

## VH 型片式铝电解电容

## VH Series Chip Type Aluminum Electrolytic Capacitors

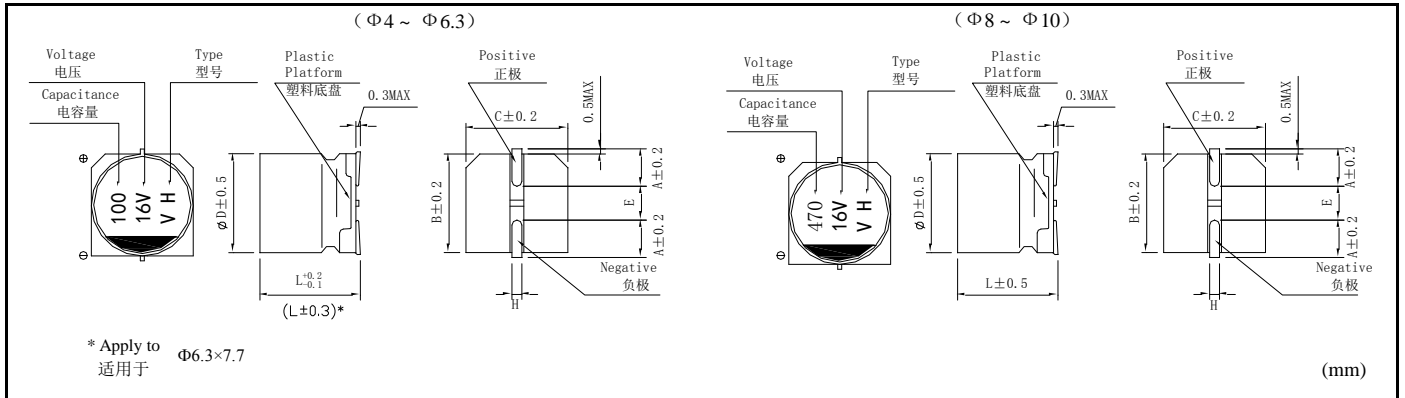
### 特点 Features

- 产品直径 Case diameter: :  $\Phi$  4mm –  $\Phi$  10mm
- 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.
- 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 Characteristics												
工作温度范围 Operating Temperature Range	-55℃ ~+105℃(6.3-100V), -40℃ ~+105℃(160-400V)												
额定电压范围 Rated Voltage Range	6.3V ~ 400V												
标称容量范围 Nominal Capacitance Range	1 ~ 1000 $\mu$ F												
标称容量允许偏差 Nominal Capacitance Tolerance	$\pm$ 20% (20℃, 120Hz)												
漏电流 Leakage Current	6.3to100V						160-400V						
	I $\leq$ 0.01C <sub>R</sub> V <sub>R</sub> or 3( $\mu$ A), 取较大者 (2分钟) C <sub>R</sub> : 标称容量 ( $\mu$ F) U <sub>R</sub> 额定电压 (V) I $\leq$ 0.01C <sub>R</sub> V <sub>R</sub> or 3( $\mu$ A) Whichever is greater(at 20℃, after 2 minutes)						I $\leq$ 0.04 C <sub>R</sub> V <sub>R</sub> +100( $\mu$ A) (20℃, 1分钟) C <sub>R</sub> : 标称容量 ( $\mu$ F) U <sub>R</sub> 额定电压 (V) I $\leq$ 0.04C <sub>R</sub> V <sub>R</sub> +100( $\mu$ A) Whichever is greater(at 20℃, after 1 minutes)						
损耗角正切 (tg $\delta$ ) Dissipation Factor (Max) 20℃, 120Hz	U <sub>R</sub> (V)	6.3	10	16	25	35	50	63	80	100	120-250	350-400	
	tg $\delta$	0.32	0.24	0.20	0.16	0.13	0.12	0.12	0.11	0.10	0.15	0.20	
耐久性 Load Life	+105℃施加额定电压 2000 小时后, 电容器应满足以下要求: After 2000 hours . application of rated voltage at 105℃, the capacitor shall meet the following requirement:												
	容量变化率 Capacitance Change	$\pm$ 30%初始值以内(160-400V 为 $\pm$ 20%) Within $\pm$ 30% of the initial value ( $\pm$ 20% of 160-400V)											
	损耗角正切 Dissipation Factor	$\leq$ 300%初始规定值(160-400V 为 $\leq$ 200%) Not more than 300% of the initial specified value( $\leq$ 200% of 160-400V)											
	漏电流 Leakage Current	$\leq$ 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, 加额定工作电压 30 分钟, 电容器应满足以上耐久性要求 After storage for 1000 hours at +105℃, U <sub>R</sub> to be applied for 30 minutes ,the capacitors shall meet the requirement of load life above												
低温特性 Low Temperature Stability 阻抗比 Impedance Ratio (120Hz)	U <sub>R</sub> (V)	6.3	10	16	25	35	50	63	80	100	160-250	350-400	
	Z(-55℃)/Z(+20℃)	4	4	3	3	3	2	3	4	4	-	-	
	Z(-40℃)/Z(+20℃)	-	-	-	-	-	-	-	-	-	6	10	
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.												
	容量变化率 Capacitance Change	$\pm$ 10%初始值以内 Within $\pm$ 10% of the initial value											
	损耗角正切 (tg $\delta$ ) Dissipation Factor	$\leq$ 初始规定值 Not more than the initial specified value											
	漏电流 Leakage Current	$\leq$ 初始规定值 Not more than the initial specified value											

尺寸图 Dimensions



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

注：160-400 产品 L 值公差为 ±1

■ 标称电容量、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

电压 WV (Vdc)	容量 Ca (μA)	产品尺寸	纹波电流	电压 WV (Vdc)	容量 Ca (μA)	产品尺寸	纹波电流	
6.3	22	4*5.4	22	16	10	4*5.4	18	
	33	4*5.4	26		22	5*5.4	30	
	47	5*5.4	36		33	5*5.4	32	
	100	5*5.4	38		47	6.3*5.4	50	
	220	6.3*5.4	86		100	6.3*5.4	60	
	330	6.3*7.7	105		220	6.3*7.7	100	
	470	8*10.5	340		330	8*10.5	290	
	680	8*10.5	350		470	8*10.5	320	
	1000	10*10.5	495		680	10*10.5	470	
	1500	10*12.5	560		1000	10*12.5	510	
10	2200	10*12.5	580	1200	10*12.5	520		
	10	10	4*5.4	20	25	10	5*5.4	21
		22	5*5.4	27		22	5*5.4	23
		33	5*5.4	35		47	6.3*5.4	38
		47	5*5.4	34		100	6.3*7.7	66
		100	6.3*5.4	60		220	8*10.5	240
		220	6.3*7.7	105		330	10*10.5	410
		330	8*10.5	290		470	10*10.5	450
		470	8*10.5	320		560	10*12.5	500
		680	10*10.5	395		680	10*12.5	510
1000		10*10.5	450					
1500	10*12.5	520						
35	4.7	4*5.4	16	50	1	4*5.4	6.3	
	10	5*5.4	27		2.2	4*5.4	11	
	22	6.3*5.4	44		3.3	4*5.4	14	
	33	6.3*5.4	48		4.7	5*5.4	19	

	47	6.3*7.7	80		10	6.3*5.4	36
	100	8*10.5	230		22	6.3*5.4	32
	220	10*10.5	260		33	6.3*7.7	60
	330	10*10.5	450		47	8*10.5	210
	470	10*12.5	500		100	8*10.5	230
	560	10*12.5	510		220	10*10.5	375
63	10	6.3*5.4	26	80	22	8*10.5	100
	22	6.3*7.7	48		33	10*10.5	100
	33	8*10.5	140		47	10*10.5	150
	47	8*10.5	170		100	10*12.5	180
	100	10*10.5	310				
	150	10*12.5	330				
100	10	6.3*7.7	24	160	10	8*10.5	57
	22	8*10.5	100		15	8*12.5	65
	33	10*10.5	150		22	10*12.5	80
	47	10*12.5	180	200	10	10*10.5	75
	56	10*12.5	180		15	10*12.5	81
					22	10*12.5	83
250	3.3	8*10.5	36	400	2.2	8*10.5	29
	4.7	8*10.5	42		3.3	8*10.5	30
	6.8	8*10.5	64		4.7	8*12.5	40
	8.2	10*10.5	70		5.6	10*12.5	51
	10	10*10.5	72		6.8	10*12.5	52
					8.2	10*12.5	55
					10	10*12.5	60

I<sub>r</sub>=Rated ripple current (mA) (105°C, 120Hz) I<sub>r</sub>=额定纹波电流 (mA) (105°C, 120Hz)

■ Frequency coefficient of ripple current 额定纹波电流的频率系数

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

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