

# SZE series

## Features

- ◆ Operating temperature range -55 to +105 °C
- ◆ 105 °C, 1000 hours assured
- ◆ For detail specifications, please refer to Engineering Bulletin No.E121
- ◆ RoHS Compliant



## Specifications

Item	Performance Characteristics																		
Operating Temperature Range	-55~+105°C																		
Rate Voltage Range	6.3~35 with rate working voltage applied																		
Capacitance Range	6.8~330μF																		
Capacitance Tolerance	±20% (120Hz, +20°C)																		
Leakage current (+20°C, max.)	I ≤ 0.01CV 或 3 (μA) After 2 minutes, whichever is greater measured																		
Dissipation factor (tgδ)	<table border="1"> <thead> <tr> <th>Rated Voltage(VDC)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> </tr> </thead> <tbody> <tr> <td>D.F.(%)max</td> <td>18</td> <td>16</td> <td>14</td> <td>12</td> <td>12</td> </tr> </tbody> </table> <p>For capacitance &gt; 1000μF, Add 2% per another 1000μF (120Hz, +20°C)</p>	Rated Voltage(VDC)	6.3	10	16	25	35	D.F.(%)max	18	16	14	12	12						
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Low Temperature Characteristics (120Hz)	<p>Impedance ratio max.</p> <table border="1"> <thead> <tr> <th>Rated Voltage(VDC)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> </tr> </thead> <tbody> <tr> <td>Z-25°C / Z+20°C</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z-55°C / Z+20°C</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> </tr> </tbody> </table> <p>For capacitance &gt; 1000μF, Add 0.5 per another 1000μF For Z-25°C / Z+20°C Add 1.0 per another 1000μF For Z-55°C / Z+20°C</p>	Rated Voltage(VDC)	6.3	10	16	25	35	Z-25°C / Z+20°C	4	3	2	2	2	Z-55°C / Z+20°C	6	4	3	3	3
Rated Voltage(VDC)	6.3	10	16	25	35														
Z-25°C / Z+20°C	4	3	2	2	2														
Z-55°C / Z+20°C	6	4	3	3	3														
Load Life	<p>Test conditions</p> <p>Duration time : 1000Hrs</p> <p>Ambient temperature : +105°C</p> <p>Applied voltage : Rated DC working voltage</p> <p>After test requirements : Resumed 16 hours at normal temperature</p> <p>Capacitance change : ≤ ±20% of the initial measured value</p> <p>Dissipation factor : ≤ 200% of the initial specified value</p> <p>Leakage current : ≤ The initial specified value</p>																		
Shelf Life	<p>Test conditions</p> <p>Duration time : 1000Hrs</p> <p>Ambient temperature : +105°C</p> <p>Applied voltage : None</p> <p>After test requirement at +20°C: Same limits as Load life.</p> <p>Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes.</p>																		

### Multiplier for Ripple Current vs. Frequency

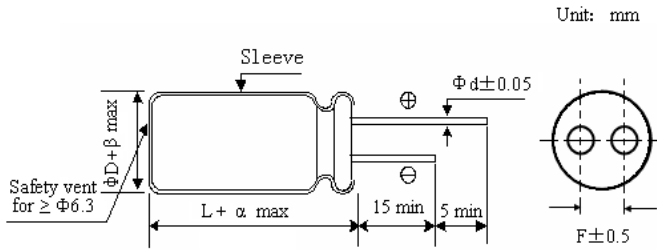
CAP(μF)	50(60)	120	400	1K	10K	50K-100K
Frequency (Hz)						
CAP ≤ 10	0.47	0.59	0.76	0.85	0.97	1
10 < CAP ≤ 100	0.52	0.65	0.80	0.89	0.97	1
100 < CAP ≤ 1000	0.58	0.72	0.84	0.90	0.98	1

### Multiplier for Ripple Current vs. Temperature

Temperature °C	60	70	85	105
Multiplier	1.8	1.5	1.3	1.0

## SZE series

### Diagram of Dimensions: (unit:mm)



Unit: mm

DΦ	4	5	6.3	8
F	1.5±0.5	2.0±0.5	2.5±0.5	3.5±0.5
dΦ	0.45		0.5	

### Case Size

Voltage	6.3V			10V			16V		
	Case Size	Ripple Current	Impedance	Case Size	Ripple Current	Impedance	Case Size	Ripple Current	Impedance
22				4×7	70	3.30	5×7	115	1.70
33	5×7	110	1.70	5×7	110	1.70	6.3×7	160	0.80
47	5×7	110	1.70	5×7	160	0.80	6.3×7	160	0.80
68	6.3×7	160	0.80	6.3×7	160	0.80	8×7	200	0.50
100	6.3×7	160	0.80	6.3×7	200	0.50	8×7	200	0.45
120	6.3×7	165	0.70	6.3×7	205	0.48	8×7	350	0.35
150	6.3×7	178	0.60	8×7	230	0.45	8×7	370	0.32
180	8×7	190	0.58	8×7	250	0.45	8×7	400	0.30
220	8×7	200	0.50	8×7	280	0.35	8×7	430	0.26
330	8×7	350	0.35	8×9	320	0.30	8×9	500	0.22
470	8×9	400	0.30	10×9	430	0.22			

Voltage	25V			35V		
	Case Size	Ripple Current	Impedance	Case Size	Ripple Current	Impedance
6.8				4×7	70	3.30
10	4×7	70	3.0	5×7	110	1.70
22	5×7	110	1.70	6.3×7	160	0.80
33	6.3×7	160	0.80	8×7	200	0.50
47	8×7	200	0.50	8×7	245	0.45
68	8×7	200	0.50	8×7	280	0.42
100	8×7	250	0.35			
150	8×7	340	0.40			
180	8×9	450	0.25			
220	8×9	600	0.22			
330	10×9	750	0.15			

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

Max Impedance (Ω) at 20°C 100KHz