

## VZH Series

### Features

- 4  $\phi$  ~ 18  $\phi$ , 105°C, 2,000 ~ 5,000 hours assured
- Large capacitance with ultra low impedance capacitors
- Designed for surface mounting on high density PC board
- RoHS compliance
- AEC-Q200 Parts Available: Replace “S” Suffix with “KS” or “LS” Suffix



Marking color: Black

### Specifications

Items	Performance																														
Category Temperature Range	-55°C ~ +105°C																														
Capacitance Tolerance	±20% (at 120 Hz, 20°C)																														
Leakage Current (at 20°C)	I = 0.01CV or 3 (μA) whichever is greater (after 2 minutes) Where, C = rated capacitance in μF, V = rated DC working voltage in V																														
Tanδ (at 120 Hz, 20°C)	<table border="1"> <thead> <tr> <th>Rated Voltage</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>80</th> <th>100</th> </tr> </thead> <tbody> <tr> <td>Tanδ (max)</td> <td>0.30</td> <td>0.26</td> <td>0.22</td> <td>0.16</td> <td>0.13</td> <td>0.10</td> <td>0.08</td> <td>0.08</td> <td>0.07</td> </tr> </tbody> </table> <p>When the capacitance exceeds 1,000μF, 0.02 shall be added every 1,000μF increase.</p>	Rated Voltage	6.3	10	16	25	35	50	63	80	100	Tanδ (max)	0.30	0.26	0.22	0.16	0.13	0.10	0.08	0.08	0.07										
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### Diagram of Dimensions

Fig. 1

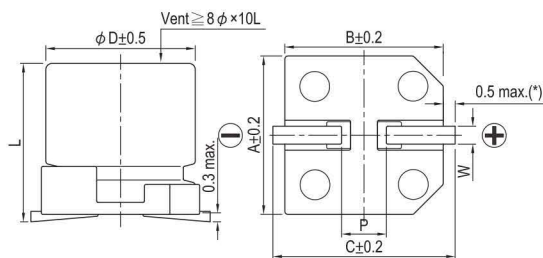
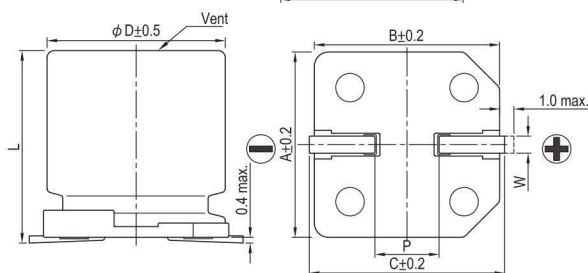


Fig. 2



### Lead Spacing and Diameter

Unit: mm

$\phi D$	L	A	B	C	W	P ± 0.2	Fig. No.
4	5.7 ± 0.3	4.3	4.3	5.1	0.5 ~ 0.8	1.0	1
5	5.7 ± 0.3	5.3	5.3	5.9	0.5 ~ 0.8	1.5	1
6.3	5.7 ± 0.3	6.6	6.6	7.2	0.5 ~ 0.8	2.0	1
6.3	7.7 ± 0.3	6.6	6.6	7.2	0.5 ~ 0.8	2.0	1
8	6.5 ± 0.3	8.3	8.3	9.0	0.5 ~ 0.8	2.3	1
8	10 ± 0.5	8.3	8.3	9.0	0.7 ~ 1.1	3.1	1
10	7.7 ± 0.3	10.3	10.3	11.0	0.7 ~ 1.3	4.7	1
10	10 ± 0.5	10.3	10.3	11.0	0.7 ~ 1.3	4.7	1
12.5	13.5 ± 0.5	13.0	13.0	13.7	1.1 ~ 1.4	4.4	2
12.5	16 ± 0.5	13.0	13.0	13.7	1.1 ~ 1.4	4.4	2
16	16.5 ± 0.5	17.0	17.0	18.0	1.1 ~ 1.4	6.4	2
16	21.5 ± 0.5	17.0	17.0	18.0	1.1 ~ 1.4	6.4	2
18	16.5 ± 0.5	19.0	19.0	20.0	1.1 ~ 1.4	6.4	2
18	21.5 ± 0.5	19.0	19.0	20.0	1.1 ~ 1.4	6.4	2

 (\*): For 4 ~ 6.3  $\phi$  is 0.4 max.



Dimension:  $\phi D \times L$ (mm)

Ripple Current: mA/rms at 100k Hz, 105°C

Impedance:  $\Omega$ / at 100k Hz, 20°C

**Dimension and Permissible Ripple Current**

Rated Volt. (Voc)		63V (1J)			80V (1K)			100V (2A)		
Cap. ( $\mu$ F)	Contents	$\phi D \times L$	Imp.	mA	$\phi D \times L$	Imp.	mA	$\phi D \times L$	Imp.	mA
4.7	4R7	5×5.7	1.90	70						
10	100	6.3×5.7	1.20	130						
22	220	6.3×7.7	0.90	150	8×10	1.3	130	8×10	1.3	130
33	330	8×10	0.50	280	8×10	1.3	130	10×10	0.7	200
47	470	8×10	0.50	280	10×10	0.7	200	10×10	0.7	200
100	101	10×10	0.25	450	10×10	0.7	200	12.5×13.5	0.32	450
150	151	12.5×13.5	0.15	700	12.5×13.5	0.32	450	16×16.5	0.17	650
220	221	12.5×13.5	0.15	700	16×16.5	0.17	650	16×16.5	0.17	650
								18×21.5	0.15	950
330	331	16×16.5	0.082	900	16×16.5	0.17	650	18×16.5	0.15	850
								16×21.5	0.15	900
470	471	16×16.5	0.082	900	16×21.5	0.15	900	18×21.5	0.15	950
680	681	18×16.5	0.080	1,150	18×21.5	0.15	950			
		16×21.5	0.080	1,150						
1,000	102	18×21.5	0.06	1,250						

**Part Numbering System**

VZH Series	470 $\mu$ F	$\pm 20\%$	6.3V	Carrier Tape		8 $\phi$ × 10L	
<b>VZH</b>	<b>471</b>	<b>M</b>	<b>OJ</b>	<b>TR</b>	<b>-</b>	<b>0810</b>	<b>S</b>
Series Name	Capacitance	Capacitance Tolerance	Rated Voltage	Package Type	Terminal Type	Case size	Regional Code

Note: For more details, please refer to "Part Numbering System (SMD Type)" on page 15.