

# RM High voltage, Low Impedance, Longest Life

## 高压低阻抗长寿命品

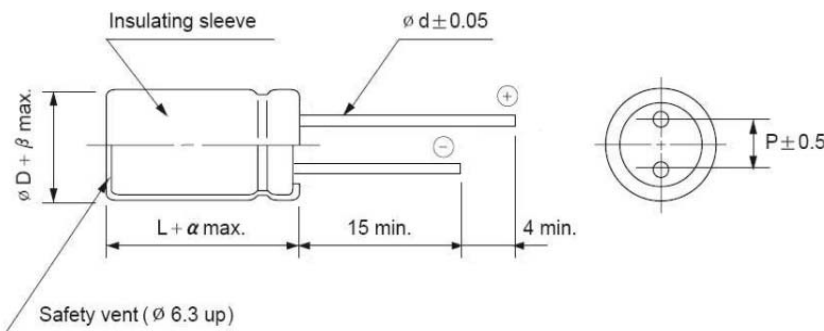
- 105°C, 10000 hours assured.  
105°C, 10000 小时寿命品。
- Low Impedance, High ripple current.  
低阻抗, 高纹波
- Suitable for low profile power supply applications, such as, LCD/LED-TV and LCD-Monitor power etc.  
适用于超薄电源, 如 LCD/LED 电视、显示器等电源



### Specifications 特性表

Items 项目	Characteristics 主要特性																						
Rated Voltage Range 额定工作电压范围	160 ~ 400V <sub>dc</sub>	420 ~ 450V <sub>dc</sub>																					
Category Temperature Range 使用温度范围	-40 ~ +105°C	-25 ~ +105°C																					
Capacitance Tolerance 静电容量允许偏差	±20% (M), at 20°C, 120Hz																						
Leakage Current 漏电流, 20°C环境下施加工作电压 2 分钟后. (at 20°C, After 2 minutes)	CV≤1000, I≤0.03CV+15µA 漏电流≤0.03CV+15µA CV>1000, I≤0.02CV+25µA 漏电流≤0.02CV+25µA Where, I : Max. leakage current (漏电流, µA), C : Nominal capacitance (静电容量, µF), V : Rated voltage (额定电压 V)																						
Dissipation Factor (Tanδ, at 20°C, 120Hz) 损耗角正切值 (测试条件为 20°C, 120Hz)	<table border="1"> <tr> <td>Rated voltage (V) 额定工作电压</td> <td>200</td> <td>250</td> <td>350</td> <td>400</td> <td>420</td> <td>450</td> </tr> <tr> <td>Tanδ (Max.) 最大损耗角正切</td> <td>0.15</td> <td>0.15</td> <td>0.15</td> <td>0.20</td> <td>0.20</td> <td>0.20</td> </tr> </table> When nominal capacitance exceeds 1,000µF, add 0.02 to the value above for each 1,000µF increase. 静电容量大于1000µF, 每增加1000µF, 损耗角正切增加0.02		Rated voltage (V) 额定工作电压	200	250	350	400	420	450	Tanδ (Max.) 最大损耗角正切	0.15	0.15	0.15	0.20	0.20	0.20							
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Low Temperature Characteristics (Max. Impedance Ratio, 120Hz) 低温特性最大阻抗比	<table border="1"> <tr> <td>Rated voltage (V) 额定工作电压</td> <td>200</td> <td>250</td> <td>350</td> <td>400</td> <td>420</td> <td>450</td> </tr> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>3</td> <td>3</td> <td>3</td> <td>5</td> <td>6</td> <td>6</td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>6</td> <td>6</td> <td>6</td> <td>8</td> <td>---</td> <td>---</td> </tr> </table>		Rated voltage (V) 额定工作电压	200	250	350	400	420	450	Z(-25°C)/Z(20°C)	3	3	3	5	6	6	Z(-40°C)/Z(20°C)	6	6	6	8	---	---
Rated voltage (V) 额定工作电压	200	250	350	400	420	450																	
Z(-25°C)/Z(20°C)	3	3	3	5	6	6																	
Z(-40°C)/Z(20°C)	6	6	6	8	---	---																	
Endurance 耐久性	The following specification shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the ripple current is applied for the specified period of time at 105°C. 在 105°C 环境中, 不超过额定电压的范围下叠加额定纹波电流, 连续加载规定时间的额定电压后, 待温度恢复到 20°C 进行测量时, 应满足以下要求。 <table border="1"> <tr> <td>Test Time 测试时间</td> <td>10,000Hrs</td> </tr> <tr> <td>Capacitance Change 静电容量变化率</td> <td>Within ±20% initial value 初始值的±20%以内</td> </tr> <tr> <td>Dissipation Factor 损耗角正切</td> <td>≤200% of specified value 不大于规范值的 200%</td> </tr> <tr> <td>Leakage Current 漏电流</td> <td>≤The initial specified value 不大于规范值</td> </tr> </table>		Test Time 测试时间	10,000Hrs	Capacitance Change 静电容量变化率	Within ±20% initial value 初始值的±20%以内	Dissipation Factor 损耗角正切	≤200% of specified value 不大于规范值的 200%	Leakage Current 漏电流	≤The initial specified value 不大于规范值													
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Leakage Current 漏电流	≤The initial specified value 不大于规范值																						
Shelf Life 高温贮存	The above 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. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of IEC 60384-4. 在 105°C 环境中, 无负荷放置 1,000 小时后待温度恢复到 20°C, 进行试验前处理(IEC 60384-4 4.1 项)后进行测量时, 应满足以下要求。 <table border="1"> <tr> <td>Capacitance Change 静电容量变化率</td> <td>Within ±20% initial value 初始值的±20%以内</td> </tr> <tr> <td>Dissipation Factor 损耗角正切值</td> <td>≤200% of specified value 不大于规范值的 200%</td> </tr> <tr> <td>Leakage Current 漏电流</td> <td>≤The initial specified value 不大于规范值</td> </tr> </table>		Capacitance Change 静电容量变化率	Within ±20% initial value 初始值的±20%以内	Dissipation Factor 损耗角正切值	≤200% of specified value 不大于规范值的 200%	Leakage Current 漏电流	≤The initial specified value 不大于规范值															
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### Drawing(Unit: mm) 外形图



ΦD	6.3	8	10	13	16	18
P	2.5	3.5	5.0		7.5	
Φd	0.5		0.6		0.8	
α	1.0	1.5		2.0		
β	0.5					

### Rated ripple current multipliers(Unit: mm) 额定纹波修正系数

Frequency 频率 (Hz)	60Hz	120Hz	300Hz	1KHz	10KHz	100KHz	
Coefficient 系数	Under 100µF	0.70	1.00	1.15	1.25	1.40	1.55
	1000 up above	0.75	1.00	1.08	1.20	1.35	1.45

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.

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, 每升温 5°C 寿命减少一半。

When long life performance is required in actual use, the rms ripple current has to be reduced.

要想保持长寿命请在使用过程中降低纹波电流。

# RM Series

■ Standard ratings 标准品一览表

V <sub>DC</sub> (v)	Cap. (μF)	φ8		φ10		φ13		φ16		φ18	
		φD x L	R.C	φD x L	R.C	φD x L	R.C	φD x L	R.C	φD x L	R.C
200	6.8	8x11.5	48								
	8.2	8x11.5	60								
	10	8x15	65								
	12	8x15	70	10x12.5	68						
	15	8x20	80	10x12.5	75						
	18	8x20	90	10x16	90						
	22	8x25	110	10x16	100						
	27	8x25	120	10x20	125						
	33	8x30	145	10x20	135						
	39	8x35	170	10x25	165						
	47	8x35	185	10x30	195						
	56	8x40	215	10x30	210	13x20	200				
	68	8x50	260	10x35	250	13x20	220				
	82			10x40	295	13x25	260				
	100			10x45	330	13x30	310.00	16x20	300		
	120			10x50	370	13x35	360	16x25	360	18x20	350
	150					13x40	430.000	16x25	405	18x25	430
	180					13x45	480	16x31.5	480	18x25	470
220					13x50	600	16x35.5	570	18x31.5	570	
270							16x40	650	18x35.5	650	
330							16x45	750	18x40	750	
390							16x50	890	18x45	890	
250	1	8x11.5	22								
	2.2	8x11.5	30								
	3.3	8x11.5	38								
	4.7	8x11.5	45								
	5.6	8x11.5	48	10x12.5	55						
	6.8	8x15	60	10x12.5	62						
	8.2	8x15	63	10x12.5	68						
	10	8x15	70	10x12.5	73						
	12	8x20	90	10x16	90						
	15	8x20	100	10x16	100						
	18	8x25	120	10x16	110						
	22	8x25	135	10x20	135						
	27	8x30	160	10x20	150						
	33	8x35	190	10x25	180	13x20	185				
	39	8x40	220	10x30	220	13x20	210				
	47	8x50	270	10x35	255	13x20	220				
	56			10x40	300	13x25	270	16x20	270		
	68			10x45	340	13x30	320	16x20	300		
82			10x50	400	13x35	380	16x20	330	18x20	350	
100					13x40	450	16x25	410	18x20	390	
120					13x45	520	16x31.5	480	18x25	465	
150					13x50	600	16x35.5	570	18x31.5	570	
180							16x40	660	18x35.5	650	
220							16x45	750	18x40	760	
270							16x50	880	18x45	890	

Note1: Case size φD x L(mm), ripple current (mA, rms) at 105°C, 120Hz. 尺寸 φD x L(mm), 纹波电流於 105°C, 120Hz

Note2: Produce custom product too, which are not found in these tables. 客户定制品不在标准品一览表内

# RM Series

■ Standard ratings 标准品一览表

V <sub>DC</sub> (V)	Cap. (μF)	Φ8		Φ10		Φ13		Φ16		Φ18	
		ΦD x L	R.C	ΦD x L	R.C	ΦD x L	R.C	ΦD x L	R.C	ΦD x L	R.C
400	1	8x11.5	20								
	2.2	8x11.5	28								
	3.3	8x11.5	36								
	4.7	8x15	48								
	5.6	8x15	50								
	6.8	8x20	65								
	8.2	8x20	73								
	10	8x25	95	10x20	95						
	12	8x30	115	10x20	105						
	15	8x35	140	10x25	130						
	18	8x40	160	10x30	160	13x20	150				
	22	8x45	185	10x30	180	13x25	180				
	27	8x50	220	10x35	210	13x25	200				
	33			10x40	240	13x30	240	16x20	230		
	39			10x45	280	13x30	255.00	16x20	245		
	47			10x50	320	13x35	310	16x25	300	18x20	290
	56					13x40	350.000	16x31.5	360	18x25	350
68					13x45	410	16x31.5	385	18x25	380	
82					13x50	470	16x35.5	450	18x31.5	460	
100							16x40	530	18x35.5	530	
120							16x45	610	18x40	610	
150									18x45	720	
420	10	8x25	93	10x20	95						
	12	8x30	110	10x20	105						
	15	8x35	145	10x25	135	13x20	130				
	18	8x40	160	10x30	155	13x20	145				
	22	8x45	190	10x35	190	13x20	170				
	27			10x40	220	13x25	200	16x20	200		
	33			10x45	250	13x30	230	16x20	220		
	39			10x50	285	13x35	270	16x25	260	18x20	255
	47					13x40	320	16x31.5	320	18x25	305
	56					13x45	370	16x31.5	350	18x25	340
	68					13x50	420	16x35.5	400	18x31.5	400
	82							16x40	470	18x35.5	465
100							16x45	545	18x40	545	
120							16x50	625	18x45	625	
450	1	8x11.5	22								
	2.2	8x11.5	32								
	3.3	8x15	43	10x12.5	45						
	4.7	8x20	59	10x12.5	55						
	5.6	8x20	65	10x16	65						
	6.8	8x25	80	10x16	75						
	8.2	8x30	95	10x16	80						
	10	8x35	115	10x20	100						
	12	8x40	130	10x25	120	13x20	120				
	15	8x45	155	10x30	145	13x20	135				
	18	8x50	180	10x35	170	13x20	150				
	22			10x40	200	13x25	185	16x20	185		
	27			10x45	240	13x25	210	16x20	205		
	33			10x50	275	13x30	250	16x25	250	18x20	240
	39					13x35	290	16x25	270	18x20	260
	47					13x40	330	16x31.5	330	18x20	290
	56					13x45	380	16x31.5	355	18x25	340
	68					13x50	440	16x35.5	410	18x31.5	410
82							16x40	480	18x35.5	480	
100							16x45	560	18x40	560	
120							16x50	640	18x45	640	

Note1: Case size ΦD x L(mm), ripple current (mA, rms) at 105°C, 120Hz. 尺寸 ΦD x L(mm), 纹波电流於 105°C, 120Hz

Note2: Produce custom product too, which are not found in these tables. 客户定制产品在标准品一览表内

**Note:** All design and specifications are for reference only and is subject to change without prior notice. If any doubt about safety for your application, Please contact us immediately for technical assistance before purchase.

注: 以上所提供的设计及特性参数仅供参考, 任何修改不作预先通知, 如有使用上任何疑问, 请在采购前与我们联系, 以便提供技术上的协助.