

RD series

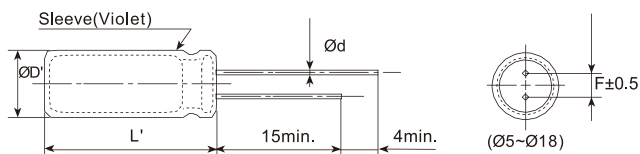
- Endurance: +105°C 2,000~5,000 hours
- High frequency and low impedance; moisture content: under 40%
- RoHS Compliant



SPECIFICATIONS

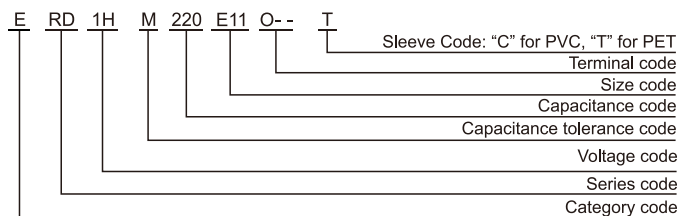
Items	Characteristics	
Category Temperature Range	-40~+105°C(6.3~100 V _{dc})	
Rated Voltage Range	6.3~100 V _{dc}	
Capacitance Tolerance	±20%(M) (at 20°C, 120Hz)	
Leakage Current	I ≤ 0.01CV or 3μA, whichever is greater. Where, I: Max. leakage current (μA), C: Nominal capacitance (μF), V: Rated voltage (V) (at 20°C after 2 minutes)	
Dissipation Factor (tanδ)	Rated Voltage(V _{dc})	6.3 10 16 25 35 50 63 100
	tanδ (max.)	0.22 0.19 0.16 0.14 0.12 0.10 0.09 0.08
	When nominal capacitance exceeds 1,000μF, add 0.02 to the value above for each 1,000μF increase. (at 20°C, 120Hz)	
Low Temperature Characteristics (Max. Impedance Ratio)	Rated Voltage(V _{dc})	6.3 10 16 25 35 50 63 100
	Z(-25°C)/Z(+20°C)	4 3 2 2 2
	Z(-40°C)/Z(+20°C)	8 6 4 3 3 (at 120Hz)
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after DC voltage plus the rated ripple current is applied for a specified period of time at 105 °C.	
	Capacitance Change	≤±25% of the initial value
	D.F. (tanδ)	≤200% of the initial specified value
	Leakage Current	≤The initial specified value
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 105°C without voltage applied.	
	Capacitance Change	≤±25% of the initial value
	D.F. (tanδ)	≤200% of the initial specified value
	Leakage Current	≤200% of the initial specified value

DIMENSIONS[mm]



ØD	5	6.3	8	10	12.5	16	18
Ød	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
ØD'	ØD+0.5max.						
L'	L+2max.						

PART NUMBERING SYSTEM



RATED RIPPLE CURRENT MULTIPLIERS

Frequency correction factor for ripple current

Freq.(Hz) / Cap.(μF)	120	1k	10k	100k
Cap.<220	0.40	0.75	0.90	1.00
220≤Cap.<680	0.50	0.85	0.94	1.00
680≤Cap.<2200	0.60	0.87	0.95	1.00
2200≤Cap.<4700	0.75	0.90	0.95	1.00
Cap.≥4700	0.85	0.95	0.98	1.00

The endurance of capacitors is shortened with internal heating produced by ripple current at the rate of halving the lifetime with every 5°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.

RD series

■ STANDARD RATINGS

WV (V _{dc})	Cap (μF)	Size ΦDxL(mm)	tanδ	Impedance (Ω _{max} /20°C, 100kHz)	Rated ripple current (mA _{rms} /105°C, 100kHz)
6.3(0J)	100	5*11	0.22	1.00	170
	120	5*11	0.22	0.92	175
	150	6.3*11	0.22	0.81	220
	180	6.3*11	0.22	0.76	210
	220	6.3*11	0.22	0.65	310
	270	6.3*11	0.22	0.54	320
	330	8*11	0.22	0.42	390
	470	8*11	0.22	0.25	450
	560	8*11	0.22	0.23	490
	680	8*11	0.22	0.21	520
	820	8*16	0.22	0.20	620
	1000	10*12.5	0.22	0.17	750
	1200	10*16	0.22	0.16	860
	1500	10*16	0.22	0.14	1100
	1800	10*20	0.22	0.11	1250
	2200	10*25	0.24	0.095	1470
	2700	12.5*20	0.24	0.075	1500
	3300	12.5*20	0.26	0.036	1650
	4700	12.5*30	0.28	0.036	2100
	5600	12.5*30	0.30	0.034	2340
6800	16*25	0.32	0.032	2450	
8200	16*30	0.36	0.027	2650	
10000	16*35	0.40	0.024	2700	
15000	18*35	0.50	0.023	2950	
10(1A)	22	5*11	0.19	2.70	98
	33	5*11	0.19	2.60	100
	47	5*11	0.19	1.34	150
	56	5*11	0.19	1.23	160
	68	5*11	0.19	1.05	170
	100	5*11	0.19	0.80	210
	120	6.3*11	0.19	0.75	250
	150	6.3*11	0.19	0.61	290
	180	6.3*11	0.19	0.46	320
	220	6.3*11	0.19	0.35	340
	270	8*11	0.19	0.30	400
	330	8*11	0.19	0.27	460
	470	8*11	0.19	0.25	580
	560	10*12.5	0.19	0.16	635
	680	10*12.5	0.19	0.11	765
	820	10*16	0.19	0.10	890
	1000	10*16	0.19	0.076	1040
	1200	10*16	0.19	0.067	1200
	1500	10*20	0.19	0.062	1400
	1800	10*25	0.19	0.058	1550
2200	12.5*20	0.21	0.041	1750	
2700	12.5*20	0.21	0.035	1900	
3300	12.5*25	0.23	0.031	2000	
4700	16*25	0.25	0.030	2100	
5600	16*25	0.27	0.028	2290	
6800	16*30	0.29	0.026	2650	
8200	16*35	0.33	0.026	2770	
10000	18*35	0.37	0.024	2580	
16(1C)	10	5*11	0.16	4.7	74
	22	5*11	0.16	2.6	100
	33	5*11	0.16	2.0	114
	47	5*11	0.16	1.1	155

WV (V _{dc})	Cap (μF)	Size ΦDxL(mm)	tanδ	Impedance (Ω _{max} /20°C, 100kHz)	Rated ripple current (mA _{rms} /105°C, 100kHz)
16(1C)	56	5*11	0.16	0.82	180
	68	5*11	0.16	0.69	195
	100	6.3*11	0.16	0.50	265
	120	6.3*11	0.16	0.47	270
	150	6.3*11	0.16	0.41	290
	180	8*11	0.16	0.34	370
	220	8*11	0.16	0.25	480
	270	8*11	0.16	0.21	520
	330	8*12	0.16	0.156	290
	470	10*12.5	0.16	0.124	750
	560	10*12.5	0.16	0.105	785
	680	10*16	0.16	0.092	1100
	820	10*16	0.16	0.078	1140
	1000	10*20	0.16	0.065	1350
	1200	10*25	0.16	0.061	1500
	1500	12.5*20	0.16	0.060	1380
	1800	12.5*20	0.16	0.047	1800
	2200	12.5*25	0.18	0.038	2000
	2700	12.5*25	0.18	0.033	2450
	3300	16*25	0.20	0.030	2790
4700	16*30	0.22	0.026	2880	
5600	16*35	0.24	0.025	2990	
6800	18*35	0.26	0.024	3200	
8200	18*35	0.30	0.024	3320	
10000	18*40	0.34	0.024	3550	
25(1E)	4.7	5*11	0.14	3.95	68
	5.6	5*11	0.14	3.25	75
	6.8	5*11	0.14	2.98	80
	10	5*11	0.14	2.56	85
	22	5*11	0.14	1.95	125
	33	5*11	0.14	1.42	155
	47	6.3*11	0.14	1.00	220
	56	6.3*11	0.14	0.79	250
	68	6.3*11	0.14	0.65	280
	100	6.3*11	0.14	0.35	370
	120	6.3*11	0.14	0.33	380
	150	8*11	0.14	0.31	410
	180	8*11	0.14	0.25	455
	220	8*11	0.14	0.15	550
	270	10*12.5	0.14	0.125	720
	330	10*12.5	0.14	0.114	820
	470	10*16	0.14	0.076	1200
	560	10*16	0.14	0.072	1250
	680	10*20	0.14	0.065	1320
	820	10*25	0.14	0.052	1530
1000	12.5*20	0.14	0.045	1650	
1200	12.5*25	0.14	0.041	1980	
1500	12.5*25	0.14	0.038	2210	
1800	16*25	0.14	0.032	2510	
2200	16*25	0.16	0.036	2650	
2700	16*25	0.16	0.031	2820	
3300	16*30	0.18	0.026	3240	
4700	16*35	0.20	0.024	3650	
5600	18*35	0.22	0.024	3720	
6800	18*40	0.24	0.024	3850	