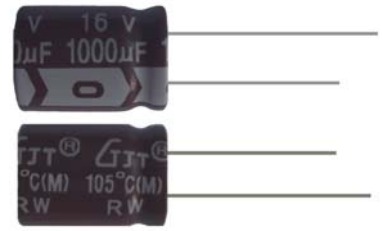


# RW Low Impedance, Long life

## 长寿命高频低阻抗品

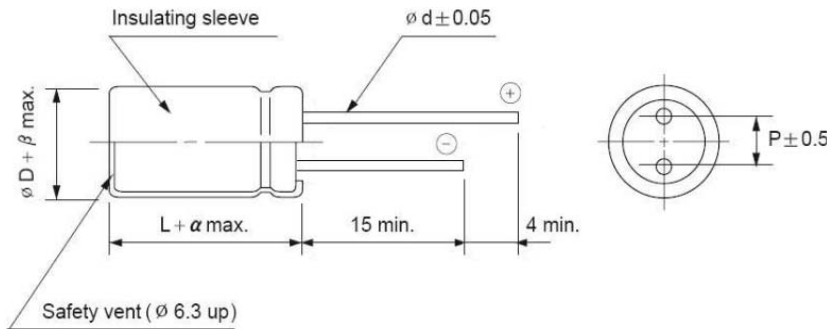
- 105°C, 3000 hours assured.  
105°C, 3000 小时寿命品。
- Low Impedance, High ripple current.  
高频低阻抗, 高纹波
- Suitable for highly reliable switching power supply.  
适用于电源适配器



### Specifications 特性表

Items 项目	Characteristics 主要特性																											
Rated Voltage Range 额定工作电压范围	6.3 ~ 100V <sub>dc</sub>																											
Category Temperature Range 使用温度范围	-40 ~ +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)	I ≤ 0.01CV or 3µA, whichever is greater 漏电流 ≤ 0.01CV or 3µA, 取较大值 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>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> </tr> <tr> <td>Tanδ (Max.) 最大损耗角正切</td> <td>0.20</td> <td>0.18</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.08</td> <td>0.08</td> </tr> </table> <p>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</p>	Rated voltage (V) 额定工作电压	6.3	10	16	25	35	50	63	100	Tanδ (Max.) 最大损耗角正切	0.20	0.18	0.16	0.14	0.12	0.10	0.08	0.08									
Rated voltage (V) 额定工作电压	6.3	10	16	25	35	50	63	100																				
Tanδ (Max.) 最大损耗角正切	0.20	0.18	0.16	0.14	0.12	0.10	0.08	0.08																				
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>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> </tr> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>8</td> <td>6</td> <td>4</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>18</td> <td>16</td> <td>12</td> <td>10</td> <td>8</td> <td>8</td> <td>6</td> <td>6</td> </tr> </table>	Rated voltage (V) 额定工作电压	6.3	10	16	25	35	50	63	100	Z(-25°C)/Z(20°C)	8	6	4	4	3	3	3	3	Z(-40°C)/Z(20°C)	18	16	12	10	8	8	6	6
Rated voltage (V) 额定工作电压	6.3	10	16	25	35	50	63	100																				
Z(-25°C)/Z(20°C)	8	6	4	4	3	3	3	3																				
Z(-40°C)/Z(20°C)	18	16	12	10	8	8	6	6																				
Endurance 耐久性	<p>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。</p> <table border="1"> <tr> <td>Test Time 测试时间</td> <td>3,000Hrs (Φ5~Φ6.3: 2000Hrs)</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	3,000Hrs (Φ5~Φ6.3: 2000Hrs)	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																			
Test Time 测试时间	3,000Hrs (Φ5~Φ6.3: 2000Hrs)																											
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																											
Shelf Life 高温贮存	<p>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。</p> <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																					
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																											

### Drawing(Unit: mm) 外形图



ΦD	5	6.3	8	10	13	16	18
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5
Φd	0.5		0.6		0.8		
α	1.0			1.5			
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 33µF	0.40	0.55	0.72	0.80	0.90
	39 < C ≤ 390	0.60	0.70	0.75	0.90	0.95
	470 up above	0.65	0.80	0.82	0.98	1.00

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。

# RW Series

■ Standard ratings 标准品一览表

WV μF	6.3			10			16			25		
	ΦD x L	Impedance	R.C.	ΦD x L	Impedance	R.C.	ΦD x L	Impedance	R.C.	ΦD x L	Impedance	R.C.
10										5x11	1.6	110
22										5x11	1.4	120
33										5x11	1.1	135
47							5x11	1.0	145	5x11	0.58	190
56							5x11	0.58	190	6.3x11	0.52	200
68							5x11	0.52	200	6.3x11	0.48	205
100	5x11	0.58	190	5x11	0.58	190	5x11	0.48	205	6.3x11	0.22	340
120	5x11	0.55	195	5x11	0.52	200	6.3x11	0.36	270	6.3x11	0.20	360
150	6.3x11	0.43	240	6.3x11	0.36	270	6.3x11	0.32	285	6.3x11	0.17	395
180	6.3x11	0.38	265	6.3x11	0.31	290	6.3x11	0.27	315	8x11.5	0.17	450
220	6.3x11	0.34	280	6.3x11	0.22	345	6.3x11	0.21	360	8x11.5	0.13	510
270	6.3x11	0.31	290	6.3x11	0.20	365	8x11.5	0.19	410	8x11.5	0.17	450
330	6.3x11	0.22	340	8x11.5	0.18	390	8x11.5	0.17	450	8x11.5	0.12	540
470	8x11.5	0.13	510	8x11.5	0.12	540	8x11.5	0.13	510	10x12.5	0.11	630
560	8x11.5	0.11	560	8x11.5	0.11	560	10x12.5	0.12	605	10x12.5	0.10	660
680	8x11.5	0.10	585	8x11.5	0.10	590	10x12.5	0.083	720	10x16	0.058	980
820	10x12.5	0.095	680	10x12.5	0.083	720	10x16	0.068	890	10x16	0.068	890
1000	10x12.5	0.080	740	10x12.5	0.072	780	10x16	0.064	910	10x20	0.046	1210
1200	10x12.5	0.068	800	10x12.5	0.065	820	10x16	0.052	1040	10x20	0.042	1250
1500	10x16	0.059	950	10x16	0.062	860	10x20	0.048	1190	10x20	0.042	1250
1800	10x20	0.048	1190	10x16	0.055	1010	10x20	0.048	1190	10x25	0.041	1420
2200	10x20	0.044	1245	10x20	0.053	1130	10x25	0.041	1420	10x25	0.040	1440
2700	10x25	0.040	1440	10x20	0.046	1220	13x20	0.042	1460	13x20	0.042	1460
3300	13x20	0.037	1500	10x20	0.042	1275	13x20	0.030	1720	13x20	0.042	1460
3900	13x20	0.039	1510	13x20	0.041	1470	13x20	0.030	1720	16x20	0.029	1860
4700	13x25	0.032	1840	13x20	0.038	1530	13x20	0.029	1750	16x20	0.029	1860
5600	13x30	0.030	1890	13x25	0.035	1590	13x25	0.027	2000	16x20	0.024	2000
6800	13x30	0.028	2000	13x25	0.031	1870	16x20	0.029	1880	16x25	0.022	2350
8200	16x25	0.028	2050	13x25	0.029	1930	16x25	0.026	2170	16x25	0.022	2350
10000	16x31.5	0.024	2450	16x20	0.031	1850	16x25	0.024	2245	16x25	0.022	2350
15000	18x25	0.025	2370	16x25	0.028	2080	16x25	0.024	2245	16x25	0.022	2350
	18x35.5	0.024	2540	16x25	0.026	2150	16x31.5	0.023	2510	16x25	0.022	2350
				18x25	0.025	2380	16x31.5	0.023	2510	16x31.5	0.023	2510
				18x31.5	0.024	2710	16x31.5	0.023	2510	16x31.5	0.023	2510
				18x35.5	0.023	3090	18x31.5	0.021	2780	16x35.5	0.022	2710
							18x35.5	0.019	3080	18x35.5	0.024	2450

Note1: Case size ΦD x L(mm), ripple current (mA, rms) at 105°C, 100KHz. 尺寸 ΦD x L(mm), 纹波电流於 105°C, 100KHz

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

# RW Series

■ Standard ratings 标准品一览表

WV μF	35			50			63			100		
	ΦD x L	Impedance	R.C.	ΦD x L	Impedance	R.C.	ΦD x L	Impedance	R.C.	ΦD x L	Impedance	R.C.
1				5x11	2.5	90	5x11	2.5	90	5x11	2.8	85
2.2				5x11	1.8	107	5x11	1.8	107	5x11	2.5	90
3.3				5x11	1.4	120	5x11	1.4	120	5x11	2.2	95
4.7	5x11	2.2	95	5x11	1.3	125	5x11	1.3	125	5x11	2.0	100
5.6	5x11	2.0	102	5x11	1.2	130	5x11	1.2	130	5x11	1.7	110
6.8	5x11	1.8	105	5x11	1.1	135	5x11	1.1	135	6.3x11	1.5	130
10	5x11	1.3	125	5x11	1.0	140	5x11	1.0	140	6.3x11	1.3	145
22	5x11	0.58	190	6.3x11	0.75	165	6.3x11	0.7	195	8x11.5	0.62	235
33	5x11	0.47	210	6.3x11	0.30	295	8x11.5	0.58	215	8x11.5	0.56	250
47	6.3x11	0.22	340	6.3x11	0.27	315	8x11.5	0.35	315	10x12.5	0.42	330
56	6.3x11	0.20	365	8x11.5	0.21	355	8x11.5	0.32	330	10x12.5	0.38	355
68	8x11.5	0.17	390	8x11.5	0.19	375	10x12.5	0.31	340	10x16	0.31	420
100	8x11.5	0.15	420	10x12.5	0.11	560	10x12.5	0.15	540	10x20	0.22	550
120	8x11.5	0.12	530	10x12.5	0.085	710	10x16	0.13	580	10x25	0.20	580
150	8x11.5	0.11	560	10x12.5	0.082	732	10x16	0.11	710	13x20	0.18	690
180	10x12.5	0.090	620	10x16	0.080	740	10x20	0.10	750	13x20	0.15	770
220	10x12.5	0.083	720	10x16	0.072	880	10x20	0.075	950	13x25	0.12	860
270	10x12.5	0.072	780	10x20	0.069	900	13x20	0.069	1000	13x30	0.11	990
330	10x16	0.065	820	10x20	0.063	1050	13x20	0.058	1240	16x25	0.080	1230
470	10x20	0.050	1050	13x20	0.045	1410	13x25	0.049	1350	16x31.5	0.050	1700
560	10x20	0.042	1270	13x20	0.040	1490	13x25	0.043	1590	16x35.5	0.045	1900
680	13x20	0.040	1300	13x25	0.037	1550	13x30	0.041	1760	18x35.5	0.040	2100
820	13x20	0.036	1570	13x30	0.035	1760	16x25	0.039	1780	18x35.5	0.360	2240
1000	13x20	0.034	1620	16x25	0.034	1940	16x31.5	0.037	1800	18x40	0.033	2490
1200	13x25	0.028	1970	16x25	0.031	1970	16x31.5	0.034	2070			
1500	16x25	0.026	2045	16x31.5	0.028	2070	18x31.5	0.032	2258			
1800	16x25	0.023	2350	16x35.5	0.024	2460	18x40	0.031	2340			
2200	16x31.5	0.022	2340	18x31.5	0.023	2510						
2700	16x31.5	0.020	2285	18x35	0.022	2720						
3300	18x31.5	0.019	2910	18x40	0.020	3010						
4700	18x40	0.017	3260									

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