



VT

铝电解电容器-贴片型

Aluminum electrolytic capacitor- SMD type

特点 Features

- 产品直径 Case diameter: Φ 4mm – Φ 12.5mm.
- 适用于再流焊。Reflow soldering is available.
- 适用于高密度表面组装。Available for high density surface mounting.
- 工作温度范围宽 (-40 ~ +105°C) Operating over wide temperature range.
- RoHS指令已对应完毕。Adapted to the RoHS directive.

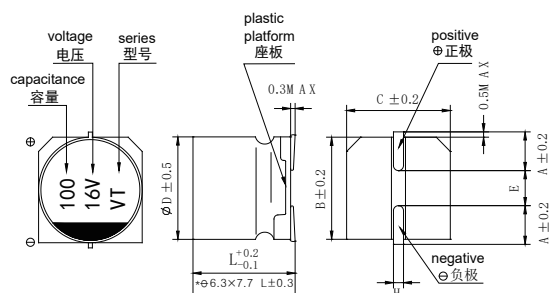


主要技术性能 Specifications

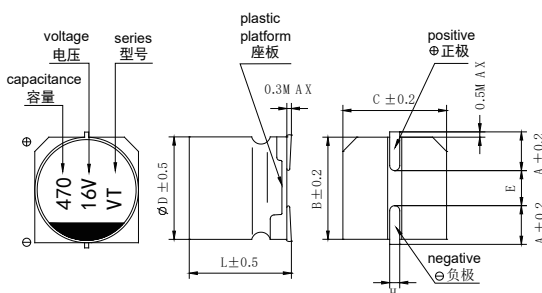
项目 Items	特性 Performance Characteristics									
工作温度范围 Operating Temperature Range	-40~+105℃									
额定电压范围 Rated Voltage Range	6.3~100V									
标称容量范围 Nominal Capacitance Range	0.1~3300μF									
标称容量允许偏差 Capacitance Tolerance	±20% (20℃, 120Hz)									
漏电流 Leakage Current	I≤0.01CRVR or 3(μA), 取较大者 (2分钟) CR: 标称容量 (μF) UR: 额定电压 (V) I≤0.01CRVR or 3(μA) Whichever is greater(at 20℃,After 2 minutes) CR: Nominal Capacitance (μF) UR: Rated voltages (V)									
损耗角正切 (tgδ) Dissipation Factor (Max) 20℃, 120Hz	U _R (V)	6.3	10	16	25	35	50	63	80	100
	tgδ	0.28	0.24	0.20	0.16	0.14	0.12	0.12	0.10	0.10
耐久性 Load Life	+105℃施加额定电压1000小时后, 电容器应满足以下要求: After 1000 hours' application of rated voltage at 105℃, the capacitor shall meet the following requirement:									
	电容量变化率 Capacitance Change			±20%初始值以内 Within ±20% of the initial value						
	损耗角正切 Dissipation Factor			≤ 200%初始规定值 Not more than 200% of the initial specified value						
	漏电流 Leakage Current			≤ 初始规定值 Not more than the initial specified value						
高温贮存 Shelf Life	+105℃贮存1000小时后, 电容器应满足以上耐久性要求 After storage for 1000 hours at +105℃, the capacitors shall meet the requirement of load life above									
低温特性 Low Temperature Stability 阻抗比 Impedance Ratio (120Hz)	U _R (V)	6.3	10	16	25	35	50	63	80	100
	Z(-25℃)/Z(+20℃)	4	3	2	2	2	2	2	2	2
	Z(-40℃)/Z(+20℃)	8	6	4	4	3	3	3	3	3
耐焊接热 Resistance to Soldering Heat	在250℃的条件下, 电容器在热板上保持30秒, 然后从热板上取出电容器, 让其在室温下恢复, 电容器应满足以下要求: The capacitors shall be kept on the hot plate maintained at 250℃ for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the following requirement.									
	电容量变化率 Capacitance Change			±10%初始值以内 Within ±10% of the initial value						
	损耗角正切 Dissipation Factor			≤初始规定值 Not more than the initial specified value						
	漏电流 Leakage Current			≤初始规定值 Not more than the initial specified value						

外形图及尺寸表 Case Size Table

Φ4~Φ6.3



Φ8~Φ12.5



单位 Unit: mm

	4×5.4	5×5.4	6.3×5.4	6.3×7.7	8×6.5	8×10.5	10×10.5	10×12.5	12.5×13.5
A	1.8	2.1	2.4	2.4	2.9	2.9	3.2	3.2	4.7
B	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3	13
C	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3	13
E	1.0	1.3	2.2	2.2	2.3	3.1	4.5	4.5	4.5
L	5.4	5.4	5.4	7.7	6.5	10.5	10.5	12.5	13.5
H	0.5~0.8					0.8~1.1			

标称电容量、额定电压、额定纹波电流与尺寸对应表

Nominal Capacitance, Rated Voltage, Rated Ripple Current and Case Size Table

电压VV (Vdc)	容量Cap (μF)	产品尺寸	纹波电流	电压VV (Vdc)	容量Cap (μF)	产品尺寸	纹波电流	电压VV (Vdc)	容量Cap (μF)	产品尺寸	纹波电流	电压VV (Vdc)	容量Cap (μF)	产品尺寸	纹波电流
6.3	22	4×5.4	29	16	10	4×5.4	28	35	4.7	4×5.4	22	50	0.1	4×5.4	2.3
	33	4×5.4	26		22	5×5.4	39		10	5×5.4	30		0.22	4×5.4	3.4
	47	5×5.4	46		33	5×5.4	35		22	6.3×5.4	60		0.33	4×5.4	4.1
	100	5×5.4	50		47	6.3×5.4	65		33	6.3×5.4	62		0.47	5×5.4	5
	220	6.3×5.4	76		100	6.3×5.4	70		47	6.3×7.7	80		1	4×5.4	10
	330	6.3×7.7	123		220	6.3×7.7	120		68	6.3×7.7	82		2.2	4×5.4	16
	470	8×10.5	330		330	8×10.5	325		100	8×10.5	296		3.3	4×5.4	16
	1000	10×10.5	470		470	8×10.5	340		220	10×10.5	435		4.7	5×5.4	23
	1500	10×10.5	490		680	10×10.5	410		330	10×10.5	450		10	6.3×5.4	32
	2200	10×12.5	520		1000	10×10.5	450		470	12.5×13.5	550		22	6.3×5.4	36
10	3300	12.5×13.5	650	25	1200	10×12.5	460	63	4.7	5×5.4	17	100	33	6.3×7.7	70
	22	4×5.4	21		10	4×5.4	27		10	6.3×5.4	22		47	8×10.5	210
	33	5×5.4	34		22	5×5.4	44		22	6.3×7.7	58		100	8×10.5	230
	47	5×5.4	36		47	6.3×5.4	70		47	8×10.5	170		220	10×10.5	375
	100	6.3×5.4	69		68	6.3×5.4	75		100	10×10.5	310		470	12.5×13.5	570
	220	6.3×7.7	120		100	6.3×7.7	100		220	12.5×13.5	440		10	6.3×7.7	32
	330	8×10.5	305		220	8×10.5	320	80	10	6.3×7.7	38		22	8×10.5	100
	470	8×10.5	380		330	10×10.5	450		22	8×10.5	60		33	10×10.5	150
	680	10×10.5	390		470	10×10.5	490		33	8×10.5	70		47	10×10.5	155
	1000	10×10.5	450		560	10×12.5	510		47	10×10.5	120		100	12.5×13.5	230
	1500	10×12.5	480		680	10×12.5	520		100	12.5×13.5	230				
	2200	12.5×13.5	820		1000	12.5×13.5	650								

I~ = Rated ripple current (mA) (105°C, 120Hz) I~ = 额定纹波电流 (mA) (105°C, 120Hz)

额定纹波电流频率修正系数

Frequency correction factor for ripple current

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

铝电解电容器产品编码体系表

Product symbol system for Aluminum Electrolytic Capacitors

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
① Series		② Voltage		③ Capacitance			④ Tolerance	⑤ Size code				⑥ Terminal Code			⑦ Brand	⑧ Sleeve	⑨ Other	⑩ Supplement Code	

① Series

Serise is represented by a two-letter code. For example “GR” .

② Voltage

Voltage in volts(V) is represented by a one-digit and one-letter code.

Example:

Voltage(V)	2.5	4	6.3	10	16	25	35	50	63	80	100
Code	0E	0G	0J	1A	1C	1E	1V	1H	1J	1K	2A

Voltage(V)	160	200	250	315	350	400	420	450	500	550
Code	2C	2D	2E	2F	2V	2G	2M	2W	2H	2L

③ Capacitance

Capacitance in μF is represented by a three-digit code.the first two digis are significant and the third digit indicates the number of zeros following the significant figure “R” represents the decimal point for capacitance under $10\mu\text{F}$.

Example:

Capacitance(μF)	0.1	0.47	1	4.7	10	47	100	470	1000	4700	10000
Code	0R1	R47	010	4R7	100	470	101	471	102	472	103

④ Tolerance

Tolerance is represented by a one-letter code.

Example:

Tolerance(%)	-5~+5	-10~+10	-15~+15	-20~+20	-0~+20	-5~+20	-10~+20	-0~+30	+10~+30	-10~+30	-15~+20
Code	J	K	Y	M	R	H	V	F	G	Q	E

⑤ Size code

Size code is represented by a one-letter and three-digit code. The first one-letter indicate case diameter in mm .The last three digits indicate case length in mm, When the height of a product exceeds 100mm, if the last digit is 0,it is represented by A, otherwise, it is represented by B .

Example:

ΦD	4	5	6.3	8	10	12	12.5	13	16	18	20	22	25	30	35	40	50	63.5	89
Code	B	C	E	F	G	H	I	J	L	M	O	P	Q	R	S	T	U	W	Y

L	5	5.4	9	10	11	11.5	12	14	16	20	25	50	100	105	110	115	120	200	205
Code	050	054	090	100	110	115	120	140	160	200	250	500	10A	10B	11A	11B	12A	20A	20B

Note:When a case size is required and not shown in the table ,please contact with us for further discussion.

⑥ Terminal Code

Terminal Code is represented by a combination of letters or numbers

SMD Type terminal code

Radial type terminal code

Snap-in Type and ScrewType terminal code

Note:When a terminal code is required and not shown in the table ,please contact with us for further discussion.

⑦ Brand

The CHANG trademark is represented by the letter “C” .

⑧ Sleeve

The sleeve material is represented by the letter E for PET and V for PVC.

⑨ Other

It is represented by a letter or number for rubber shape or other information.

⑩ Supplement Code

For special control purposes.

For example: GR 16V 2200 μF 20% 12.5×25 taping F=5.0 Brand: Chang PVC Sleeve

G	R	1	C	2	2	2	M	I	2	5	0	B	5	0	C	V	0
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