45 3.02	25.4 × 35 3.00	30 × 30 2.96	35 × 25 3.31	22 × 50 3.28	25.4 × 40 3.28	30 × 35 3.15	35 × 30 3.26			30 × 40 3.56	35 × 35 3.48
1,200	22 × 50 3.47	25.4 × 40 3.43	30 × 30 3.41	35 × 25 3.40		25.4 × 45 3.61	30 × 35 3.61	35 × 30 3.57				

V <sub>DC</sub> μF / ∅ D	350				400				450			
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35
47									22 × 20 0.54			
56									22 × 20 0.59			
68					22 × 20 0.65				22 × 25 0.71	25.4 × 20 0.68		
82	22 × 20 0.72				22 × 25 0.84	25.4 × 20 0.74			22 × 25 0.86	25.4 × 20 0.74	30 × 20 0.79	
100	22 × 25 0.80				22 × 25 0.99	25.4 × 20 0.82			22 × 30 0.95	25.4 × 25 0.97	30 × 20 0.87	
120	22 × 25 1.04	25.4 × 20 0.90			22 × 30 1.09	25.4 × 25 1.13	30 × 20 0.95		22 × 35 1.07	25.4 × 30 1.09	30 × 25 1.12	35 × 20 0.99
150	22 × 30 1.2	25.4 × 25 1.22	30 × 20 1.06		22 × 35 1.24	25.4 × 30 1.27	30 × 25 1.20		22 × 40 1.18	25.4 × 30 1.25	30 × 25 1.29	35 × 20 1.06
180	22 × 30 1.34	25.4 × 25 1.37	30 × 20 1.16		22 × 40 1.41	25.4 × 30 1.44	30 × 25 1.52	35 × 20 1.16	22 × 45 1.32	25.4 × 35 1.40	30 × 30 1.45	35 × 25 1.33
220	22 × 35 1.47	25.4 × 30 1.53	30 × 25 1.54	35 × 20 1.29	22 × 45 1.58	25.4 × 35 1.64	30 × 30 1.66	35 × 20 1.47	22 × 50 1.48	25.4 × 40 1.59	30 × 30 1.64	35 × 25 1.66
270		25.4 × 35 1.73	30 × 25 1.8	35 × 25 1.49	22 × 50 1.65	25.4 × 40 1.79	30 × 30 1.82	35 × 25 1.63		25.4 × 45 1.73	30 × 35 1.89	35 × 30 1.90
330			30 × 30 2.03	35 × 25 1.80		25.4 × 45 2.00	30 × 35 2.05	35 × 30 2.05		25.4 × 50 2.12	30 × 40 2.12	35 × 35 2.15
390			30 × 35 2.23	35 × 30 2.30		25.4 × 50 2.12	30 × 40 2.26	35 × 35 2.28			30 × 45 2.35	35 × 40 2.38
470			30 × 35 2.53	35 × 30 2.55			30 × 45 2.51	35 × 35 2.54			30 × 50 2.65	35 × 45 2.68
560				35 × 35 2.75			30 × 50 2.85	35 × 40 2.85				35 × 50 2.88
680				35 × 40 3.15	← Case Size ∅ D × L (mm) ← Rated Ripple Current (Arms/85°C, 120Hz)							

## RATINGS OF RLS Series

$\mu\text{F}$	$V_{\text{DC}}$ $\phi$ D	500			
		22	25.4	30	35
56	22 × 35 0.42				
68	22 × 40 0.49	25.4 × 30 0.49			
82	22 × 45 0.57	25.4 × 35 0.58			
100	22 × 50 0.66	25.4 × 40 0.68	30 × 30 0.68		
120		25.4 × 45 0.78	30 × 35 0.79		
150		25.4 × 50 0.92	30 × 40 0.94	35 × 30 0.91	
180			30 × 45 1.08	35 × 35 1.06	
220			30 × 50 1.25	35 × 40 1.23	
270			30 × 60 1.51	35 × 45 1.43	
330				35 × 50 1.66	
390				35 × 60 1.95	

Case Size  $\phi$  D × L (mm) →  
 Rated Ripple Current (Arms/85°C, 120Hz) →