

# RR Series

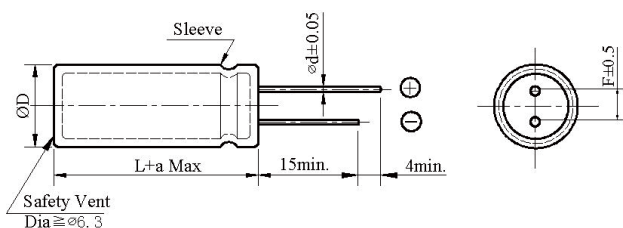
- Miniaturized, Long life
- Load life 8,000~12,000 hours at 105°C; 1,000~2,000 hours at 130°C
- Suitable for output circuit and input circuit of LED driving power
- RoHS Compliant



## ◆ SPECIFICATIONS

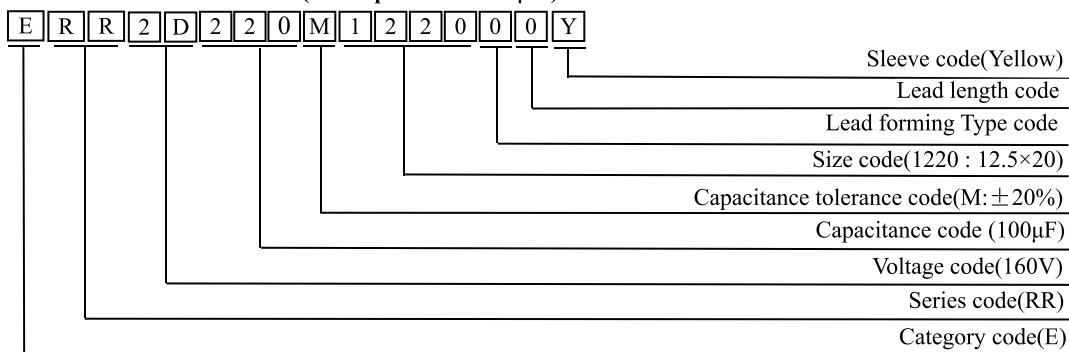
Item	Performance Characteristics																											
Category Temperature Range	-40 ~ +105°C																											
Working Voltage Range	160 ~ 500Vdc																											
Capacitance Range	1 ~ 680μF																											
Capacitance Tolerance	±20% (at 20°C and 120Hz)																											
Dissipation Factor (tanδ) (at 20°C, 120Hz)	Rated Voltage (V)	160	200	250	350	400	450	500																				
	tanδ(Max)	0.15	0.15	0.15	0.20	0.20	0.20	0.24																				
Leakage Current	160~400Vdc				450~500Vdc																							
	I ≤ 0.02CV + 10μA (2minutes)				I ≤ 0.03CV + 10μA (2minutes)																							
I: Leakage current (μA) C: Rated capacitance (μF) V: Rated voltage (V)																												
Low Temperature Characteristics Impedance Ratio(MAX)	Rated Voltage (V)	160	200	250	350	400	450	500																				
	Z(-25°C)/Z(+20°C)	3	3	3	5	5	6	6																				
	Z(-40°C)/Z(+20°C)	6	6	6	6	6	9	15																				
(at 120Hz)																												
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied for 8,000 to 12,000 hours at 105°C.																											
	Capacitance change	≡ ±20% of the initial value						<table border="1"> <thead> <tr> <th rowspan="2">Size</th> <th colspan="3">Life time (hours)</th> </tr> <tr> <th>130°C</th> <th colspan="2">105°C</th> </tr> </thead> <tbody> <tr> <td>160~450V</td> <td>1,000</td> <td>8,000</td> <td>500V</td> </tr> <tr> <td>≧6.3 Φ</td> <td>1,000</td> <td>8,000</td> <td>—</td> </tr> <tr> <td>≧8 Φ</td> <td>2,000</td> <td>12,000</td> <td>10,000</td> </tr> </tbody> </table>		Size	Life time (hours)			130°C	105°C		160~450V	1,000	8,000	500V	≧6.3 Φ	1,000	8,000	—	≧8 Φ	2,000	12,000	10,000
	Size	Life time (hours)																										
		130°C	105°C																									
160~450V	1,000	8,000	500V																									
≧6.3 Φ	1,000	8,000	—																									
≧8 Φ	2,000	12,000	10,000																									
Dissipation factor(tanδ)	≡ 200% of the specified value																											
Leakage current	≡ specified value																											
Shelf Life	The following requirements shall be satisfied when the capacitor are restored to 20°C after the rated voltage applied for 1,000 hours at 105°C without voltage applied.																											
	Capacitance change	≡ ±20% of the initial value																										
	Dissipation factor(tanδ)	≡ 200% of the specified value																										
	Leakage current	≡ 200% of the specified value																										

## ◆ DIMENSIONS (mm)



ΦD	5	6.3	8	10	12.5	16	18
ΦD	ΦD +0.5 Max						
Φd	0.5	0.5	0.5/0.6	0.6	0.6	0.8	0.8
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
a	L+2.0 Max						

## ◆ PART NUMBER SYSTEM( Example : 160V 100μF )



## RR Series

◆ Case size & Permissible rated ripple current: (mArms) at 100KHz

Vdc μF	160V			200V			250V			350V		
	ΦD × L	RC 105°C	RC 130°C	ΦD × L	RC 105°C	RC 130°C	ΦD × L	RC 105°C	RC 130°C	ΦD × L	RC 105°C	RC 130°C
1.0	6.3×9	45	30	6.3×9	52	40	6.3×9	52	40	6.3×9	52	40
1.5	6.3×9	50	34	6.3×9	56	42	6.3×9	56	42	6.3×12	65	50
1.8	6.3×9	58	38	6.3×9	60	45	6.3×9	60	45	6.3×12	70	54
2.2	6.3×9	64	42	6.3×9	68	50	6.3×9	68	50	6.3×12	78	60
3.3	6.3×9	72	47	6.3×9	86	65	6.3×9	86	65	8×9	95	71
4.7	6.3×12	81	53	6.3×12	128	102	8×9	120	95	8×12	135	108
5.6	8×9	88	58	8×9	150	120	8×9	150	120	8×12	140	109
6.8	8×9	100	65	8×9	158	125	8×9	158	125	8×16	170	123
8.2	8×9	150	110	8×12	195	150	8×12	245	175	8×20	250	164
10	8×9	170	120	8×12	240	168	8×12	265	185	10×16	275	178
15	8×9	230	150	8×16	338	235	8×16	340	221	10×20	380	247
22	10×12	420	273	8×20	382	248	10×16	462	300	12.5×20	476	309
33	10×16	520	340	10×20	570	370	12.5×16	550	358	16×20	600	390
47	10×16	570	371	12.5×16	600	390	12.5×16	610	398	16×20	740	480
68	10×20	680	442	12.5×25	760	494	12.5×25	805	523	18×25	880	572
100	12.5×20	1100	715	16×25	1060	690	16×25	1030	668	18×30	1160	754
150	16×20	1200	780	16×30	1220	793	16×35	1400	910			
220	16×25	1400	910	16×35	1450	930						
330	18×30	2080	1360	18×35	2200	1430						
470	18×35	2960	1935	18×40	3090	2010						
560	18×40	3510	2290									
680	18×45	4260	2780									

Vdc μF	400			450			500		
	ΦD × L	RC 105°C	RC 130°C	ΦD × L	RC 105°C	RC 130°C	ΦD × L	RC 105°C	RC 130°C
1.0	6.3×12	62	42	8×9	65	45			
1.5	8×9	76	50	8×12	80	54			
1.8	8×9	80	55	8×12	90	60			
2.2	8×12	90	60	8×16	95	65			
3.3	8×12	120	80	8×16	125	85			
4.7	8×12	148	110	10×12	150	115			
5.6	10×12	162	108	10×16	170	118			
6.8	10×16	200	132	10×16	210	140			
8.2	10×16	235	153	10×16	252	164			
10	10×16	270	187	12.5×16	290	195	12.5×20	265	/
15	12.5×16	360	234	12.5×20	400	260	12.5×25	370	/
22	12.5×20	480	335	16×20	500	350	16×25	504	/
33	16×20	560	364	16×25	665	432	18×25	620	/
47	16×25	700	455	16×35	818	532	18×30	760	/
68	18×25	835	543	18×30	900	585	18×35	845	/
100	18×35	1090	780	18×35	1210	865	18×40	1130	/

◆ RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

Vdc	Frequency (Hz)				
	50	120	1K	10K	100K
160 ~ 500	0.45	0.50	0.80	0.90	1.00