



ZS 系列 Series

特点 Features

- 低阻抗，7(9) mm高度，宽工作温度。
Low impedance, with 7(9)mm height, wide operating 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

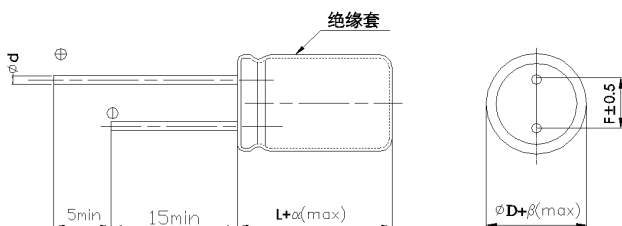
项目 Item	特性 Performance Characteristics																					
使用温度范围 Operating Temperature Range	-40~+105°C																					
额定电压范围 Rated Voltage Range	6.3~50V																					
标称电容量范围 Nominal Capacitance Range	2.2~560μF																					
标称电容量允许偏差 Capacitance Tolerance	±20% (120Hz, +20°C)																					
漏电流 Leakage Current	$I \leq 0.01CV$ or $3(\mu A)$ 2分钟(at 20°C, after 2 minutes) 取较大者 (whichever is greater)																					
损耗角正切值 (tgδ) Dissipation Factor (+20°C, 120Hz)	<table border="1"> <thead> <tr> <th>U_r (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td>tgδ</td> <td>0.18</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.10</td> </tr> </tbody> </table>	U_r (V)	6.3	10	16	25	35	50	tgδ	0.18	0.16	0.14	0.12	0.10	0.10							
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温度特性 Temperature Characteristics (Impedance ratio at 120Hz)	<table border="1"> <thead> <tr> <th>U_r (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td>Z-25°C / Z+20°C</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z-40°C / Z+20°C</td> <td>10</td> <td>8</td> <td>8</td> <td>6</td> <td>5</td> <td>3</td> </tr> </tbody> </table>	U_r (V)	6.3	10	16	25	35	50	Z-25°C / Z+20°C	2	2	2	2	2	2	Z-40°C / Z+20°C	10	8	8	6	5	3
U_r (V)	6.3	10	16	25	35	50																
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耐久性 Load Life	+105°C加额定电压1000小时，恢复16小时后： After applying rated voltage for 1000 hours at +105°C and then resumed for 16 hours: 电容量变化率 Capacitance change : ±25%初始测量值以内 ±25% of the initial measured value 漏电流 Leakage current : ≤初始规定值 ≤the initial specified value 损耗角正切值 Dissipation factor : ≤2倍初始规定值 ≤2times of the initial specified value																					
高温贮存 Shelf Life	+105°C，1000小时贮存后，恢复16小时后： After storage for 1000 hours at +105°C and then resumed for 16 hours: 电容量变化率 Capacitance change : ±25%初始测量值以内 ±25% of the initial measured value 漏电流 Leakage current : ≤2倍初始规定值 ≤2times of the initial specified value 损耗角正切值 Dissipation factor : ≤2倍初始规定值 ≤2times of the initial specified value																					

频率修正系数 Frequency Coefficient

F(Hz)	120	1K	10K	100K
~180	0.4	0.75	0.90	1
220~560	0.5	0.85	0.94	1

外形图及尺寸表 Case Size Table

单位 Unit: mm



D	4	5	6.3	8
F	1.5	2.0	2.5	3.5
d	0.45		0.5	
α(max)	L < 9, α=1; L=9, α=1.5			
β(max)	0.5			

尺寸 Dimensions

CAP(μF)		WV	6.3V(0J)			10V(1A)			16V(1C)		
			Size	ESR	Ripple	Size	ESR	Ripple	Size	ESR	Ripple
15	150							4×7	3.3	70	
22	220				4×7	3.3	70	5×7	1.7	120	
33	330		5×7	1.7	120	5×7	1.7	120	6.3×7	0.8	220
47	470		5×7	1.7	120	5×7	0.8	165	6.3×7	0.8	220
68	680		6.3×7	0.8	210	6.3×7	0.8	210	6.3×7	0.5	220
100	101		6.3×7	0.8	220	6.3×7	0.5	220	6.3×7	0.5	235
									8×7	0.5	345
150	151		6.3×7	0.5	220	6.3×7	0.5	220	6.3×7	0.5	235
220	221		8×7	0.5	345	6.3×7	0.5	240	8×7	0.45	360
						8×7	0.5	345	6.3×7	0.45	260
330	331		8×7	0.4	360	8×7	0.4	360	8×9	0.38	380
470	471		8×7	0.4	380	8×7	0.35	380	8×9	0.35	420
560	561		8×9	0.35	380	8×9	0.30	380			

CAP(μF)		WV	25V(1E)			35V(1V)			50V(1H)		
			Size	ESR	Ripple	Size	ESR	Ripple	Size	ESR	Ripple
2.2	2R2							5×7	1.0	120	
6.8	6R8				4×7	3.3	70				
10	100		4×7	3.3	70	4×7	1.8	70	5×7	1.0	120
			5×7	2.8	90	5×7	1.7	120			
15	150		5×7	1.7	120	6.3×7	0.8	220	6.3×7	0.8	220
22	220		5×7	1.7	120	6.3×7	0.8	220	6.3×7	0.75	220
33	330		6.3×7	0.8	210	6.3×7	0.5	220	8×7	0.70	320
47	470		6.3×7	0.5	220	6.3×7	0.48	220	8×7	0.68	345
68	680		6.3×7	0.5	220	8×7	0.45	310	8×7	0.65	345
100	101		6.3×7	0.5	300	8×7	0.40	345			
150	151		8×7	0.38	360						
220	221		8×9	0.40	380						

Size φD×L(mm)

Maximum Allowable Ripple Current (mA rms) at 105°C 100KHz

Maximum ESR (Ω) at 20°C 100KHz