

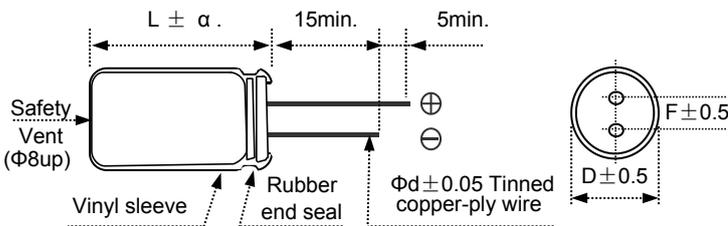
**RN Series**

- Low impedance, Low temperature resistance, High Reliability
- RoHS2.0 Compliant

◆ 规格表 Specifications

项目 Items	特性参数 Characteristics						
使用温度范围 Category Temperature Range	-55~ +105℃						
额定工作电压范围 Rated Voltage Range	6.3 ~ 50Vdc						
静电容量允许偏差 Capacitance Tolerance	±20%(M) (at 20℃, 120Hz)						
漏电流 Leakage Current	I ≤ 0.01CV or 3μA, 二者取大值 (施加额定工作电压2分钟后) Whichever is greater (After 2 minutes application of rated voltage) Note: I=Max.leakage current (μA), C=Nominal capacitance(μF), V=Rated voltage(Vdc) (at 20℃, 120Hz)						
损耗角正切值 tanδ Dissipation Factor	Rated voltage(Vdc)	6.3	10	16	25	35	50
	tanδ (Max.)	0.22	0.19	0.16	0.14	0.12	0.11
标称容量超过1000uF, 则每增加1000uF, 损耗角正切值增加0.02 When nominal capacitance exceeds 1000μF, add 0.02 to the value above for each 1000μF increase. (at 20℃, 120Hz)							
低温特性 Low Temperature	阻抗比值不得超过下表中列出的值 The impedance ratio shall not exceed the values listed in the below table. (at 120Hz)						
	Rated voltage(Vdc)	6.3	10	16	25	35	50
Z(-55℃)/Z(+20℃)							
耐久性 Endurance	在105℃环境中, 不超过额定电压的范围内叠加最大允许纹波电流, 连续加载右表时间, 经恢复到20℃后, 电容器满足以下各项要求。 The following specifications shall be satisfied when the capacitors are restored to 20℃ after applied within maximum allowable ripple current and not over rated voltage range for the time in the table at 105℃.						
	时间 (hrs)	3~10v)Φ5&Φ6.3:4000, Φ8&Φ10:6000, ≥ Φ13:8000		(6.3~50v)Φ5&Φ6.3:6000, Φ8&Φ10:8000, ≥ Φ13:10000			
Shelf Life	Rated Voltage	6.3 ~ 10Vdc (Φ10)		6.3 ~ 10Vdc (Φ12.5~18)		16 ~ 50Vdc	
	Capacitance change	≅ ±30% of the initial value		≅ ±20% of the initial value			
	D.F.(tanδ)	≅ 300% of the initial specified value		≅ 200% of the initial specified value			
	Leakage current	≅ The initial specified value		≅ The initial specified value			
高温储存特性 Shelf Life	在105℃环境中, 不施加电压条件下储存1000小时, 经恢复到20℃后, 电容器满足以下各项要求。 The following specifications shall be satisfied when the capacitors are restored at 20℃ after exposing them for 1000 hours at 105℃ without voltage applied.						
	Rated Voltage	6.3 ~ 10Vdc (Φ10)		6.3 ~ 10Vdc (Φ12.5~18)		16 ~ 50Vdc	
	Capacitance change	≅ ±30% of the initial value		≅ ±20% of the initial value			
	D.F.(tanδ)	≅ 300% of the initial specified value		≅ 200% of the initial specified value			
Leakage current ≅ The initial specified value							

◆ 尺寸图 (单位: mm) DIMENSIONS (Unit:mm)



ΦD	5	6.3	8	10	13	16	18
F	2	2.5	3.5	5.0	5.0	7.5	7.5
Φd	0.5	0.5	0.5	0.6	0.6	0.8	0.8

α	(L < 20) 1.5
	(L ≥ 20) 2.0

◆ 纹波电流修正系数 Rated Ripple Current Coefficient

● 频率系数 Frequency Coefficient

Capacitance(μF)	Frequency(Hz)			
	120	1k	10k	100k
220 ~ 560	0.50	0.85	0.94	1.00
680 ~ 1800	0.60	0.87	0.95	1.00
2,200 ~ 3,900	0.75	0.90	0.95	1.00
4,700 ~ 12,000	0.85	0.95	0.98	1.00

**RN Series**

◆ 标准品一览表 Standard Ratings

WV (Vdc)	Cap (μF)	Case size φD×L (mm)	Impedance (Ω) max 20°C/100kHz	Rated ripple current (mA rms) 105°C/100kHz
6.3	1500	10X12.5	0.063	960
	1,800	10X16	0.049	1,240
	2,700	10X20	0.035	1,550
	3,300	10X25	0.033	1,740
	4,700	13X20	0.029	1,890
	6,800	13X25	0.022	2,350
	6,800	16X20	0.026	2,330
	8,200	18X20	0.025	2,640
10	1,000	10X12.5	0.063	960
	1,500	10X16	0.049	1,240
	2,200	10X20	0.035	1,550
	2,700	10X25	0.033	1,740
	3,300	13X20	0.029	1,890
	4,700	13X25	0.022	2,350
	4,700	16X20	0.026	2,330
	6,800	16X25	0.019	2,760
	6,800	18X20	0.025	2,640
	8,200	18X25	0.018	2,850
16	560	8X20	0.085	810
	680	8X20	0.069	1,050
	820	10X20	0.058	1,220
	1,000	10X20	0.052	1,220
	1,200	10X25	0.045	1,440
	1,500	12.5X20	0.038	1,660
	2,200	12.5X25	0.03	1,950
	2,700	12.5X30	0.025	2,310
	3,300	12.5X35	0.022	2,510
	3,900	12.5X40	0.017	2,870
	4,700	16X30	0.019	3,010
	5,600	16X35	0.017	3,150
6,800	16X40	0.015	3,710	
25	47	5X11	0.58	175
	68	6.3X11	0.36	230
	100	6.3X11	0.35	290
	150	8X11	0.20	405
	220	8X12	0.19	555
	330	8X16	0.12	730
	470	10X16	0.08	1,050
	560	10X20	0.058	1,220
	680	10X20	0.052	1,220
	820	10X25	0.045	1,440
	1,000	12.5X20	0.038	1,660
	1,200	12.5X25	0.034	1,936
	1,500	12.5X25	0.03	1,950
	2,200	12.5X35	0.022	2,510
	2,700	12.5X40	0.017	2,870
	3,300	16X30	0.019	3,010
	3,900	16X35	0.017	3,150
	4,700	16X40	0.015	3,710

WV (Vdc)	Cap (μF)	Case size φD×L (mm)	Impedance (Ω) max 20°C/100kHz	Rated ripple current (mA rms) 105°C/100kHz
35	10	5X11	1.50	100
	22	5X11	0.75	160
	33	5X11	0.58	210
	47	6.3X11	0.49	215
	68	8X11	0.21	350
	100	8X11	0.20	405
	150	8X12	0.13	555
	220	8X16	0.09	730
	330	10X16	0.08	1,050
	470	10X20	0.065	1,220
	560	10X25	0.045	1,440
	680	10X30	0.037	1,690
	820	12.5X25	0.035	1,938
	1,000	12.5X25	0.03	1,950
	1,200	12.5X30	0.025	2,310
	1,500	12.5X35	0.022	2,510
	2,200	16X30	0.019	3,010
	2,700	16X35	0.017	3,150
3,300	16X40	0.015	3,710	
3,900	18X40	0.015	3,800	
50	10	5X11	2.0	105
	22	5X11	1.10	155
	33	6.3X11	0.48	215
	47	6.3X11	0.40	220
	68	8X11	0.35	355
	100	8X12	0.23	485
	150	8X16	0.16	635
	220	10X16	0.088	1,050
	330	10X25	0.073	1,250
	470	12.5X20	0.059	1,480
	560	12.5X25	0.044	1,840
	680	12.5X30	0.039	2,220
	820	12.5X35	0.033	2,290
	1,000	16X25	0.034	2,240
	1,200	16X30	0.028	2,700
	1,500	16X35	0.025	2,800
	2,200	18X35	0.023	3,100
	2,700	18X40	0.02	3,400

※铝电解电容器由于在纹波电流叠加时自我发热、温度上升而老化，中心温度每升温5°C寿命减少一半。要想保持长寿命请在使用过程中降低纹波电流。  
The endurance of capacitors is reduced 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.