

RR series

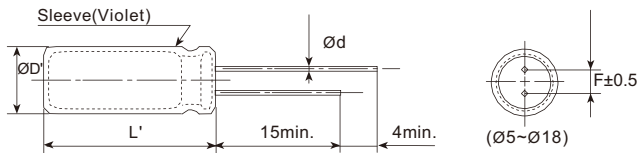
- High frequency, low impedance, high reliability
- Endurance: 2,000 hours at 105°C
- Suitable for switching power, UPS, power sources, etc.
- RoHS Compliant



SPECIFICATIONS

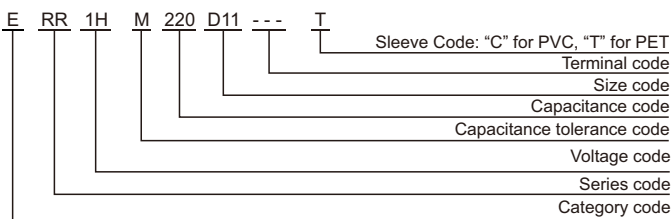
Items	Characteristics										
Category Temperature Range	-40~+105°C										
Rated Voltage Range	6.3~120 V _{dc}										
Capacitance Tolerance	±20%(M) (at 20°C, 120Hz)										
Leakage Current	I ≤ 0.01CV or 3μA, whichever is greater. Where, I: Max. leakage current (μA), C: Nominal capacitance (μF), 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	80	100	120
	Dissipation Factor (Max.)	0.22	0.18	0.14	0.12	0.10	0.08	0.08	0.08	0.08	0.12
	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	80	100	120
	Z(-25°C)/Z(+20°C)	2	2	2	2	2	2	2	2	2	3
Endurance	The specifications listed below shall be satisfied when the capacitors are restored to 20°C after DC voltage plus rated ripple current is applied for 2,000 hours at 105 °C.										
	Capacitance Change	≤±20% of the initial value (6.3~10 V _{dc} : ≤±30%)									
	Dissipation Factor	≤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 leaving them under no load at 105°C for 1,000 hours.										
	Capacitance Change	≤±20% of the initial value (6.3~10 V _{dc} : ≤±30%)									
	Dissipation Factor	≤200% of the initial specified value									
	Leakage Current	≤200% of the initial specified value									

DIMENSIONS[mm]



ØD	5	6.3	8	10	12.5	13	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	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)	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

RR series

■ STANDARD RATINGS

WV (Vdc)	Cap (µF)	Size ΦDxL (mm)	Impedance (Ωmax/20°C, 100kHz)	Rated ripple current (mA rms/105°C, 100kHz)	Part Number	
6.3	220	6.3×7	0.350	218	ERR0JM221E07---T	
	330	6.3×9	0.200	350	ERR0JM331E09---T	
	470	6.3×9	0.180	400	ERR0JM471E09---T	
	560	6.3×11	0.180	480	ERR0JM561E11---T	
	560	8×9	0.120	550	ERR0JM561F09---T	
	820	8×16	0.056	995	ERR0JM821F16---T	
	820	10×9	0.085	800	ERR0JM821G09---T	
	1000	10×13	0.053	1030	ERR0JM102G13---T	
	1200	8×20	0.041	1250	ERR0JM122F20---T	
	1200	10×16	0.038	1430	ERR0JM122G16---T	
	1500	10×20	0.023	1820	ERR0JM152G20---T	
	2200	10×25	0.022	2150	ERR0JM222G25---T	
	3900	12.5×25	0.018	2770	ERR0JM392W25---T	
	4700	12.5×30	0.016	3290	ERR0JM472W30---T	
	5600	12.5×35	0.015	3400	ERR0JM562W35---T	
	5600	16×20	0.018	3140	ERR0JM562L20---T	
	6800	16×25	0.016	3460	ERR0JM682L25---T	
10	100	5×11	0.550	250	ERR1AM101D11---T	
	150	5×12	0.500	300	ERR1AM151D12---T	
	220	6.3×11	0.130	405	ERR1AM221E11---T	
	330	6.3×11	0.120	471	ERR1AM331E11---T	
	470	6.3×12	0.091	630	ERR1AM471E12---T	
	470	8×11	0.072	760	ERR1AM471F11---T	
	680	8×12	0.070	830	ERR1AM681F12---T	
	680	10×13	0.053	1030	ERR1AM681G13---T	
	820	8×12	0.055	950	ERR1AM821F12---T	
	1000	8×16	0.050	1074	ERR1AM102F16---T	
	1000	10×16	0.038	1430	ERR1AM102G16---T	
	1200	10×16	0.034	1550	ERR1AM122G16---T	
	1500	10×16	0.034	1587	ERR1AM152G16---T	
	2200	10×20	0.031	1978	ERR1AM222G20---T	
	2200	12.5×20	0.028	2360	ERR1AM222W20---T	
	3300	12.5×20	0.025	2490	ERR1AM332W20---T	
	4700	13×25	0.022	2835	ERR1AM472K25---T	
5600	16×25	0.016	3460	ERR1AM562L25---T		
16	100	5×11	0.570	320	ERR1CM101D11---T	
	100	6.3×11	0.350	326	ERR1CM101E11---T	
	220	6.3×11	0.120	530	ERR1CM221E11---T	
	220	8×11	0.085	570	ERR1CM221F11---T	
	330	6.3×12	0.110	564	ERR1CM331E12---T	
	330	8×12	0.072	760	ERR1CM331F12---T	
	470	8×16	0.056	795	ERR1CM471F16---T	
	470	10×13	0.053	1030	ERR1CM471G13---T	
	680	8×16	0.045	1070	ERR1CM681F16---T	
	1000	8×16	0.043	1380	ERR1CM102F16---T	
	1000	10×13	0.052	1380	ERR1CM102G13---T	
	1500	10×20	0.031	1980	ERR1CM152G20---T	
	2200	12.5×20	0.040	2640	ERR1CM222W20---T	
	3300	13×25	0.024	2850	ERR1CM332K25---T	
	4700	16×25	0.016	3560	ERR1CM472L25---T	
	25	47	5×11	0.720	250	ERR1EM470D11---T
		68	5×11	0.650	260	ERR1EM680D11---T
100		5×11	0.400	350	ERR1EM101D11---T	
100		6.3×11	0.280	405	ERR1EM101E11---T	
220		6.3×12	0.140	597	ERR1EM221E12---T	
220		8×11	0.072	760	ERR1EM221F11---T	
330		8×12	0.085	930	ERR1EM331F12---T	
470		8×16	0.055	1010	ERR1EM471F16---T	
470		10×13	0.057	1200	ERR1EM471G13---T	
680		8×16	0.057	980	ERR1EM681F16---T	
680		10×16	0.050	1280	ERR1EM681G16---T	
820		10×20	0.036	1500	ERR1EM821G20---T	
1000		10×20	0.035	1820	ERR1EM102G20---T	
1500		12.5×20	0.022	2150	ERR1EM152W20---T	
2200		12.5×25	0.018	2770	ERR1EM222W25---T	

WV (Vdc)	Cap (µF)	Size ΦDxL (mm)	Impedance (Ωmax/20°C, 100kHz)	Rated ripple current (mA rms/105°C, 100kHz)	Part Number	
35	33	5×11	0.600	250	ERR1VM330D11---T	
	47	5×12	0.480	270	ERR1VM470D12---T	
	47	6.3×11	0.450	352	ERR1VM470E11---T	
	56	6.3×11	0.390	405	ERR1VM560E11---T	
	100	6.3×11	0.350	490	ERR1VM101E11---T	
	100	8×11	0.200	538	ERR1VM101F11---T	
	150	8×12	0.170	760	ERR1VM151F12---T	
	220	8×12	0.100	789	ERR1VM221F12---T	
	220	10×13	0.066	1030	ERR1VM221G13---T	
	330	8×16	0.064	1030	ERR1VM331F16---T	
	470	8×20	0.055	1320	ERR1VM471F20---T	
	470	10×16	0.045	1485	ERR1VM471G16---T	
	560	10×20	0.035	1850	ERR1VM561G20---T	
	680	10×20	0.030	1980	ERR1VM681G20---T	
	1000	12.5×20	0.028	2440	ERR1VM102W20---T	
	1500	12.5×30	0.026	3010	ERR1VM152W30---T	
	2200	16×25	0.025	3490	ERR1VM222L25---T	
50	22	5×11	0.840	238	ERR1HM220D11---T	
	22	6.3×11	0.540	260	ERR1HM220E11---T	
	47	6.3×11	0.300	310	ERR1HM470E11---T	
	56	6.3×12	0.280	385	ERR1HM560E12---T	
	100	8×12	0.130	724	ERR1HM101F12---T	
	120	8×16	0.100	950	ERR1HM121F16---T	
	120	10×13	0.120	900	ERR1HM121G13---T	
	150	10×13	0.120	979	ERR1HM151G13---T	
	220	8×16	0.120	960	ERR1HM221F16---T	
	220	10×13	0.110	980	ERR1HM221G13---T	
	330	10×16	0.072	1370	ERR1HM331G16---T	
	470	10×20	0.046	1690	ERR1HM471G20---T	
	470	12.5×20	0.042	2050	ERR1HM471W20---T	
	680	12.5×20	0.038	2200	ERR1HM681W20---T	
	1000	13×25	0.030	2500	ERR1HM102K25---T	
	63	33	6.3×11	0.450	266	ERR1JM330E11---T
		47	6.3×12	0.450	266	ERR1JM470E12---T
47		8×12	0.350	320	ERR1JM470F12---T	
100		8×12	0.250	450	ERR1JM101F12---T	
220		10×13	0.210	690	ERR1JM221G13---T	
330		10×20	0.080	1160	ERR1JM331G20---T	
470		13×20	0.060	1995	ERR1JM471K20---T	
680		12.5×25	0.045	2350	ERR1JM681W25---T	
680		16×20	0.039	2400	ERR1JM681L20---T	
1000		13×30	0.056	2680	ERR1JM102K30---T	
1000		16×25	0.050	2800	ERR1JM102L25---T	
1500		18×30	0.035	2900	ERR1JM152M30---T	
2200		18×40	0.032	3250	ERR1JM222M40---T	
80		22	6.3×11	1.200	136	ERR1BM220E11---T
		33	6.3×12	0.970	145	ERR1BM330E12---T
		33	8×9	1.000	140	ERR1BM330F09---T
		47	8×12	0.420	450	ERR1BM470F12---T
	56	8×12	0.400	480	ERR1BM560F12---T	
	68	8×12	0.380	510	ERR1BM680F12---T	
	82	8×16	0.360	585	ERR1BM820F16---T	
	100	8×16	0.320	620	ERR1BM101F16---T	
	150	10×16	0.250	800	ERR1BM151G16---T	
	220	10×20	0.200	870	ERR1BM221G20---T	
	220	12.5×16	0.200	870	ERR1BM221W16---T	
	100	0.47	5×11	5.000	10	ERR1KMR47D11---T
		1	5×11	4.500	50	ERR1KM010D11---T
		2.2	5×11	3.600	60	ERR1KM2R2D11---T
		3.3	5×11	3.000	75	ERR1KM3R3D11---T
		4.7	5×11	2.500	90	ERR1KM4R7D11---T
		10	5×11	1.850	130	ERR1KM100D11---T
10		6.3×11	1.500	140	ERR1KM100E11---T	
22		6.3×12	0.800	210	ERR1KM220E12---T	
33		8×12	0.450	235	ERR1KM330F12---T	

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WV (V _{dc})	Cap (μF)	Size ΦDxL (mm)	Impedance (Ω _{max} /20°C, 100kHz)	Rated ripple current (mA _{rms} /105°C, 100kHz)	Part Number	
100	47	8×12	0.450	235	ERR1KM470F12---T	
	47	10×13	0.340	380	ERR1KM470G13---T	
	68	8×16	0.300	360	ERR1KM680F16---T	
	68	10×13	0.300	380	ERR1KM680G13---T	
	100	8×25	0.350	453	ERR1KM101F25---T	
	100	10×16	0.350	460	ERR1KM101G16---T	
	150	10×20	0.170	740	ERR1KM151G20---T	
	220	13×20	0.100	880	ERR1KM221K20---T	
	330	13×25	0.080	1010	ERR1KM331K25---T	
	330	16×20	0.078	1030	ERR1KM331L20---T	
	470	16×25	0.048	1250	ERR1KM471L25---T	
	680	16×35	0.038	1660	ERR1KM681L35---T	
	680	18×30	0.035	1650	ERR1KM681M30---T	
	1000	18×35	0.030	2300	ERR1KM102M35---T	
	120	10	6.3×12	6.000	85	ERR2BM100E12---T
		15	6.3×12	4.000	110	ERR2BM150E12---T
22		8×12	3.000	140	ERR2BM220F12---T	
33		8×16	2.000	220	ERR2BM330F16---T	
33		10×13	3.000	240	ERR2BM330G13---T	
47		8×20	2.800	285	ERR2BM470F20---T	
47		10×16	2.800	300	ERR2BM470G16---T	
56		10×16	2.500	350	ERR2BM560G16---T	
68		10×16	2.200	350	ERR2BM680G16---T	
82		10×20	2.000	380	ERR2BM820G20---T	
100		10×25	1.700	420	ERR2BM101G25---T	
120		12.5×20	1.500	500	ERR2BM121W20---T	
150		12.5×25	1.100	620	ERR2BM151W25---T	
220		13×30	0.850	760	ERR2BM221K30---T	
220		16×20	1.200	760	ERR2BM221L20---T	
330		16×30	0.400	950	ERR2BM331L30---T	
330		18×25	0.450	930	ERR2BM331M25---T	
470		16×40	0.350	1030	ERR2BM471L40---T	
470	18×30	0.350	1030	ERR2BM471M30---T		

※ Specifications subject to change without notice.