

### VPT Series 片式导电聚合物固体铝电解电容器大容量品

Large capacity . Conductive Polymer . For SMD Type

- 大容量 Large capacity
- 高频低阻抗 Low ESR at high frequency range
- 高纹波 High ripple current capability
- 105℃,2000 小时 105℃,2000 hours assured
- 符合 AEC-Q200 AEC-Q200 Compliant



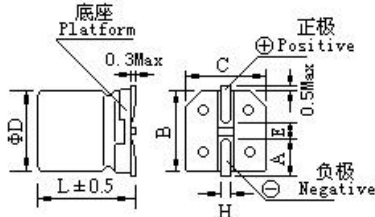
#### ■ 主要技术性能 Specifications

项目 Items	主要特性 Performance Characteristics								
使用温度范围 Operating Temperature Range	-55~+105℃								
额定电压范围 Rated Voltage Range	2.5~25V. DC								
标称电容量允许偏差 Capacitance Tolerance	±20% (120Hz, 20℃)								
漏电流(20℃) Leakage Current	施加额定工作电压 2 分钟, $I \leq 0.2 C_R U_R$ (μA) After 2 minutes' application of rated voltage, the leakage current is not more than $0.2 C_R U_R$								
损耗角正切值(120Hz 20℃) Dissipation Factor	测试频率 120Hz/温度 20℃, 损耗小于规范值 Less than the specified value at 120Hz, 20℃								
等效串联电阻 Equivalent Series Resistance	测试频率 100KHz/温度 20℃, 等效串联电阻小于规范值 Less than the specified value at 100KHz, 20℃								
耐久性 Load Life(105℃, 2000hrs)	<p>在 105℃ 环境施加额定工作电压 2000 小时后, 电容器符合下表要求。 After 2000 hours' application of rated voltage at +105℃, capacitors meet the characteristics requirements listed .</p> <table border="1"> <tr> <td>电容量变化率 Capacitance Change</td> <td>初始值的±20%以内 Within ±20% of the initial value</td> </tr> <tr> <td>漏电流值 Leakage</td> <td>≤规范值 Less than the specified value</td> </tr> <tr> <td>损耗角正切值 Dissipation Factor</td> <td>≤规范值的 150% Less than 150% of the specified value</td> </tr> <tr> <td>等效串联电阻 Equivalent Series Resistance</td> <td>≤规范值的 150% Less than 150% of the specified value</td> </tr> </table>	电容量变化率 Capacitance Change	初始值的±20%以内 Within ±20% of the initial value	漏电流值 Leakage	≤规范值 Less than the specified value	损耗角正切值 Dissipation Factor	≤规范值的 150% Less than 150% of the specified value	等效串联电阻 Equivalent Series Resistance	≤规范值的 150% Less than 150% of the specified value
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耐湿温特性 Damp heat( Steady state) (60℃, 90~95%RH, 1000hrs)	<p>在温度为 60℃、湿度为 90~95%RH 的环境中, 1000 小时后, 电容器的特性符合下表要求。 60℃, 90 to 95%RH, 1000h, No applied voltage capacitors meet the characteristics requirements listed .</p> <table border="1"> <tr> <td>电容量变化率 Capacitance Change</td> <td>初始值的±20%以内 Within ±20% of the initial value</td> </tr> <tr> <td>漏电流值 Leakage</td> <td>≤规范值 Less than the specified value</td> </tr> <tr> <td>损耗角正切值 Dissipation Factor</td> <td>≤规范值的 150% Less than 150% of the specified value</td> </tr> <tr> <td>等效串联电阻 Equivalent Series Resistance</td> <td>≤规范值的 150% Less than 150% of the specified value</td> </tr> </table>	电容量变化率 Capacitance Change	初始值的±20%以内 Within ±20% of the initial value	漏电流值 Leakage	≤规范值 Less than the specified value	损耗角正切值 Dissipation Factor	≤规范值的 150% Less than 150% of the specified value	等效串联电阻 Equivalent Series Resistance	≤规范值的 150% Less than 150% of the specified value
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### VPT Series

#### 外形图及尺寸 Case size table

mm



ϕD	L	A	B	C	H	E±0.2
8	9.0	2.9	8.3	8.3	0.8~1.1	3.1
8	10.2	2.9	8.3	8.3	0.8~1.1	3.1
8	12	2.9	8.3	8.3	0.8~1.1	3.1
10	10.2	3.2	10.3	10.3	0.8~1.1	4.5
10	12.5	3.2	10.3	10.3	0.8~1.1	4.5

#### 编码和规格 Part number & Specifications

额定电压 Rated Voltage (V)	标称容量 Capacitance (μF)	产品编码 Part Number	等效串联电阻 ESR(mΩ max) 100Khz to 300Khz	耐纹波电流 (mA rms/ 105°C, 100Khz)	损耗 Tan δ (120Hz)	漏电流 (max) (μA)	尺寸 ϕD×L (mm)
2.5	470	VPT0E471M0808	20	3300	0.10	235	8×9
	560	VPT0E561M0809	18	3900	0.10	280	8×9
	680	VPT0E681M0809	18	3900	0.10	340	8×9
	820	VPT0E821M0808	20	3300	0.10	410	8×9
	820	VPT0E821M0810	17	4400	0.10	410	8×10.2
	820	VPT0E821M0812	16	4520	0.10	410	8×12
	1000	VPT0E102M0812	16	4520	0.10	500	8×12
	1500	VPT0E152M0810	17	4100	0.10	750	8×10.2
	1500	VPT0E152M1010	13	4700	0.10	750	10×10.2
	1500	VPT0E152M1012	12	5440	0.10	750	10×12.5
	2200	VPT0E222M1012	12	5440	0.10	1100	10×12.5
	2700	VPT0E272M1010	12	4700	0.10	1350	10×10.2
	3300	VPT0E332M1012	10	5500	0.10	1650	10×12.5
4700	VPT0E472M1012	10	5600	0.10	2350	10×12.5	
4	220	VPT0G221M0808	21	3200	0.10	176	8×9
	330	VPT0G331M0808	21	3400	0.10	264	8×9
	470	VPT0G471M0810	17	4200	0.10	376	8×10.2
	560	VPT0G561M0810	13	4520	0.10	448	8×10.2
	680	VPT0G681M0810	17	4400	0.10	544	8×10.2
	820	VPT0G821M0810	17	4400	0.10	656	8×10.2
	1000	VPT0G102M0812	13	4520	0.10	800	8×12
	1200	VPT0G122M0810	17	4000	0.10	960	8×10.2
	1500	VPT0G152M0812	13	4520	0.10	1200	8×12
	1500	VPT0G152M1010	13	4600	0.10	1200	10×10.2
	2200	VPT0G222M1010	13	4600	0.10	1760	10×10.2
	2700	VPT0G272M1012	11	5300	0.10	2160	10×12.5
	3300	VPT0G332M1012	11	5400	0.10	2640	10×12.5

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6.3	150	VPT0J151M0808	22	3200	0.10	189	8 $\times$ 9
	220	VPT0J221M0808	22	3400	0.10	277	8 $\times$ 9
	330	VPT0J331M0808	22	3100	0.10	415	8 $\times$ 9
	470	VPT0J471M0808	22	3100	0.10	592	8 $\times$ 9
	560	VPT0J561M0809	18	4080	0.10	706	8 $\times$ 9
	680	VPT0J681M0809	18	4080	0.10	857	8 $\times$ 9
	820	VPT0J821M0810	12	4700	0.10	1033	8 $\times$ 10.2
	1000	VPT0J102M0810	18	3800	0.10	1260	8 $\times$ 10.2
	1000	VPT0J102M1012	12	4520	0.10	1260	10 $\times$ 12.5
	1200	VPT0J122M1012	12	5440	0.10	1512	10 $\times$ 12.5
	1500	VPT0J152M1012	12	5440	0.10	1890	10 $\times$ 12.5
	1800	VPT0J182M1010	14	4400	0.10	2268	10 $\times$ 10.2
	2200	VPT0J202M1012	12	5000	0.10	2772	10 $\times$ 12.5
2700	VPT0J272M1012	12	5100	0.10	3402	10 $\times$ 12.5	
10	120	VPT1A121M0808	23	3000	0.10	240	8 $\times$ 9
	150	VPT1A151M0808	23	3200	0.10	300	8 $\times$ 9
	220	VPT1A221M0809	18	4080	0.10	440	8 $\times$ 9
	270	VPT1A271M0809	18	4080	0.10	540	8 $\times$ 9
	330	VPT1A331M0808	23	3100	0.10	660	8 $\times$ 9
	330	VPT1A331M0810	20	3700	0.10	660	8 $\times$ 10.2
	470	VPT1A471M0810	20	3700	0.10	940	8 $\times$ 10.2
	560	VPT1A561M0810	20	3600	0.10	1120	8 $\times$ 10.2
	560	VPT1A561M1010	15	4800	0.10	1120	10 $\times$ 10.2
	680	VPT1A681M0812	16	4520	0.10	1360	8 $\times$ 12
	820	VPT1A821M0812	14	4520	0.10	1640	8 $\times$ 12
	820	VPT1A821M1010	15	4300	0.10	1640	10 $\times$ 10.2
	1000	VPT1A102M1012	13	4800	0.10	2000	10 $\times$ 12.5
1500	VPT1A152M1012	13	4900	0.10	3000	10 $\times$ 12.5	
16	100	VPT1C101M0809	18	3400	0.10	320	8 $\times$ 9
	150	VPT1C151M0808	28	2800	0.10	480	8 $\times$ 9
	180	VPT1C181M0808	25	3600	0.10	576	8 $\times$ 9
	220	VPT1C221M0809	18	3500	0.10	704	8 $\times$ 9
	270	VPT1C271M0809	22	3300	0.10	864	8 $\times$ 9
	330	VPT1C331M0812	16	4520	0.10	1056	8 $\times$ 12
	470	VPT1C471M0812	16	4520	0.10	1504	8 $\times$ 12
	560	VPT1C561M0812	14	4950	0.10	1792	8 $\times$ 12
	560	VPT1C561M1012	14	4720	0.10	1792	10 $\times$ 12.5
	680	VPT1C681M1012	14	4100	0.10	2176	10 $\times$ 12.5
	820	VPT1C821M1012	18	4200	0.10	2624	10 $\times$ 12.5
	1000	VPT1C102M1012	14	5400	0.10	3200	10 $\times$ 12.5

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20	39	VPT1D390M0808	45	2000	0.10	156	8 $\times$ 9
	47	VPT1D470M0808	45	2000	0.10	188	8 $\times$ 9
	56	VPT1D560M0810	40	2400	0.10	224	8 $\times$ 10.2
	68	VPT1D680M0810	40	2600	0.10	272	8 $\times$ 10.2
	82	VPT1D820M0810	45	2400	0.10	328	8 $\times$ 10.2
	100	VPT1D101M0812	22	3200	0.10	400	8 $\times$ 12
	120	VPT1D121M1010	35	2800	0.10	480	10 $\times$ 10.2
	150	VPT1D151M1012	20	4320	0.10	600	10 $\times$ 12.5
25	10	VPT1E100M0808	60	1600	0.10	50	8 $\times$ 9
	22	VPT1E220M0810	50	2200	0.10	110	8 $\times$ 10.2
	33	VPT1E330M0812	30	2800	0.10	165	8 $\times$ 12
	47	VPT1E470M0812	30	3000	0.10	235	8 $\times$ 12
	47	VPT1E470M1010	45	2400	0.10	235	10 $\times$ 10.2
	56	VPT1E560M1012	28	3800	0.10	280	10 $\times$ 12.5
	100	VPT1E121M0809	40	2000	0.10	500	8 $\times$ 9
	150	VPT1E151M0812	35	2400	0.10	750	8 $\times$ 12
	220	VPT1E221M1012	30	2400	0.10	1100	8 $\times$ 12
	270	VPT1E271M1012	28	3800	0.10	1350	10 $\times$ 12.5
	330	VPT1E331M1012	28	3800	0.10	1650	10 $\times$ 12.5
	470	VPT1E471M1012	28	3800	0.10	2350	10 $\times$ 12.5

#### ■ 纹波电流频率补偿系数 Frequency coefficient of allowable ripple current

Frequency 频率	120Hz $\leq$ f<1KHz	1KHz $\leq$ f<10KHz	10KHz $\leq$ f<100KHz	100kHz $\leq$ f<500KHz
Coefficient 系数	0.05	0.30	0.70	1.00

#### ■ 纹波电流温度补偿系数

温度 $^{\circ}$ C	+40	+55	+70	+85	+105
系数	2.5	2.1	1.8	1.5	1.00