

## RZ series

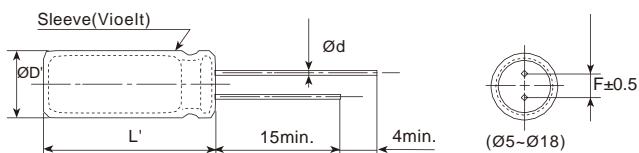
- Miniaturized, long life, low impedance
- High ripple current, high reliability
- Endurance: +105°C 6,000~10,000 hours
- RoHS Compliant



### SPECIFICATIONS

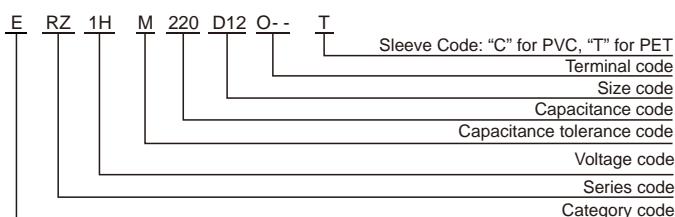
Items	Characteristics											
Category Temperature Range	-40~+105°C											
Rated Voltage Range	6.3~50 Vdc											
Capacitance Tolerance	$\pm 20\% (M)$											
Leakage Current	I 0.01CV or 3μA, whichever is greater. Where, I:Max.leakage current (μA),C:Nominal capacitance (μF),V: Rated voltage (V)											
Dissipation Factor (tan $\delta$ )	Rated Voltage(Vdc)	6.3	10	16	25	35	50					
	tan $\delta$ (max.)	0.22	0.19	0.16	0.14	0.12	0.10					
	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(Vdc)	6.3	10	16~50								
	Z(-25°C)/Z(+20°C)			2								
	Z(-40°C)/Z(+20°C)	6	4	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	$\pm 25\%$ of the initial value (6.3,10V: $\pm 30\%$ )			Case Dia.(mm)	Load life (hours)						
	D.F. (tan $\delta$ )	200% of the initial specified value			ØD 6.3	6,000						
	Leakage Current	The initial specified value			ØD=8	8,000						
	(at 120Hz)											
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	$\pm 25\%$ of the initial value (6.3,10V: $\pm 30\%$ )										
	D.F. (tan $\delta$ )	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
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
ØD'	$\varnothing D + 0.5 \text{ max.}$						
L'	L + 2 max.						

### PART NUMBERING SYSTEM



Radial Type

### 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.

# RZ series

## ■ STANDARD RATINGS

WV (Vdc)	Cap ( $\mu$ F)	Size DxL(mm)	tan	Impedance ( $\Omega$ ) max(20°C, 100kHz)	Rated ripple current (mA rms/105°C, 100kHz)	Part Number
6.3(0J)	220	5x12	0.22	0.22	345	ERZ0JM221D12OT
		6.3x9	0.22	0.30	310	ERZ0JM221E09OT
	470	6.3x12	0.22	0.094	540	ERZ0JM471E12OT
		8x9	0.22	0.120	485	ERZ0JM471F09OT
	820	8x12	0.22	0.056	945	ERZ0JM821F12OT
		10x9	0.22	0.072	850	ERZ0JM821G09OT
	1200	8x16	0.22	0.045	1250	ERZ0JM122F16OT
		10x12.5	0.22	0.039	1330	ERZ0JM122G1BOT
	1500	8x20	0.22	0.029	1500	ERZ0JM152F20OT
	1800	10x16	0.22	0.028	1760	ERZ0JM182G16OT
	2200	10x20	0.24	0.020	1960	ERZ0JM222G20OT
	2700	10x25	0.24	0.018	2250	ERZ0JM272G25OT
	3900	12.5x20	0.26	0.017	2480	ERZ0JM392W20OT
	4700	12.5x25	0.28	0.015	2900	ERZ0JM472W25OT
	5600	12.5x30	0.30	0.013	3450	ERZ0JM562W30OT
	6800	12.5x35	0.32	0.012	3570	ERZ0JM682W35OT
		16x20	0.32	0.015	3250	ERZ0JM682L20OT
	8200	16x25	0.36	0.013	3630	ERZ0JM822L25OT
	10000	18x25	0.40	0.012	3650	ERZ0JM103M25OT
10(1A)	150	5x12	0.19	0.22	345	ERZ1AM151D12OT
		6.3x9	0.19	0.30	310	ERZ1AM151E09OT
	330	6.3x12	0.19	0.094	540	ERZ1AM331E12OT
		8x9	0.19	0.120	485	ERZ1AM331F09OT
	680	8x11	0.19	0.056	945	ERZ1AM681F11OT
		10x9	0.19	0.072	850	ERZ1AM681G09OT
	1000	8x16	0.19	0.045	1250	ERZ1AM102F16OT
		10x12.5	0.19	0.039	1330	ERZ1AM102G1BOT
	1500	8x20	0.19	0.029	1500	ERZ1AM152F20OT
		10x16	0.19	0.028	1760	ERZ1AM152G16OT
	1800	10x20	0.19	0.020	1960	ERZ1AM182G20OT
	2200	10x25	0.21	0.018	2250	ERZ1AM222G25OT
	3300	12.5x20	0.23	0.017	2480	ERZ1AM332W20OT
	3900	12.5x25	0.23	0.015	2900	ERZ1AM392W25OT
	4700	12.5x30	0.25	0.013	3450	ERZ1AM472W30OT
		16x20	0.25	0.015	3250	ERZ1AM472L20OT
	5600	12.5x35	0.27	0.012	3570	ERZ1AM562W35OT
	6800	16x25	0.29	0.013	3630	ERZ1AM682L25OT
	8200	18x25	0.33	0.012	3650	ERZ1AM822M25OT
16(1C)	100	5x12	0.16	0.22	345	ERZ1CM101D12OT
		6.3x9	0.16	0.30	310	ERZ1CM101E09OT
	220	6.3x12	0.16	0.094	540	ERZ1CM221E12OT
		8x9	0.16	0.120	485	ERZ1CM221F09OT
	470	8x12	0.16	0.056	945	ERZ1CM471F12OT
		10x9	0.16	0.072	850	ERZ1CM471G09OT
	680	8x16	0.16	0.045	1250	ERZ1CM681F16OT
		10x12.5	0.16	0.039	1330	ERZ1CM681G1BOT
	1000	8x20	0.16	0.029	1500	ERZ1CM102F20OT
		10x16	0.16	0.028	1760	ERZ1CM102G16OT
	1500	10x20	0.16	0.020	1960	ERZ1CM152G20OT
	1800	10x25	0.16	0.018	2250	ERZ1CM182G25OT
	2200	12.5x20	0.18	0.017	2480	ERZ1CM222W20OT
	2700	12.5x25	0.18	0.015	2900	ERZ1CM272W25OT
	3300	12.5x30	0.20	0.013	3450	ERZ1CM332W30OT
		16x20	0.20	0.015	3250	ERZ1CM332L20OT
	3900	12.5x35	0.20	0.012	3570	ERZ1CM392W35OT
	4700	16x25	0.22	0.013	3630	ERZ1CM472L25OT
	5600	18x25	0.24	0.012	3650	ERZ1CM562M25OT

WV (Vdc)	Cap ( $\mu$ F)	Size DxL(mm)	tan	Impedance ( $\Omega$ ) max(20°C, 100kHz)	Rated ripple current (mA rms/105°C, 100kHz)	Part Number
25(1E)	68	5x12	0.14	0.22	345	ERZ1EM680D12OT
		6.3x9	0.14	0.30	310	ERZ1EM680E09OT
	150	6.3x12	0.14	0.094	540	ERZ1EM151E12OT
		8x9	0.14	0.120	485	ERZ1EM151F09OT
	330	8x12	0.14	0.056	945	ERZ1EM331F12OT
		10x9	0.14	0.072	850	ERZ1EM331G09OT
	390	8x16	0.14	0.045	1250	ERZ1EM391F16OT
	470	10x12.5	0.14	0.039	1330	ERZ1EM471G1BOT
	560	8x20	0.14	0.029	1500	ERZ1EM561F20OT
	680	10x16	0.14	0.028	1760	ERZ1EM681G16OT
	820	10x20	0.14	0.020	1960	ERZ1EM821G20OT
	1000	10x25	0.14	0.018	2250	ERZ1EM102G25OT
	1500	12.5x20	0.14	0.017	2480	ERZ1EM152W20OT
	1800	12.5x25	0.14	0.015	2900	ERZ1EM182W25OT
	2200	12.5x30	0.16	0.013	3450	ERZ1EM222W30OT
		16x20	0.16	0.015	3250	ERZ1EM222L20OT
	2700	12.5x35	0.16	0.012	3570	ERZ1EM272W35OT
	3300	16x25	0.18	0.013	3630	ERZ1EM332L25OT
	3900	18x25	0.18	0.012	3650	ERZ1EM392M25OT
35(1V)	47	5x12	0.12	0.33	345	ERZ1VM470D12OT
		6.3x9	0.12	0.30	310	ERZ1VM470E09OT
	100	6.3x12	0.12	0.094	540	ERZ1VM101E12OT
		8x9	0.12	0.120	485	ERZ1VM101F09OT
	220	8x16	0.12	0.056	945	ERZ1VM221F16OT
		8x20	0.12	0.045	1250	ERZ1VM271F20OT
	330	10x12.5	0.12	0.039	1330	ERZ1VM331G1BOT
		8x20	0.12	0.029	1500	ERZ1VM391F20OT
	470	10x16	0.12	0.028	1760	ERZ1VM471G16OT
	560	10x20	0.12	0.020	1960	ERZ1VM561G20OT
	680	10x25	0.12	0.018	2250	ERZ1VM681G25OT
	1000	12.5x20	0.12	0.017	2480	ERZ1VM102W20OT
	1200	12.5x25	0.12	0.015	2900	ERZ1VM122W25OT
	1500	12.5x30	0.12	0.013	3450	ERZ1VM152W30OT
	16x20	0.12	0.015	3250	ERZ1VM152L20OT	
	1800	12.5x35	0.12	0.012	3570	ERZ1VM182W35OT
	2200	16x25	0.14	0.013	3630	ERZ1VM222L25OT
	2700	18x25	0.14	0.012	3650	ERZ1VM272M25OT
50(1H)	22	5x12	0.10	0.34	238	ERZ1HM220D12OT
		6.3x9	0.10	0.44	214	ERZ1HM220E09OT
	56	6.3x12	0.10	0.14	385	ERZ1HM560E12OT
		8x9	0.10	0.18	345	ERZ1HM560F09OT
	100	8x12	0.10	0.074	724	ERZ1HM101F12OT
		10x9	0.10	0.096	650	ERZ1HM101G09OT
	120	8x16	0.10	0.061	950	ERZ1HM121F16OT
	150	10x12.5	0.10	0.061	979	ERZ1HM151G1BOT
	180	8x20	0.10	0.046	1190	ERZ1HM181F20OT
	220	10x16	0.10	0.042	1370	ERZ1HM221G16OT
	270	10x20	0.10	0.030	1580	ERZ1HM271G20OT
	330	10x25	0.10	0.028	1870	ERZ1HM331G25OT
	470	12.5x20	0.10	0.027	2050	ERZ1HM471W20OT
	560	12.5x25	0.10	0.023	2410	ERZ1HM561W25OT
	680	12.5x30	0.10	0.021	2860	ERZ1HM681W30OT
	820	12.5x35	0.10	0.019	2960	ERZ1HM821W35OT
		16x20	0.10	0.023	2730	ERZ1HM821L20OT
	1000	16x25	0.10	0.021	3010	ERZ1HM102L25OT
	1500	18x25	0.10	0.019	3290	ERZ1HM152M25OT