

HIGH VOLTAGE, LONG LIFE

高压长寿命品

- Operating with wide temperature range -40~+105°C  
适用于-40~+105°C的宽温范围
- Load life of 5000 hours  
负荷寿命5000小时
- Comply with the RoHS directive  
符合 RoHS 指令



SPECIFICATIONS 特性表

Items 项目	Characteristics 主要特性								
Operation Temperature Range 使用温度范围	-40 ~ +105°C								
Voltage Range 额定工作电压范围	160 ~ 450V								
Capacitance Range 静电容量范围	3.3 ~ 47 μF								
Capacitance Tolerance 静电容量允许偏差	±20% at 120Hz, 20°C								
Leakage Current 漏电流	Leakage current ≤ 0.04CV + 100 μA, whichever is greater (after 5 minutes application of rated voltage) 漏电流 ≤ 0.04CV + 100 μA, 取较大值 (施加额定工作电压 5 分钟后)								
Dissipation Factor (tan δ) 损耗角正切	Measurement frequency 测试频率: 120Hz, Temperature 温度: 20°C								
	<table border="1"> <tr> <td>Rated Voltage (V) 额定工作电压</td> <td>160 ~ 250</td> <td>400, 450</td> </tr> <tr> <td>tan δ (max.) 最大损耗角正切</td> <td>0.15</td> <td>0.20</td> </tr> </table>	Rated Voltage (V) 额定工作电压	160 ~ 250	400, 450	tan δ (max.) 最大损耗角正切	0.15	0.20		
Rated Voltage (V) 额定工作电压	160 ~ 250	400, 450							
tan δ (max.) 最大损耗角正切	0.15	0.20							
Stability at Low Temperature 低温特性	Measurement frequency 测试频率: 120Hz								
	<table border="1"> <tr> <td>Rated Voltage (V) 额定工作电压</td> <td>160 ~ 250</td> <td>400, 450</td> </tr> <tr> <td>Impedance Ratio 阻抗比 Z(-25°C) / Z(20°C)</td> <td>3</td> <td>6</td> </tr> <tr> <td>Z(1Z) / Z(20°C) (max.)</td> <td>6</td> <td>10</td> </tr> </table>	Rated Voltage (V) 额定工作电压	160 ~ 250	400, 450	Impedance Ratio 阻抗比 Z(-25°C) / Z(20°C)	3	6	Z(1Z) / Z(20°C) (max.)	6
Rated Voltage (V) 额定工作电压	160 ~ 250	400, 450							
Impedance Ratio 阻抗比 Z(-25°C) / Z(20°C)	3	6							
Z(1Z) / Z(20°C) (max.)	6	10							
Load Life 高温负荷特性	After 5000 hours application of the rated voltage at 105°C, they meet the characteristics listed below. 在 105°C 环境中施加额定工作电压 5000 小时后, 电容器的特性符合下表的要求。								
	<table border="1"> <tr> <td>Capacitance Change 静电容量变化率</td> <td>Within ±30% of initial value 初始值的 ±30% 以内</td> </tr> <tr> <td>Dissipation Factor 损耗角正切</td> <td>200% or less of initial specified value 不大于规范值的 200%</td> </tr> <tr> <td>Leakage Current 漏电流</td> <td>initial specified value or less 大于规范值</td> </tr> </table>	Capacitance Change 静电容量变化率	Within ±30% of initial value 初始值的 ±30% 以内	Dissipation Factor 损耗角正切	200% or less of initial specified value 不大于规范值的 200%	Leakage Current 漏电流	initial specified value or less 大于规范值		
Capacitance Change 静电容量变化率	Within ±30% of initial value 初始值的 ±30% 以内								
Dissipation Factor 损耗角正切	200% or less of initial specified value 不大于规范值的 200%								
Leakage Current 漏电流	initial specified value or less 大于规范值								
Shelf Life 高温贮存特性	After leaving capacitors under no load at 105°C for 1000 hours, they meet the specified value for load life characteristics listed above. 在 105°C 环境中无负荷放置 1000 小时后, 电容器的特性符合高温负荷特性中所列的规定值。								
Resistance to Soldering Heat 耐焊接热特性	After reflow soldering and restored at room temperature, they meet the characteristics listed below. 经过回流焊并冷却至室温后, 电容器的特性符合下表的要求。								
	<table border="1"> <tr> <td>Capacitance Change 静电容量变化率</td> <td>± Within 10% of initial value 初始值的 ±10% 以内</td> </tr> <tr> <td>Dissipation Factor 损耗角正切</td> <td>initial specified value or less 大于规范值</td> </tr> <tr> <td>Leakage Current 漏电流</td> <td>initial specified value or less 大于规范值</td> </tr> </table>	Capacitance Change 静电容量变化率	± Within 10% of initial value 初始值的 ±10% 以内	Dissipation Factor 损耗角正切	initial specified value or less 大于规范值	Leakage Current 漏电流	initial specified value or less 大于规范值		
Capacitance Change 静电容量变化率	± Within 10% of initial value 初始值的 ±10% 以内								
Dissipation Factor 损耗角正切	initial specified value or less 大于规范值								
Leakage Current 漏电流	initial specified value or less 大于规范值								
Marking 标识	Black print on the case top. 铝壳顶部黑字印刷。								

FVD | Chip Type 贴片式

Diagram of Dimensions 尺寸图



DIMENSIONS (Unit: mm) 尺寸表

DXL	6.3X10.5	8X10.5	10X10.5	10X13.5	12.5X13.5	12.5X16	16X16.5
A	6.6	8.3	10.3	10.3	13.0	13.0	17.0
B	6.6	8.3	10.3	10.3	13.0	13.0	17.0
C	7.2	9.2	11.2	11.2	13.7	13.7	18.0
P±0.2	2.0	3.1	4.4	4.4	4.4	4.4	6.4
L	10.5±0.5	10.5±0.5	10.5±0.5	13.5±0.5	13.5±0.5	16±0.5	16.5±0.5

### □ DRAWING(Unit:mm) 外形图



### □ DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT 规格尺寸及最大允许纹波电流

WV Code 代码	160		200		250		400		450	
	2C		2D		2E		2G		2W	
1	010						6.3 × 10.5	28	8 × 10.5	32
1.5	1R5						6.3 × 10.5	36	8 × 10.5	40
2.2	2R2				6.3 × 10.5	56	6.3 × 10.5	44	10 × 10.5	50
3.3	3R3				6.3 × 10.5	68	8 × 10.5	52	10 × 10.5	72
3.9	3R9				8 × 10.5	82	8 × 10.5	64	10 × 13.5	84
4.7	4R7				8 × 10.5	96	10 × 10.5	84	10 × 13.5	96
5.6	5R6				10 × 10.5	106	10 × 10.5	96	12.5 × 13.5	116
6.8	6R8				10 × 10.5	126	10 × 13.5	114	12.5 × 13.5	128
8.2	8R2				10 × 13.5	135	10 × 13.5	122	16 × 16.5	140
10	100	10 × 10.5	90	10 × 10.5	110	10 × 13.5	145	12.5 × 13.5	136	16 × 16.5
12	120	10 × 10.5	95	10 × 10.5	120	10 × 13.5	150	12.5 × 13.5	156	
15	150	10 × 10.5	106	10 × 13.5	160	12.5 × 13.5	180	12.5 × 16	156	Case size 尺寸
22	220	10 × 13.5	140	12.5 × 13.5	180	12.5 × 13.5	200	16 × 16.5	186	

•Case size  $\varnothing D \times L$ (mm), ripple current (mA rms) at 105°C, 120Hz •尺寸 $\varnothing D \times L$ (mm), 纹波电流(mA rms)于105°C, 120Hz

### □ FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT 纹波电流频率补偿系数

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

- The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 10°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.
- 铝电解电容器由于在纹波电流叠加时自我发热，温度上升而老化，每升温10°C寿命减少一半；要想保持长寿命请在使用过程中降低纹波电流。