

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 Characteristics							
工作温度范围 Operating Temperature Range	$-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$							
额定电压范围 Rated Voltage Range	$6.3\text{V} \sim 50\text{V}$							
标称电容量范围 Nominal Capacitance Range	$0.1 \sim 100\mu\text{F}$							
标称电容量允许偏差 Nominal Capacitance Tolerance	$\pm 20\%$ ($20^{\circ}\text{C}, 120\text{Hz}$)							
漏电流 Leakage Current	$I \leq 0.05C_R U_R$ or $10(\mu\text{A})$, 取较大者 (2分钟) C_R : 标称电容量 (μF) U_R : 额定电压 (V) $I \leq 0.05C_R U_R$ or $10(\mu\text{A})$ Whichever is greater(at 20°C , after 2 minutes) C_R : Nominal Capacitance (μF) U_R : Rated voltages (V)							
损耗角正切 (tgδ) Dissipation Factor (Max) $20^{\circ}\text{C}, 120\text{Hz}$	U_R (V)	6.3	10	16	25	35	50	
	$\text{tg}\delta$	0.26	0.22	0.20	0.20	0.20	0.18	
耐久性 Load Life	$+85^{\circ}\text{C}$ 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		$\pm 20\%$ 初始值以内 Within $\pm 20\%$ of the initial value					
	损耗角正切 Dissipation Factor		$\leq 200\%$ 初始规定值 Not more than 200% of the initial specified value					
	漏电流 Leakage Current		\leq 初始规定值 Not more than the initial specified value					
	$+85^{\circ}\text{C}$ 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 $+85^{\circ}\text{C}$, U_R 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	
	$Z(-25^{\circ}\text{C})/Z(+20^{\circ}\text{C})$	4	3	2	2	2	2	
	$Z(-40^{\circ}\text{C})/Z(+20^{\circ}\text{C})$	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		$\pm 10\%$ 初始值以内 Within $\pm 10\%$ of the initial value					
	损耗角正切 (tgδ) 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

The technical drawing illustrates the physical dimensions of an aluminum electrolytic capacitor. It shows a side view cross-section with various dimensions labeled:
 - Top left: Voltage (电压) 16V, Type (型号) V N, and Capacitance (电容量) 10.
 - Top right: Plastic Platform (塑料底盘) with a height of 0.3MAX.
 - Middle left: Case diameter ØD ± 0.5 and length L ± 0.3*.
 - Middle right: Case width C ± 0.2, height A ± 0.2, and lead spacing E.
 - Bottom center: Lead height H.
 - Bottom left: A note stating * Apply to Ø6.3×7.7 适用于 Ø6.3×7.7.

	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、额定纹波电流与外形尺寸对应表

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										
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	8.4
2.2									4×5.4	10	5×5.4	13
3.3							4×5.4	13	5×5.4	17	5×5.4	17
4.7					4×5.4	14	5×5.4	20	5×5.4	21	6.3×5.4	20
10			4×5.4	18	5×5.4	26	6.3×5.4	35	6.3×5.4	35	6.3×7.7	36
22	5×5.4	28	6.3×5.4	40	6.3×5.4	45	6.3×7.7	50	6.3×7.7	54		
33	6.3×5.4	37	6.3×5.4	50	6.3×5.4	55	6.3×7.7	61				
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°C, 120Hz) I~ = 额定纹波电流 (mA) (85°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	≥ 10KHz
Coefficient 系数	0.70	1.00	1.17	1.36	1.50