

VL

型片式铝电解电容

VL

Series Chip Type Aluminum Electrolytic Capacitors

特点 Features

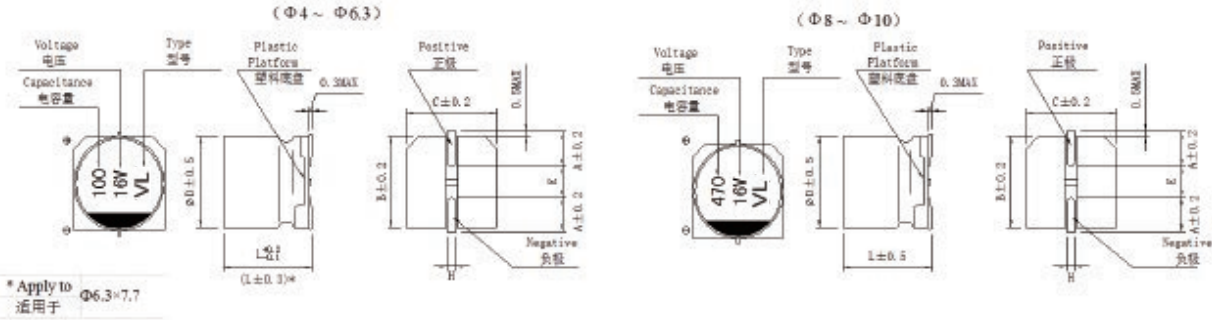
- +105°C3000-5000小时保证品。load life of 3000-5000 hours at +105°C
- 适用于再流焊。Reflow soldering is available.
- 适用于高密度表面组装。available for high density surface mounting.
- ROHS指令 (2002/95/EC) 已对应完毕。Adapted to the ROHS directive (2002/95/EC) 。

主要技术性能 Specifications

项目 Items	特性 Performance Characteristics						
工作温度范围 Operating Temperature Range	-55℃ ~+105℃						
额定电压范围 Rated Voltage Range	6.3V ~ 50V						
标称电容量范围 Nominal Capacitance Range	1 ~ 1000μF						
标称电容量允许偏差 Capacitance Tolerance	±20% (20℃ , 120Hz)						
漏电流 Leakage Current	I≤0.01CRVR or 3(μA), 取较大者 (2分钟) CR : 标称电容量 (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
	tgδ	0.32	0.24	0.20	0.16	0.14	0.12
耐久性 Load Life	+105℃施加额定电压5000小时后 (ΦD=4, 5和6.3为3000小时) , 电容器应满足以下要求 : After 5000 hours (3000 hours for ΦD = 4, 5 and 6.3) . application of rated voltage at 105℃, the capacitor shall meet the following requirement:						
	电容量变化率 Capacitance Change		±30%初始值以内 Within ±30% of the initial value				
	损耗角正切 Dissipation Factor		≤300%初始规定值 Not more than 300% 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, 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℃, UR 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 _R (V)	6.3	10	16	25	35	50
	Z(-25℃)/Z(+20℃)	4	3	2	2	2	2
	Z(-40℃)/Z(+20℃)	10	7	5	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 ±30% 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



(mm)						
	4 × 5.8	5 × 5.8	6.3 × 5.8	6.3 × 7.7	8x10.5	10x10.5
A	1.8	2.1	2.4	2.4	2.9	3.2
B	4.3	5.3	6.6	6.6	8.3	10.3
C	4.3	5.3	6.6	6.6	8.3	10.3
E	1.0	1.3	2.2	2.2	3.1	4.5
L	5.8	5.8	5.8	7.7	10.5	10.5
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

V μF	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
1.0											4×5.8	8
2.2											4×5.8	12
3.3											4×5.8	17
4.7									4×5.8	20	5×5.8	21
10					4×5.8	20	5×5.8	30	5×5.8	30	6.3×5.8	35
22			5×5.8	30	5×5.8	35	6.3×5.8	45	6.3×5.8	50	6.3×7.7	52
33	5×5.8	40	5×5.8	40	6.3×5.8	50	6.3×5.8	50	6.3×7.7	62	8x10.5	80
47	5×5.8	45	6.3×5.8	55	6.3×5.8	60	6.3×7.7	65	8x10.5	100	8x10.5	95
100	6.3×5.8	70	6.3×5.8	75	6.3×7.7	90	8x10.5	140	10x10.5	260	10x10.5	99
220	6.3×7.7	105	8x10.5	170	10x10.5	230	10x10.5	230	10x10.5	230		
330	8x10.5	245	10x10.5	245	10x10.5	240	10x10.5	250				
470	10x10.5	350	10x10.5	350	10x10.5	360						
1000	10x10.5	350										

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

额定纹波电流的频率系数
Frequency Coefficient of Ripple Current

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

VJ

型片式铝电解电容

VJ

Series Chip Type Aluminum Electrolytic Capacitors

特点 Features

- 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 mountin .
- ROHS指令已对应完毕。Adapted to the ROHS directive.

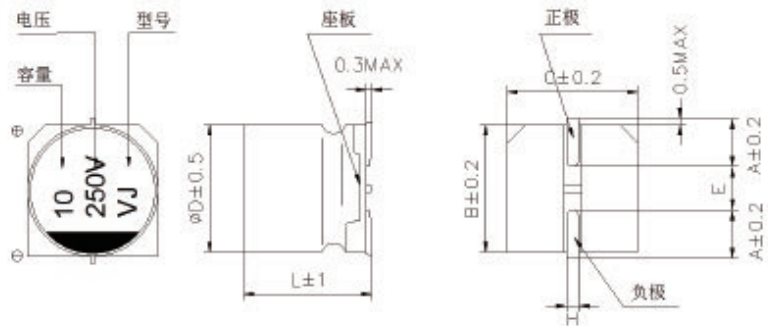


主要技术性能 Specifications

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	160 ~ 400V		
标称电容量范围 Nominal Capacitance Range	1 ~ 22μF		
标称电容量允许偏差 Capacitance Tolerance	±20% (20℃ , 120Hz)		
漏电流 Leakage Current	160~400V		
	I = 0.04 CRVR + 100 (μA) max.(1 min)		
损耗角正切 (tgδ) Dissipation Factor (Max) 20℃, 120Hz	U _R (V)	160~250	350~400
	tgδ	0.15	0.20
耐久性 Load Life	+105℃施加额定电压6000小时后，电容器应满足以下要求： After 6000 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)	160~250	350~400
	Z(-25℃)/Z(+20℃)	3	6
	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.		
	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



(mm)

	Φ8X10.5	Φ8X12.5	Φ10X10.5	Φ10X12.5
A	2.9	2.9	3.2	3.2
B	8.3	8.3	10.3	10.3
C	8.3	8.3	10.3	10.3
E	3.1	3.1	4.5	4.5
L	10.5	12.5	10.5	12.5
H	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

V μF	160		200		250		350		400	
	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
1									8*10.5	42
2.2							8*10.5	44	8*12.5	40
3.3			8*10.5	55	8*10.5	34	8*12.5	43	10*10.5	58
4.7	8*10.5	68	8*10.5	53	8*10.5	34	10*10.5	60	10*10.5	56
5.6	8*10.5	67	8*10.5	51	8*10.5	36	10*10.5	58	10*12.5	72
6.8	8*10.5	65	8*10.5	49	8*12.5	38	10*10.5	56	10*12.5	70
8.2	8*10.5	64	8*12.5	43	10*10.5	50	10*12.5	73	10*12.5	68
10	8*12.5	59	10*10.5	53	10*12.5	72	10*12.5	71	10*12.5	65
15	10*12.5	79	10*12.5	75						
22	10*12.5	72								

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

额定纹波电流的频率系数
Frequency Coefficient of Ripple Current

Frequency 频率	50Hz	120Hz	300Hz	1KHz	≥ 10KHz
Coefficient 系数	0.80	1.00	1.25	1.40	1.60

VZ

型片式铝电解电容

VZ

Series Chip Type Aluminum Electrolytic Capacitors

特点 Features

- 低阻抗。Low impedance.
- 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 (-55℃ ~ +105℃) Operating over wide temperature range.
- ROHS指令对应完毕。Adapted to the ROHS directive.

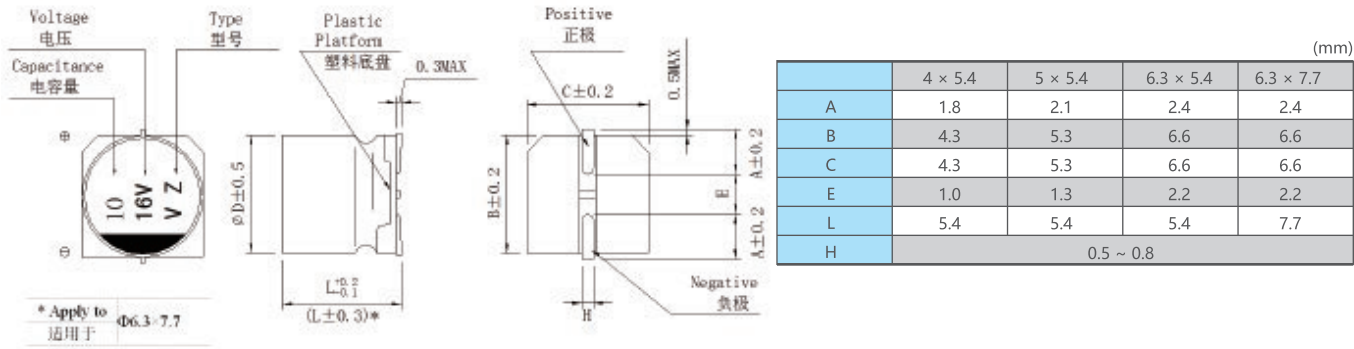


主要技术性能 Specifications

项目 Items	特性 Performance Characteristics					
工作温度范围 Operating Temperature Range	-55℃ ~ +105℃					
额定电压范围 Rated Voltage Range	6.3V ~ 35V					
标称电容容量范围 Nominal Capacitance Range	1 ~ 220μF					
标称电容容量允许偏差 Capacitance Tolerance	±20% (20℃ , 120Hz)					
漏电流 Leakage Current	I≤0.01CRVR or 3(μA), 取较大者 (2分钟) CR : 标称电容容量 (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
	tgδ	0.22	0.19	0.16	0.14	0.12
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
	Z(-25℃)/Z(+20℃)	2	2	2	2	2
	Z(-40℃)/Z(+20℃)	4	4	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 ±30% 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



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

V μF	6.3			10			16			25			35		
	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA
1.0													4×5.4	5.0	50
1.5													4×5.4	5.0	50
2.2													4×5.4	5.0	50
3.3													4×5.4	5.0	50
4.7										4×5.4	5.0	50	4×5.4	5.0	50
6.8										4×5.4	5.0	50	5×5.4	2.6	80
10							4×5.4	5.0	50	5×5.4	2.6	80	5×5.4	2.6	80
15							5×5.4	2.6	80	6.3×5.4	1.3	115	6.3×5.4	1.3	115
22	4×5.4	5.0	50	5×5.4	2.6	80	5×5.4	2.6	80	6.3×5.4	1.3	115	6.3×5.4	1.3	115
33	5×5.4	2.6	80	5×5.4	2.6	80	6.3×5.4	1.3	115	6.3×5.4	1.3	115	6.3×7.7	0.8	150
47	5×5.4	2.6	80	6.3×5.4	1.3	115	6.3×5.4	1.3	115	6.3×7.7	0.8	150	6.3×7.7	0.8	150
68	6.3×5.4	1.3	115	6.3×5.4	1.3	115	6.3×7.7	0.8	150	6.3×7.7	0.8	150			
100	6.3×5.4	1.3	115	6.3×7.7	0.8	150	6.3×7.7	0.8	150						
150	6.3×7.7	0.8	150	6.3×7.7	0.8	150									
220	6.3×7.7	0.8	150												

I~=Rated ripple current (mA) (105℃, 100KHz) I~=额定纹波电流 (mA) (105℃ , 100KHz)
Low impedance (20℃ 100KHz)

额定纹波电流的频率系数
Frequency Coefficient of Ripple Current

Frequency 频率	50Hz	120Hz	300Hz	1KHz	10KHz~100Hz
Coefficient 系数	0.64	0.50	0.64	0.83	1.00

VA

型片式铝电解电容

VA

Series Chip Type Aluminum Electrolytic Capacitors

特点 Features

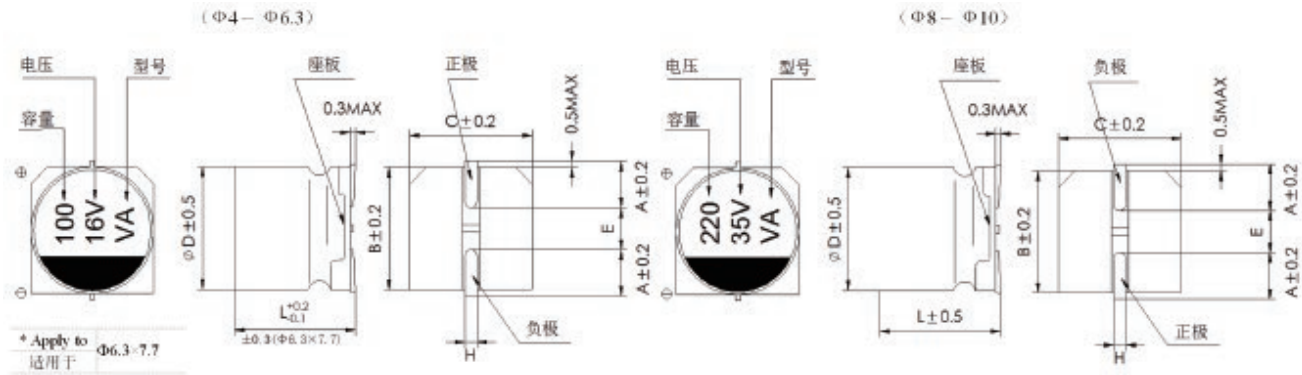
- 低阻抗。Low impedance.
- 适用于再流焊。Reflow soldering is available.
- 适用于高密度表面组装。available for high density surface mounting.
- 工作温度范围宽 (-55℃ ~ +105℃) Operating over wide temperature range.
- ROHS指令 (2002/95/EC) 已对应完毕。Adapted to the ROHS directive (2002/95/EC) 。

主要技术性能 Specifications

项目 Items	特性 Performance Characteristics						
工作温度范围 Operating Temperature Range	-55℃ ~ +105℃						
额定电压范围 Rated Voltage Range	6.3V ~ 50V						
标称电容容量范围 Nominal Capacitance Range	1 ~ 1000μF						
标称电容容量允许偏差 Capacitance Tolerance	±20% (20℃ , 120Hz)						
漏电流 Leakage Current	I≤0.01CRVR or 3(μA), 取较大者 (2分钟) CR : 标称电容量 (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
	tgδ	0.22	0.19	0.16	0.14	0.12	0.12
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:						
	电容量变化率 Capacitance Change		±30%初始值以内 Within ±30% of the initial value				
	损耗角正切 Dissipation Factor		≤ 300%初始规定值 Not more than 300% 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
	Z(-25℃)/Z(+20℃)	2	2	2	2	2	2
	Z(-40℃)/Z(+20℃)	4	4	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



	(mm)						
	4 × 5.4	5 × 5.4	6.3 × 5.4	6.3 × 7.7	8 × 6.5	8 × 10.5	10 × 10.5
A	3.0	2.1	2.4	2.4	2.9	2.9	3.2
B	4.3	5.3	6.6	6.6	8.3	8.3	10.3
C	4.3	5.3	6.6	6.6	8.3	8.3	10.3
E	1.0	1.3	2.2	2.2	2.3	3.1	4.5
L	5.4	5.4	5.4	7.7	6.5	10.5	10.5
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

V μF	6.3			10			16			25			35			50		
	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA
1.0																4×5.4	5.00	30
2.2																4×5.4	5.00	30
3.3																4×5.4	5.00	30
4.7													4×5.4	3.0	60	5×5.4	3.0	50
10										4×5.4	3.00	60	5×5.4	1.8	95	6.3×5.4	2.0	70
22				4×5.4	3.00	60	5×5.4	1.8	95	5×5.4	1.8	95	5×5.4	1.8	95	6.3×5.4	2.0	70
33	5×5.4	1.8	95	5×5.4	1.8	95	6.3×5.4	1.0	140	6.3×5.4	1.0	140	6.3×5.4	1.0	140	6.3×7.7	1.4	120
47	5×5.4	1.8	95	6.3×5.4	1.0	140	6.3×5.4	1.0	140	6.3×5.4	1.0	140	6.3×5.4	1.0	140	6.3×7.7	1.4	120
100	6.3×5.4	1.0	140	6.3×5.4	1.0	140	6.3×5.4	1.0	140	6.3×7.7	0.7	220	8×10.5	0.3	300	8×10.5	0.6	300
220	6.3×5.4	1.0	140	6.3×7.7	0.7	220	6.3×7.7	0.7	220	8×10.5	0.3	450	8×10.5	0.3	450	10×10.5	0.3	500
330	6.3×7.7	0.7	220	8×10.5	0.3	450	8×10.5	0.3	450	8×10.5	0.3	450	10×10.5	0.15	650			
470	8×10.5	0.3	450	8×10.5	0.3	450	8×10.5	0.3	450	10×10.5	0.15	650						
1000	8×10.5	0.3	450	10×10.5	0.15	650												

I~ =Rated ripple current (mA) (105℃, 100kHz) I~ =额定纹波电流 (mA) (105℃ , 100kHz)
20℃ 100 KHz时的电阻 (Ω) MAX

额定纹波电流的频率系数
Frequency Coefficient of Ripple Current

Frequency 频率	50Hz	120Hz	300Hz	1KHz	≥ 10KHz
Coefficient 系数	0.64	0.50	0.64	0.83	1.00

VB

型片式铝电解电容

VB

Series Chip Type Aluminum Electrolytic Capacitors

特点 Features

- 低阻抗。Low impedance.
- 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（-55℃ ~ +105℃）Operating over wide temperature range.
- ROHS指令（2002/95/EC）已对应完毕。Adapted to the ROHS directive（2002/95/EC）。

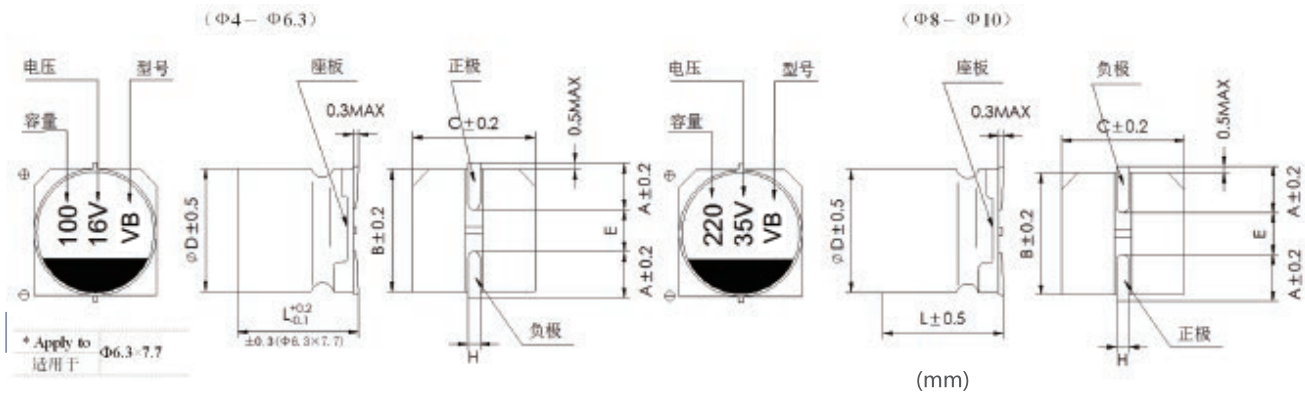


主要技术性能 Specifications

项目 Items	特性 Performance Characteristics						
工作温度范围 Operating Temperature Range	-55℃ ~ +105℃						
额定电压范围 Rated Voltage Range	6.3V ~ 50V						
标称容量范围 Nominal Capacitance Range	1 ~ 1500μF						
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
	tgδ	0.26	0.20	0.16	0.14	0.12	0.12
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:						
	电容量变化率 Capacitance Change		±30%初始值以内 Within ±30% of the initial value				
	损耗角正切 Dissipation Factor		≤ 300%初始规定值 Not more than 300% 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
	Z(-25℃)/Z(+20℃)	3	2	2	2	2	2
	Z(-40℃)/Z(+20℃)	5	4	4	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



	4 × 5.4	5 × 5.4	6.3 × 5.4	6.3 × 7.7	8 × 10.5	10 × 10.5
A	1.8	2.1	2.4	2.4	2.9	3.2
B	4.3	5.3	6.6	6.6	8.3	10.3
C	4.3	5.3	6.6	6.6	8.3	10.3
E	1.0	1.3	2.2	2.2	3.1	4.5
L	5.4	5.4	5.4	7.7	10.5	10.5
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

V μF	6.3			10			16			25			35			50		
	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA
1.0																4×5.4	5.00	30
2.2																4×5.4	5.00	30
3.3																4×5.4	5.00	30
4.7													4×5.4	1.8	80	5×5.4	1.52	85
10										4×5.4	1.80	80	5×5.4	0.76	150	6.3×5.4	0.88	165
22				4×5.4	1.80	80	5×5.4	0.76	150	5×5.4	0.76	150	5×5.4	0.76	150	6.3×5.4	0.88	165
33	5×5.4	0.76	150	5×5.4	0.76	150	6.3×5.4	0.44	230	6.3×5.4	0.44	230	6.3×5.4	0.44	230	6.3×7.7	0.68	185
47	5×5.4	0.76	150	6.3×5.4	0.44	230	6.3×5.4	0.44	230	6.3×5.4	0.44	230	6.3×7.7	0.34	280	6.3×7.7	0.68	185
100	6.3×5.4	0.44	230	6.3×5.4	0.44	230	6.3×5.4	0.44	230	6.3×7.7	0.34	280	8×10.5	0.17	600	8×10.5	0.34	300
220	6.3×5.4	0.44	230	6.3×7.7	0.34	280	6.3×7.7	0.34	280	8×10.5	0.17	600	8×10.5	0.17	600	10×10.5	0.18	670
330	6.3×7.7	0.34	280	8×10.5	0.17	600	8×10.5	0.17	600	8×10.5	0.17	600	10×10.5	0.09	850			
470	8×10.5	0.17	600	8×10.5	0.17	600	8×10.5	0.17	600	10×10.5	0.09	850						
1000	8×10.5	0.17	600	10×10.5	0.09	850												
1500	10×10.5	0.09	850															

I~=Rated ripple current (mA) (105℃, 100kHz) I~=额定纹波电流 (mA) (105℃ , 100kHz)
20℃ 100 KHz时的电阻 (Ω) MAX

额定纹波电流的频率系数
Frequency Coefficient of Ripple Current

Frequency 频率	50Hz	120Hz	300Hz	1KHz	≥ 10KHz
Coefficient 系数	0.35	0.50	0.64	0.83	1.00

VD

型片式铝电解电容

VD

Series Chip Type Aluminum Electrolytic Capacitors

特点 Features

- 低阻抗。Low impedance.
- 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 (-55℃ ~ +105℃) Operating over wide temperature range.
- ROHS指令已对应完毕。Adapted to the ROHS directive.

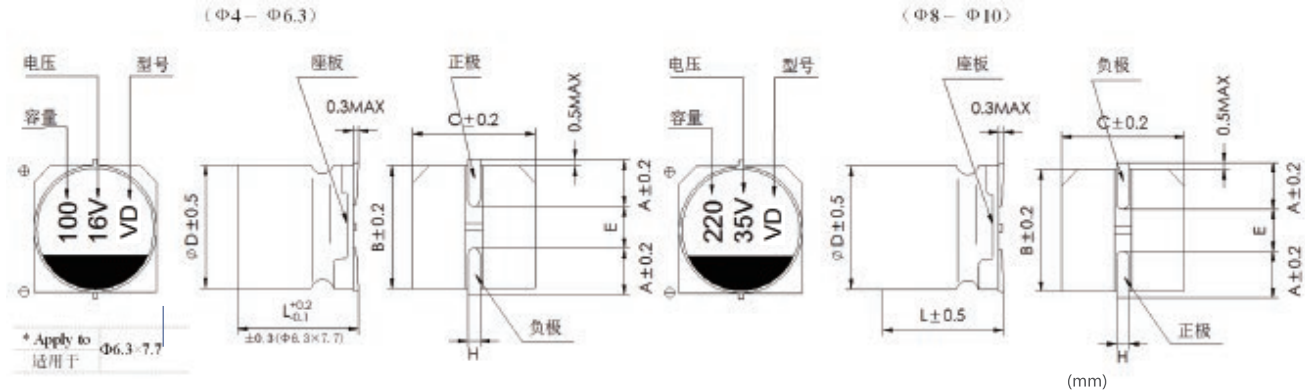


主要技术性能 Specifications

项目 Items	特性 Performance Characteristics								
工作温度范围 Operating Temperature Range	-55℃ ~ +105℃								
额定电压范围 Rated Voltage Range	6.3V ~ 100V								
标称容量范围 Nominal Capacitance Range	4.7 ~ 2200μF								
标称容量允许偏差 Capacitance Tolerance	±20% (20℃ , 120Hz)								
漏电流 Leakage Current	I≤0.01C _R V _R or 3(μA), 取较大者 (2分钟) C _R : 标称容量 (μF) U _R : 额定电压 (V) I≤0.01C _R V _R or 3(μA) Whichever is greater(at 20℃, after 2 minutes) C _R : Nominal Capacitance (μF) U _R : 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	
	tgδ	0.26	0.20	0.16	0.14	0.12	0.12	0.10	
耐久性 Load Life	+105℃施加额定电压5000小时后 (ΦD=4, 5和6.3为2000小时) , 电容器应满足以下要求 : After 5000 hours (2000 hours for φD = 4, 5 and 6.3) . application of rated voltage at 105℃, the capacitor shall meet the following requirement:								
	电容量变化率 Capacitance Change		±30%初始值以内 Within ±30% of the initial value						
	损耗角正切 Dissipation Factor		≤ 300%初始规定值 Not more than 300% 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℃)	3	2	2	2	2	2	2	2 2
	Z(-40℃)/Z(+20℃)	5	4	4	3	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 e						
	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



	4 × 5.8	5 × 5.8	6.3 × 5.8	6.3 × 7.7	8 × 10.5	10 × 10.5	10 × 12.5
A	1.35	2.1	2.4	2.4	2.9	3.2	3.2
B	4.3	5.3	6.6	6.6	8.3	10.3	10.3
C	4.3	5.3	6.6	6.6	8.3	10.3	10.3
E	1.0	1.3	2.2	2.2	3.1	4.5	4.5
L	5.8	5.8	5.8	7.7	10.5	10.5	12.5
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 WV (Vdc)	容量 Cap (μA)	产品尺寸 Size	纹波电流 mArms 100KHz/105℃	阻抗 Impedance (Ω) 100KHz/25℃	电压 WV (Vdc)	容量 Cap (μA)	产品尺寸 Size	纹波电流 mArms 100KHz/105℃	阻抗 Impedance (Ω) 100KHz/25℃
6.3	22	4×5.8	90	1.35	25	10	4×5.8	90	1.35
	47	5×5.8	160	0.70		22	5×5.8	160	0.70
	100	5×5.8	160	0.70		47	6.3×5.8	240	0.36
	220	6.3×5.8	240	0.36		100	6.3×7.7	280	0.28
	330	6.3×7.7	280	0.28		220	8×10.5	650	0.16
	470	8×10.5	650	0.16		330	10×10.5	850	0.09
	680	10×10.5	850	0.085		470	10×10.5	850	0.09
	1000	10×10.5	850	0.085		560	10×12.5	1000	0.075
10	1500	10×12.5	1000	0.075	35	10	5×5.8	160	0.70
	2200	10×12.5	1000	0.075		22	6.3×5.8	240	0.36
	22	4×5.8	90	1.35		47	6.3×7.7	280	0.28
	47	5×5.8	160	0.70		100	8×10.5	650	0.16
	100	6.3×5.8	240	0.36		220	10×10.5	850	0.09
	220	6.3×7.7	280	0.28		470	10×12.5	100	0.075
	330	8×10.5	650	0.16		4.7	4×5.8	60	3.0
	470	8×10.5	650	0.16	50	10	5×5.8	85	1.50
16	680	10×10.5	850	0.09		22	6.3×5.8	165	0.88
	1000	10×10.5	850	0.09		47	6.3×7.7	195	0.68
	1500	10×12.5	1000	0.075		82	8×10.5	350	0.34
	10	4×5.8	90	1.35		100	10×10.5	670	0.18
	22	5×5.8	160	0.70		220	10×12.5	700	0.16
	100	6.3×5.8	240	0.36	63	4.7	5×5.8	50	3.2
	220	6.3×7.7	280	0.28		10	6.3×5.8	80	1.5
	330	8×10.5	650	0.16		22	6.3×7.7	120	1.2
	470	10×10.5	850	0.09		47	8×10.5	250	0.65
	1000	10×12.5	1000	0.075		100	10×10.5	400	0.35
						120	10×12.5	500	0.28

额定纹波电流的频率系数
Frequency Coefficient of Ripple Current

Frequency 频率	50Hz	120Hz	300Hz	1KHz	≥ 10KHz
Coefficient 系数	0.35	0.50	0.64	0.83	1.00

VN

型片式铝电解电容

VN

Series Chip Type Aluminum Electrolytic Capacitors

特点 Features

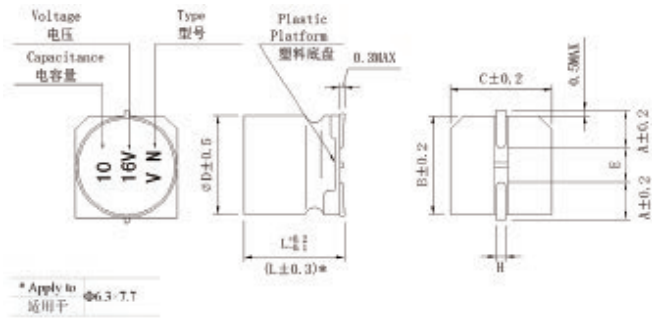
- 双极性。Bi-polar.
- 适用于再流焊。Reflow soldering is available.
- 适用于高密度表面组装。Available for high density surface mounting.
- ROHS指令已对应完毕。Adapted to the ROHS directive.

主要技术性能 Specifications

项目 Items	特性 Performance Characteristics						
工作温度范围 Operating Temperature Range	-40°C ~ +85°C						
额定电压范围 Rated Voltage Range	6.3V ~ 50V						
标称电容量范围 Nominal Capacitance Range	0.1 ~ 100μF						
标称电容量允许偏差 Capacitance Tolerance	±20% (20°C , 120Hz)						
漏电流 Leakage Current	I≤0.05CRVR or 10(μA), 取较大者 (2分钟) CR : 标称电容量 (μF) UR : 额定电压 (V) I≤0.05CRVR or 10(μA) Whichever is greater(at 20°C,after 2 minutes) CR: Nominal Capacitance (μF) UR: Rated voltages (V)						
损耗角正切 (tgδ) Dissipation Factor (Max) 20°C, 120Hz	U _R (V)	6.3	10	16	25	35	50
	tgδ	0.26	0.22	0.20	0.20	0.20	0.18
耐久性 Load Life	+85°C施加额定电压1000小时后，每250小时换向一次，电容器应满足以下要求： After 1000 hours' application of rated voltage at 85°C, with the polarity inverted every 250 hours, 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	+85°C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 +85°C, UR 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 _R (V)	6.3	10	16	25	35	50
	Z(-25°C)/Z(+20°C)	4	3	2	2	2	2
	Z(-40°C)/Z(+20°C)	8	6	4	4	3	3
耐焊接热 Resistance to Soldering Heat	在250°C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°C 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



	(mm)			
	4 × 5.4	5 × 5.4	6.3 × 5.4	6.3 × 7.7
A	1.8	2.1	2.4	2.4
B	4.3	5.3	6.6	6.6
C	4.3	5.3	6.6	6.6
E	1.0	1.3	2.2	2.2
L	5.4	5.4	5.4	7.7
H	0.5 ~ 0.8			

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

V μF	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
0.1											4×5.4	2.3
0.22											4×5.4	3.3
0.33											4×5.4	4.1
0.47											4×5.4	4.9
1.0									4×5.4	10	4×5.4	8.4
2.2							4×5.4	13	5×5.4	17	5×5.4	13
3.3							5×5.4	20	5×5.4	21	5×5.4	17
4.7					4×5.4	14	6.3×5.4	35	6.3×5.4	35	6.3×5.4	20
10			4×5.4	18	5×5.4	26	6.3×7.7	50	6.3×7.7	54	6.3×7.7	36
22	5×5.4	28	6.3×5.4	40	6.3×5.4	45	6.3×7.7	61				
33	6.3×5.4	37	6.3×5.4	50	6.3×5.4	55						
47	6.3×5.4	45	6.3×7.7	61	6.3×7.7	75						
100	6.3×7.7	82										

I~=Rated ripple current (mA) (85℃, 120Hz) I~=额定纹波电流 (mA) (85℃ , 120Hz)

额定纹波电流的频率系数
Frequency Coefficient of Ripple Current

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