

DongGuan Lianghua Electronics Co.,Ltd

序号 No	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="font-size: 2em; font-weight: bold;">承</div> <div style="text-align: center; font-size: 0.8em;">目录 INDEX</div> <div style="font-size: 2em; font-weight: bold;">书</div> </div> <div style="text-align: center; font-weight: bold; margin-top: 5px;">APPROVING SHEET</div>	页 page
1	概述SCOPE CUSTOMER 客户: _____ PART NAME : <u>Chip-Aluminum Electrolytic Capacitor</u> 品 名: <u>片式铝电解电容器</u> SERIES: 系 列: <u>VT</u> SPECIFICATION: 规格: <u>全规格</u> DATE 日 期: <u>2020.05.22</u>	3

制 造 MANUFACTURE		客 户 CUSTOMER	
拟 制 FORMULATE	批 准 APPROVAL	检 验 CHECK	批 准 APPROVAL
程泽涛	李洋		

产品规格书Product Specification

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一、 概述 SCOPE

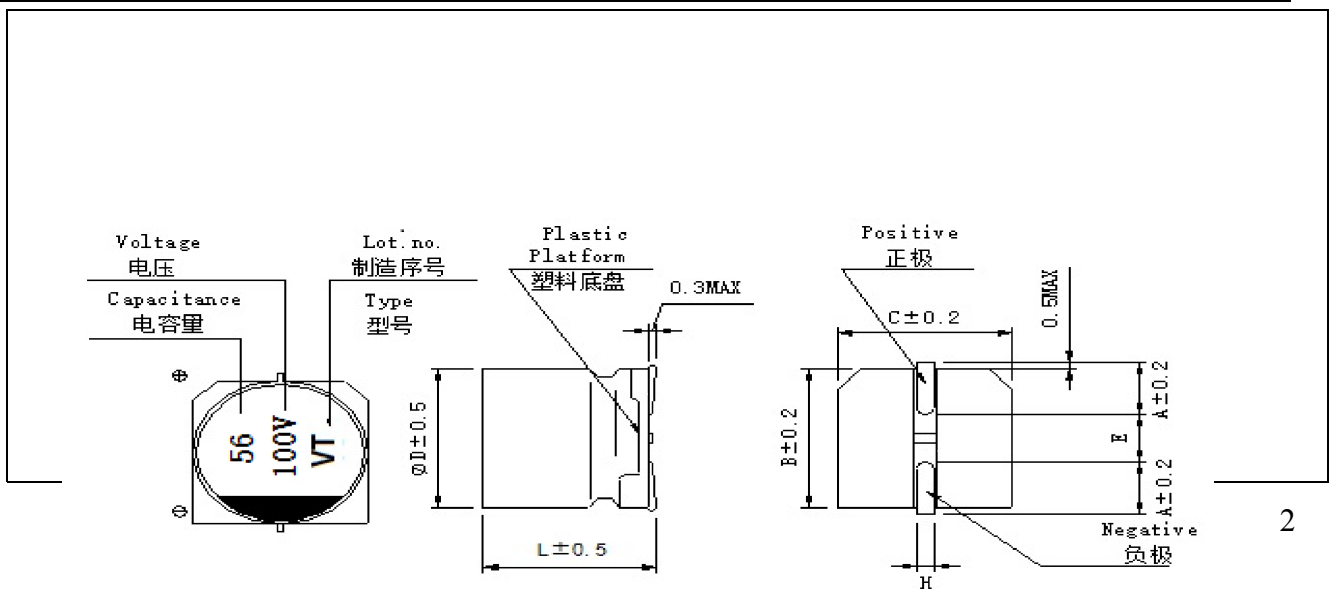
本产品规格书适用于东莞亮华电子科技有限公司VT型片式铝电解电容器产品。

The product specification is adapted to series VT V-CHIP Aluminum Electrolytic Capacitors of Dongguan Lianghua Electronic Co., Ltd .

二、 外形图及尺寸表 Case size table

1.	$\phi 4 \sim \phi 18$
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9	包装数量 Package quantity	13





单位:mm

ITEM	4 × 5.4	5 × 5.4	6.3 × 5.4	6.3 × 7.7	6.3 × 10.5	8 × 6.2	8 × 10.5	8 × 12.5	10 × 10.5	10 × 12.5	12.5 × 13.5	12.5 × 16.5	16 × 16.5	18 × 16.5	18 × 21.5
A	1.8	2.1	2.4	2.4	2.4	3.3	2.9	2.9	3.2	3.2	4.8	4.8	5.8	6.8	6.8
B	4.3	5.3	6.6	6.6	6.6	8.3	8.3	8.3	10.3	10.3	13	13	17	19	19
C	4.3	5.3	6.6	6.6	6.6	8.3	8.3	8.3	10.3	10.3	13	13	17	19	19
E	1.0	1.3	2.2	2.2	2.2	2.2	3.1	3.1	4.5	4.5	4.4	4.4	6.4	6.4	6.4
L	5.4	5.4	5.4	7.7	10.5	6.2	10.5	12.5	10.5	12.5	13.5	16.5	16.5	16.5	21.5
H	0.5~0.8					0.8 ~ 1.1						1.1~1.4			

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三、 技术性能 Specifications

项目 Items	特性 Characteristics
工作温度范围 Operating Temperature Range	-40°C ~ 105°C
额定电压范围 Rated Voltage Range	4V ~ 120V
标称电容量范围 Nominal Capacitance Range	0.1 ~ 8200 μF

标称电容量允许偏差 Nominal Capacitance Tolerance	±20% (20°C, 120HZ)												
漏电流 Leakage Current	4V~120V I=0.01C _R U _R or 3(μA), 取较大者 (施加额定电压2分钟) C _R : 标称电容量 (μF) U _R : 额定电压 (V) I=0.01C _R U _R or 3(μA) Whichever is greater (After 2 minutes application of rated voltage) C _R : Nominal Capacitance (μF) U _R : Rated voltages (V)												
损耗角正切 (tg δ) Dissipation Factor (Max) 20°C, 120HZ	U _R (V)	4	6.3	10	16	25	35	50	63	80	100	120	
	tg δ	0.35	0.28	0.24	0.20	0.16	0.14	0.12	0.12	0.12	0.12	0.12	0.12
	容量大于1000uF者, 每增加1000uF, 其损耗角正切值增加0.02 When nominal capacitance exceeds 1000uF, add 0.02 to the value above for each 1000uF increase												

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四、 称电容量、额定电压、额定纹波电流与外形尺寸对应表

Nominal capacitance, rated voltage, rated ripple current and case size table

V μF	4		6.3		10		16		25		35		50	
	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA
0.1													4×5.4	2.3
0.22													4×5.4	3.4
0.33													4×5.4	4.1
0.47													4×5.4	5
1.0													4×5.4	10
2.2													4×5.4	16
3.3											4×5.4	13	4×5.4	16
4.7									4×5.4	22	4×5.4	22	4×5.4	16
													5×5.4	23
10							4×5.4	28	4×5.4	22	4×5.4	22	5×5.4	25
									5×5.4	28	5×5.4	30	6.3×5.4	32
22			4×5.4	29	4×5.4	28	4×5.4	28	5×5.4	32	5×5.4	45	6.3×5.4	35
									6.3×5.4	55	6.3×5.4	60	6.3×7.7	51
33	4×5.4	31	4×5.4	30	4×5.4	29	4×5.4	32	5×5.4	35	6.3×5.4	60	6.3×7.7	70
			5×5.4	34	5×5.4	34	5×5.4	35	6.3×5.4	65			8×6.2	75
47	4×5.4	31	4×5.4	32	4×5.4	30	5×5.4	45	5×5.4	35	6.3×5.4	65	6.3×7.7	80
			5×5.4	46	5×5.4	45	6.3×5.4	70	6.3×5.4	70	6.3×7.7	80	8×6.2	85
68	4×5.4	35	5×5.4	46	5×5.4	46	6.3×5.4	70	6.3×5.4	70	6.3×7.7	80	6.3×7.7	80
100	5×5.4	55	5×5.4	52	5×5.4	52	6.3×5.4	70	6.3×5.4	70	6.3×7.7	90	8×10.5	230
			6.3×5.4	71	6.3×5.4	69	6.3×7.7	120	6.3×7.7	100	8×6.2	95		

			8×6.2	75					8×6.2	105	8×10.5	296		
150	6.3×5.4	95	6.3×5.4	90	6.3×5.4	70	6.3×7.7	120	8×10.5	280	8×10.5	300	10×10.5	300
220	6.3×5.4	100	6.3×5.4	95	6.3×5.4	95	6.3×7.7	120	6.3×7.7	120	8×10.5	320	10×10.5	375
			6.3×7.7	120	6.3×7.7	120	8×6.2	130	8×10.5	320	10×10.5	435	10×12.5	385
330	6.3×7.7	140	6.3×7.7	130	6.3×7.7	130	8×10.5	305	8×10.5	320	10×10.5	450	10×10.5	400
			8×6.2	140	8×10.5	305			10×10.5	450			12.5×13.5	450
			8×10.5	290									5	450
470	6.3×7.7	150	6.3×7.7	140	6.3×7.7	140	8×10.5	340	8×10.5	330	10×10.5	480	12.5×13.5	490
			8×6.2	155	8×10.5	340	10×7.7	260	10×10.5	490	10×12.5	490		
			8×10.5	330			10×10.5	380						
680	8×10.5	340	6.3×7.7	150	8×10.5	340	10×10.5	450	10×10.5	500	12.5×13.5	600	16×16.5	750
			8×10.5	335	10×10.5	380								
820	8×10.5	340	8×10.5	335	10×10.5	380	10×10.5	450	12.5×13.5	520	12.5×16.5	700	16×16.5	850
1000	8×10.5	350	8×10.5	340	8×10.5	350	10×10.5	550	12.5×13.5	550	16×16.5	800	18×16.5	990
					10×10.5	410								
1200					10×10.5	430			12.5×13.5	600				
1500	10×10.5	500	10×10.5	475	10×10.5	480	12.5×13.5	650	12.5×16.5	650	16×16.5	900		
					12.5×13.5	600								
2200			12.5×13.5	680	12.5×13.5	680	16×16.5	900	16×16.5	900	18×16.5	1050		
3300			12.5×16.5	850	16×16.5	950	16×16.5	950	18×16.5	1150				
4700			16×16.5	1000	16×16.5	1000	18×16.5	1225	18×21.5	1300				
6800			18×16.5	1290	18×16.5	1290								
8200			18×21.5	1450	18×21.5	1450								

I_{\sim} mA=Rated ripple current (mA) (105°C, 120HZ) I_{\sim}
mA=额定纹波电流 (mA) (105°C, 120HZ)

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Nominal capacitance, rated voltage, rated ripple current and case size table

V μF	63		80		100		120	
	D×L mm	I_{\sim} mA	D×L mm	I_{\sim} mA	D×L mm	I_{\sim} mA	D×L mm	I_{\sim} mA
0.1	4×5.4	1.0						
0.22	4×5.4	2.3						
0.33	4×5.4	3.5						
0.47	4×5.4	5.0						
1.0	4×5.4	8			4×5.4	10		
2.2	4×5.4	12			4×5.4	15		
					5×5.4	32		
					6.3×5.4	35		
3.3	4×5.4	20			5×5.4	35		
4.7	5×5.4	25			5×5.4	40		
					6.3×5.4	45		
10	6.3×5.4	42			6.3×5.4	50	6.3×7.7	60
					6.3×7.7	60		
					8×6.2	62		
22	6.3×7.7	50	8×10.5	100	6.3×7.7	65	8×10.5	80
					8×6.2	68		
					8×10.5	80		
33			8×10.5	100	8×10.5	90	10×10.5	110
					10×10.5	110		
47	8×10.5	100	10×10.5	150	8×10.5	100	10×10.5	130
					10×10.5	130		
56					10×10.5	135	12.5×13.5	155
100	10×10.5	150	10×10.5	180	12.5×13.5	220		
120	10×10.5	155	10×10.5	200	12.5×13.5	230		

150	10×10.5	170	12.5×13.5	280	16×16.5	240		
220	10×10.5	205	16×16.5	410	16×16.5	410		
	12.5×13.5	250						
330	12.5×16.5	300	16×16.5	510	18×16.5	520		
470	16×16.5	450	18×16.5	560				
680	18×16.5	600						
1000	18×21.5	800						

I_r mA=Rated ripple current (mA) (105°C, 120HZ) I_r mA =额定纹波电流 (mA) (105°C, 120HZ)

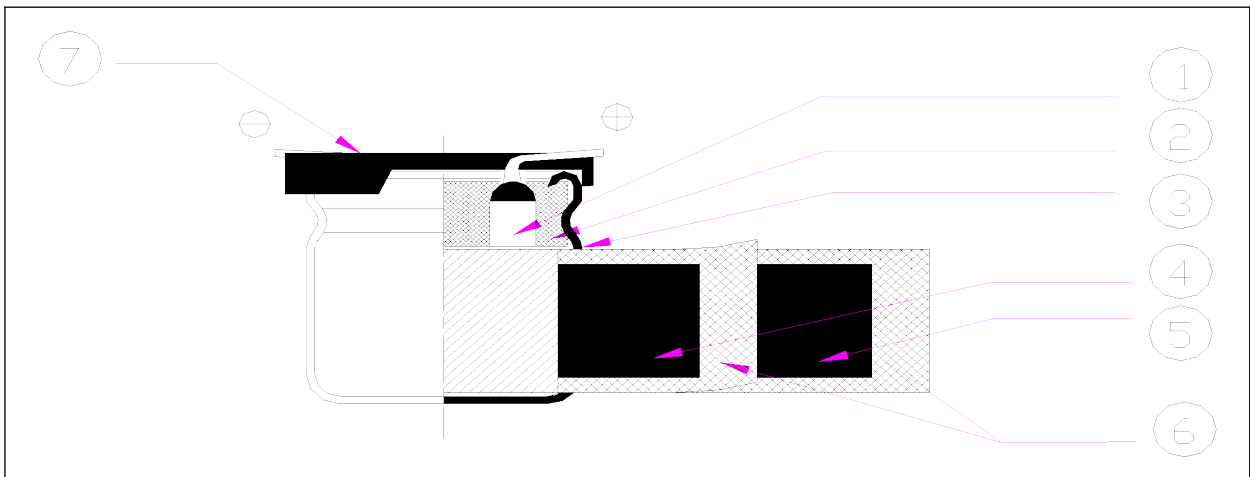
■ 额定纹波电流的频率系数

Frequency coefficient of ripple current

Frequency 频率	50Hz	120Hz	300Hz	1KHZ	10K-100KHz
Coefficient 系数	0.70	1.00	1.17	1.36	1.50

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五、 构造图及材料表 Frame drawing and materials



序号 No.	部件名称 Parts	材料名称 Material	主要供应厂家名称 Main supply Factory
1	引出线	铝线LG3+镀锡铜钢线 AL- wire LG3+Tin- plating of copper cover steel	南通全用电子工业有限公司 NANTONG GENENIC ELECTRONIC INDUSTRY CO., LTD
2	橡胶塞	丁基橡胶 IIR rubber	天台鹏宇橡胶有限公司 Tiantai Pengyu Rubber Co., Ltd 浙江天台祥和实业股份有限贵司

			Zhejiang Tiantai Xianghe Industrial Co., Ltd
3	PE铝壳 PE- CASE	99.5%纯度铝 AL - 99.5%	深圳市协升精密制品有限公司 Shenzhen Xiesheng Precision Products Co., Ltd 杭州临安亿鹏电子科技有限公司 Hangzhou Lin'an Yipeng Electronic Technology Co., Ltd
4	阳极箔AL - foil(+)	99.99%或99.98%形成铝箔 Formed AL 99.98% or 99.98%	东阳光化成箔有限公司 Dongguang Sunshine Foil Co., Ltd. 立敦电子科技有限公司 Lidon Electronic Technology Co., Ltd.
5	阴极箔AL - foil(-)	99.7%铝箔 Etched AL 99.7%	博罗冠业电子有限公司 AFT ELECTRONIC CO. LTD. BOLUO
6	电解纸 Separstor paper	电解电容器纸 Electrolytic Capacitor paper	浙江凯恩特种纸业有限公司 Zhejiang Kane Special Paper CO.,Ltd. 山东鲁南新材料股份有限公司 ShandongLunanNew MaterialCo.,Ltd
7	座板BASE	PPA	鸿信德电子科技有限公司 Hongxinde Electronic Technology Co.Ltd.

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六、 试验方法及要求 Tests

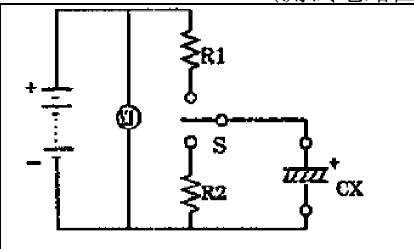
1	系列号(SERIES)	VT系列 (VT SERIES)											
2	额定电压 (rated voltage)	4~120V											
3	工作温度范围 Operating temperature range operating	工作温度范围是指电容器在额定电压下能持续工作的所允许外部环境的温度范围 operating temperature range is the range of ambient temperature at which the capacitor can be operated continuously at rated voltage SPEC:-40~+105℃											
4	电容容量 capacitance	测量等效电路图 measuring circuit equivalent series circuit											
		测量温度20℃					measuring temperature						
		测量频率120HZ					measuring frequency						
		测量电压0.5Vrms					measuring voltage						
5	损耗角正切 tangent of the loss angle	损耗角正切的测量应要和测量电容容量一样的条件下进行 Measurement should be made under the same conditions as those given for the measurement of capacitance SPEC:											
		损耗角正切 (tg δ)	U _R (V)	4	6.3	10	16	25	35	50	63	80	100
		tg δ	0.35	0.28	0.24	0.20	0.16	0.14	0.12	0.12	0.12	0.12	0.12

6	漏电流 leakage current	<p>将额定电压加在电容和$1000 \pm 100 \Omega$的保护电阻上。在充电2分钟后，按下列等式计算漏电流</p> <p>the rated voltage shall be applied across the capacitor and its protective resistor which shall be $1000 \pm 100 \Omega$. The leakage current shall be then measured after an electrifications period of (A)min. The leakage current shall be calculated by the following equation</p> <p>在加上额定电压一定时间后，应满足下列要求：$I=0.01CV$ or $3 \mu A$ Which is greater(取较大者) ($20^\circ C$，2分钟)</p> <p>SPEC: The following specifications shall be satisfied when the rated voltage is applied for the required time.</p>
7	允许最大纹波电流 Maximum permissible ripple current	<p>在规定的某一频率下的最大交流电流，在该电流下电容器连续工作。即使在测过第16项下的耐久性后，此要求仍要满足。在此，DC电压加上最大纹波电压小于等于额定电压。</p> <p>The maximum sinusoidal alternating current of a frequency specified below, at which the capacitor can be operated continuously. This requirement shall be satisfied even after the measurement of clause 16(electrical endurance) Where(DC voltage +peak ripple voltage)\leqrated voltage</p>

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接上表

8	温度特性 (120HZ) Characteristics of temperature (120HZ)	<table border="1" data-bbox="402 1137 1430 1420"> <thead> <tr> <th>步骤step</th> <th>温度temperature</th> <th>持续时间Duration</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>$20 \pm 2^\circ C$</td> <td>15分钟15 min</td> </tr> <tr> <td>2</td> <td>最低工作温度 minimum operating temperature</td> <td>2小时2 hours</td> </tr> <tr> <td>3</td> <td>$20 \pm 2^\circ C$</td> <td>15分钟15 min</td> </tr> <tr> <td>4</td> <td>最高工作温度 maximum operating temperature</td> <td>2小时2 hours</td> </tr> </tbody> </table> <p>步骤1: 测量容量，损耗角正切和阻抗 Step1: Capacitance, tangent of the loss angle impedance shall be measured.</p> <p>步骤2: 在电容器存放2小时后，测量容量，损耗角正切和阻抗 Step2: After the capacitor being stored for 2hours, Capacitance, tangent of the loss angle and impedance shall be measured.</p> <p>步骤3: 电容器在$20 \pm 2^\circ C$下存放15分钟 Step3: The capacitor being stored fro 15min at$20 \pm 2^\circ C$</p> <p>步骤4: 在电容器存放2小时后，测量容量和漏电流。 Step4: After the capacitor being stored for 2hours, capacitance and leakage current shall be measured</p> <table border="1" data-bbox="402 1845 1474 2038"> <thead> <tr> <th>额定电压 rated voltage</th> <th>4</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>80</th> <th>100</th> </tr> </thead> <tbody> <tr> <td>Z(-25°C/Z(+20°C)</td> <td>7</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z(-40°C/Z(+20°C)</td> <td>15</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> <td>3</td> </tr> </tbody> </table>	步骤step	温度temperature	持续时间Duration	1	$20 \pm 2^\circ C$	15分钟15 min	2	最低工作温度 minimum operating temperature	2小时2 hours	3	$20 \pm 2^\circ C$	15分钟15 min	4	最高工作温度 maximum operating temperature	2小时2 hours	额定电压 rated voltage	4	6.3	10	16	25	35	50	63	80	100	Z(-25°C/Z(+20°C)	7	4	3	2	2	2	2	2	2	2	Z(-40°C/Z(+20°C)	15	8	6	4	4	3	3	3	3	3
步骤step	温度temperature	持续时间Duration																																																
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Z(-25°C/Z(+20°C)	7	4	3	2	2	2	2	2	2	2																																								
Z(-40°C/Z(+20°C)	15	8	6	4	4	3	3	3	3	3																																								

9	浪涌测试 Surge test	<p>在规定温度下,循环测试1000次,每次充电30 ± 5秒,在放电大约5分30秒。在标准温度条件下存放使其稳定,然后测试。</p> <p>The capacitor shall be subjected to 1000cycles at a temperature specified below, each consisting of a charge period of 30 ± 5sec, followed by a discharge period of approx. 5min30sec. And the capacitor shall be stored under standard conditions thermal to obtain stability,after which measurements shall be made.</p> <p>measurement circuit(测试电路图)</p>																						
																								
		<table border="1"> <tr> <td>VS:浪涌电压 Surge voltage</td> <td>V1:直流电压 DC voltmeter</td> </tr> <tr> <td>R1:保护电阻 (1KΩ) Protective series resistor</td> <td>R2:放电电阻器 Discharge resistor</td> </tr> <tr> <td>CX:测试电容 Test capacitor</td> <td>S:开关 Switch</td> </tr> </table>	VS:浪涌电压 Surge voltage	V1:直流电压 DC voltmeter	R1:保护电阻 (1KΩ) Protective series resistor	R2:放电电阻器 Discharge resistor	CX:测试电容 Test capacitor	S:开关 Switch																
		VS:浪涌电压 Surge voltage	V1:直流电压 DC voltmeter																					
R1:保护电阻 (1KΩ) Protective series resistor	R2:放电电阻器 Discharge resistor																							
CX:测试电容 Test capacitor	S:开关 Switch																							
<p>SPEC: 1) $\Delta C/C \leq 15\%$ 2) $\text{tg } \delta < \text{规定值}$ 3) 电压</p> <table border="1"> <tr> <td>RATED VOLTAGE (V_{DC})</td> <td>4</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>80</td> <td>100</td> <td>120</td> </tr> <tr> <td>SURGE VOLTAGE (V_{DC})</td> <td>5</td> <td>8</td> <td>10.3</td> <td>20</td> <td>32</td> <td>44</td> <td>63</td> <td>72</td> <td>92</td> <td>115</td> <td>130</td> </tr> </table>	RATED VOLTAGE (V _{DC})	4	6.3	10	16	25	35	50	63	80	100	120	SURGE VOLTAGE (V _{DC})	5	8	10.3	20	32	44	63	72	92	115	130
RATED VOLTAGE (V _{DC})	4	6.3	10	16	25	35	50	63	80	100	120													
SURGE VOLTAGE (V _{DC})	5	8	10.3	20	32	44	63	72	92	115	130													

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10	端子强度 Terminal strength	<p>1) 拉力(tensile)</p> <table border="1"> <tr> <td>d(mm)</td> <td>[N]</td> <td>Duration time</td> </tr> <tr> <td>0.3<d≤0.5</td> <td>5</td> <td rowspan="3">10±2sec(秒)</td> </tr> <tr> <td>0.5<d≤0.8</td> <td>10</td> </tr> <tr> <td>0.8<d≤1.25</td> <td>20</td> </tr> </table> <p>2) 抗弯强度(Bending) 端子应该在每一方向上折弯一次,总共两次 The terminal shall be subjected to 1 bend in each direction to give a total 2 bends.</p> <table border="1"> <tr> <td>d(mm)</td> <td>[N]</td> </tr> <tr> <td>0.3<d≤0.5</td> <td>2.5 (0.25KG)</td> </tr> <tr> <td>0.5<d≤0.8</td> <td>5.0 (0.51KG)</td> </tr> <tr> <td>0.8<d≤1.25</td> <td>10.0(1.0KG)</td> </tr> </table> <p>端子没有破损或松动SPEC: No breaking and loosening of terminal</p>	d(mm)	[N]	Duration time	0.3<d≤0.5	5	10±2sec(秒)	0.5<d≤0.8	10	0.8<d≤1.25	20	d(mm)	[N]	0.3<d≤0.5	2.5 (0.25KG)	0.5<d≤0.8	5.0 (0.51KG)	0.8<d≤1.25	10.0(1.0KG)
		d(mm)	[N]	Duration time																
0.3<d≤0.5	5	10±2sec(秒)																		
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0.8<d≤1.25	20																			
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0.5<d≤0.8	5.0 (0.51KG)																			
0.8<d≤1.25	10.0(1.0KG)																			
11	可焊性 solderability	<p>焊料(Solder) : H60A. H60S or(或)H63A 焊接温度(Solder temperature) : $245 \pm 2^\circ\text{C}$ 浸入时间(Immersion time) : 3 ± 0.5sec(秒) 浸入深度(Immersion depth) : 2mm 熔化: 松香在酒精的浓度是25% Flux: 25% by weight of rosin in ethanol 从含浸处到顶部,至少要有3/4的部分覆盖有新焊料 SPEC:1)3/4 of the circumference of the surface up to the immersed shall be covered with new solder.</p>																		
12	耐焊接热 Resistance to	<p>焊料(Solder) : H60A. H60S or(或)H63A 焊槽温度(Solder temperature) : $260 \pm 5^\circ\text{C}$ (or或$350 \pm 10^\circ\text{C}$)</p>																		

	soldering heat	<p>浸入时间(Immersion time): 10±1sec(秒) (or或3.5±0.5sec)</p> <p>绝热屏蔽板的厚度(Thickness of heat shunt:1.6mm): 1.6mm</p> <p>SPEC:1) 电容量变化Change in capacitance: ±10%初始值以内Within±10% of the initial value</p> <p>2) 损耗角正切tangent of the loss angle: 小于等于初始规定值The initial specified value or less</p> <p>3) 漏电流leakage current: 小于等于初始规定值The initial specified value or less</p>
13	抗振性 Vibration	<p>试验电容器的耐振性。在整个频率范围内, 从10赫兹到55赫兹, 然后再返回到10赫兹, 就这样在一分钟内往返循环。振幅为1.5mm。在三个垂直方向上, 每一方向要持续2小时, 总共6小时</p> <p>Only endurance conditioning by sweeping shall be made. The entire frequency range, from 10HZ to 55HZ and return to 10HZ, shall be transversed in 1min. Amplitude(total excursion)1.5mm, This motion shall be applied for a period of 2hours in each of 3 mutually perpendicular directions(a total of 6 hours)</p> <p>SPEC:1) 电容量的变化(change in capacitance): ±5%初始值以内(within ±5%of the initial value)</p> <p>2) 无可见损伤(No visible damage)</p>

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14	稳态湿热 Damp heat	<p>电容器要在温度40±2℃, 相对湿度90%到95%条件下存放500±8个小时。然后在标准条件下放1到2小时后进行测量。</p> <p>the capacitor shall be stored at a temperature of 40±2℃ and relative humidity of 90 to 95% for 500±8hours. And then the capacitor shall be subjected to standard atmospheric conditions for 1 to 2hours, after which measurements shall be made</p> <p>SPEC:1) 电容量的变化change in capacitance: ±15%初始值以内within ±15%of the initial value;</p> <p>2) 损耗角正切tangent of loss angle: 小于等于初始规定值The initial specified value or less;</p> <p>3) 漏电流leakage current: 小于等于初始规定值The initial specified value or less</p>
15	高温储存 shelf life	<p>在105℃温度下不外加电压贮存, 电容器存放1000小时。然后在标准条件下放1到2小时后进行测量, 并且在测漏电流前, 必须满足下列条件。</p> <p>The capacitor shall be stored at 105 °C without applied voltage for 1000 hours. Then the measurement shall be carried out after 1 to 2 hours under standard conditions, and the following conditions must be met before leakage current measurement.</p> <p>SPEC:1) 电容量的变化change in capacitance: ±20%初始值以内within ±20%of the initial value; (≤16V:±25%初始值以内)(≤16V:within ±25%of the initial value);</p> <p>2) 损耗角正切tangent of loss angle: ±200%初始规定值以内within ±200%of the initial value;</p> <p>3) 漏电流leakage current: 小于等于初始规定值The initial specified value or less</p>
16	耐久性 load life	<p>在105±2℃下, 电容器加额定电压1000小时。在标准条件下放1到2小时后进行测量。</p> <p>The rated voltage shall be applied continuously to the capacitor at maximum operating temperature 105±2℃ for 1000 hours. And then the capacitor shall be subjected to</p>

		<p>standard atmospheric conditions for 1 to 2 hours, after which measurement shall be made.</p> <p>SPEC:1) 电容量的变化change in capacitance: $\pm 20\%$初始值以内within $\pm 20\%$of the initial value; ($\leq 16V$:$\pm 25\%$初始值以内)($\leq 16V$:within $\pm 25\%$of the initial value);</p> <p>2) 损耗角正切tangent of loss angle: $\pm 200\%$初始规定值以内within $\pm 200\%$of the initial value;</p> <p>3) 漏电流leakage current: 小于等于初始规定值The initial specified value or less</p>
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七、标志 Marking (见外形图及尺寸表)

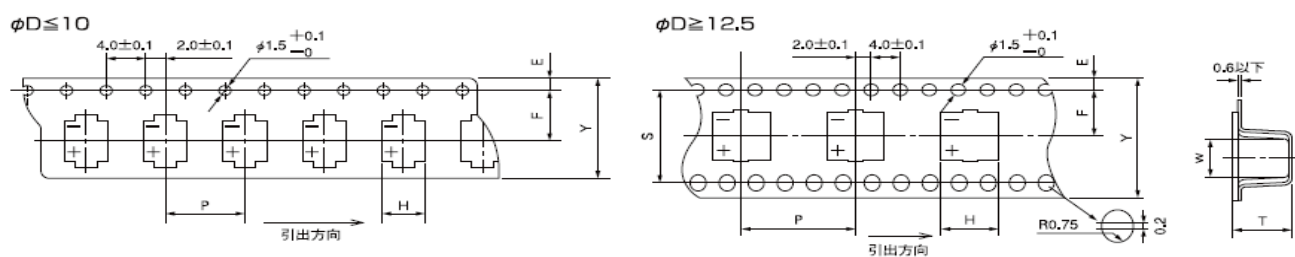
说明：标识中的“VT”是东莞亮华电子科技有限公司VT型贴片产品的专属标识。

Information: The mark of “VT” is the special mark of VT for SMD Type of DongGuan Lianghua Electronics Co.,Ltd.

八、片式铝电解电容的编带

V- Chip Type Aluminum Electrolytic Capacitors

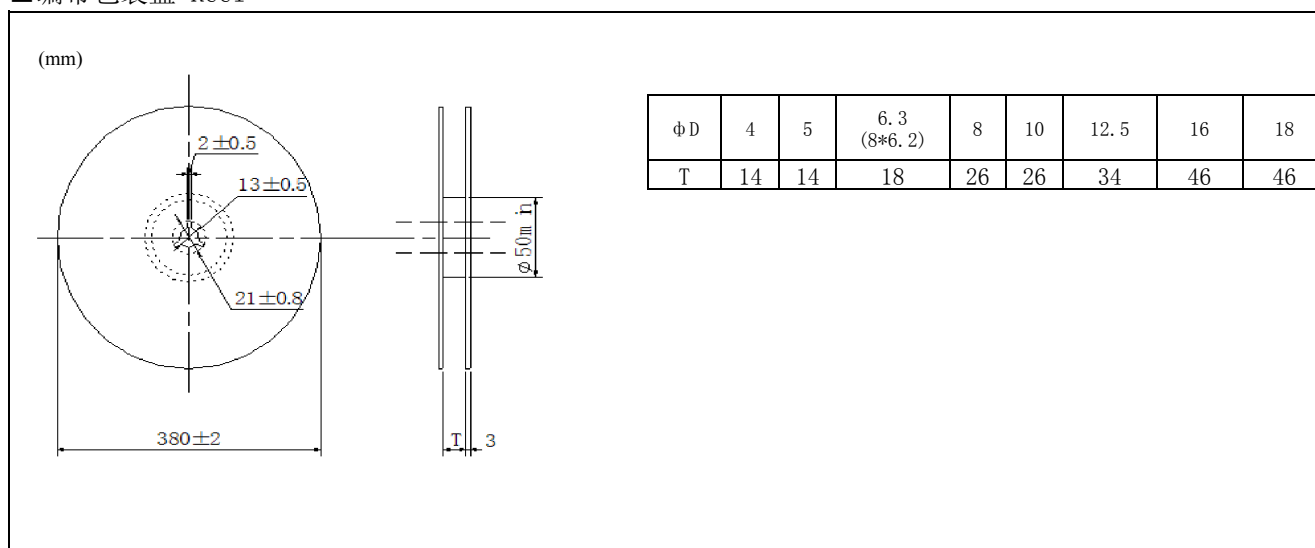
编带 Carrier tape



(mm)

$\Phi D \times L$	4× 5.4	5× 5.4	6.3× 5.4	6.3 × 7.7	6.3 × 10.5	8× 6.2	8× 10.5	8× 12.5	10× 10.5	10× 12.5	12.5 × 13.5	12.5 × 16.5	16× 16.5	18× 16.5	18× 21.5
Y	12.0	12.0	16.0	16.0	16.0	16.0	24.0	24.0	24.0	24.0	32.0	32.0	44.0	44.0	44.0
P	8.0	12.0	12.0	12.0	12.0	12.0	16.0	16.0	16.0	16.0	24.0	24.0	28.0	32.0	32.0
F	5.5	5.5	7.5	7.5	7.5	7.5	11.5	11.5	11.5	11.5	14.2	14.2	20.2	20.2	20.2
H	5.0	6.0	7.0	7.0	7.0	8.7	8.7	8.7	10.7	10.7	13.2	13.2	17.5	19.5	19.5
T	5.8	5.8	5.8	8.0	11.0	7.0	11.0	13.3	11.0	13.3	14.3	17.3	17.3	17.8	22.5

■ 编带包装盘 Reel



■ 包装数量 Package quantity

ΦD×L	Quantity / Reel 数量 / 每盘	pcs/ Small packing box 数量/小包装箱	pcs/Large packing box 数量/大包装箱
4×5.4	2000pcs	24000pcs	48000pcs
5×5.4	1000pcs	12000pcs	24000pcs
6.3×5.4、6.3×7.7、8×6.2	1000pcs	10000pcs	20000pcs
8×10.5、10×7.7、10×10.5	500pcs	3500pcs	7000pcs
6.3×10.5	700pcs	7000pcs	14000pcs
8×12.5	400pcs	2800pcs	5600pcs
10×12.5	400pcs	2800pcs	5600pcs
12.5×13.5	200pcs	1200pcs	2400pcs
12.5×16.5	150pcs	900pcs	1800pcs
16×16.5	125pcs	625pcs	1250pcs
18×16.5	125pcs	625pcs	1250pcs
18×21.5	75pcs	375pcs	750pcs