

## VUA Series

### Features

- 6.3  $\phi$  ~ 18  $\phi$ , 125°C, 1,000 ~ 2,000 hours assured
- Chip type high temperature range, for +125°C use
- For automobile modules and other high temperature applications
- RoHS compliance



Marking color: Black

### Specifications

Items	Performance																					
Category Temperature Range	-40°C ~ +125°C																					
Capacitance Tolerance	±20% (at 120 Hz, 20°C)																					
Leakage Current (at 20°C)	I = 0.03CV or 4 (μA) whichever is greater (after 1 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>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> </tr> </thead> <tbody> <tr> <td>Tanδ (max)</td> <td>0.32</td> <td>0.24</td> <td>0.21</td> <td>0.18</td> <td>0.15</td> <td>0.15</td> </tr> </tbody> </table> <p>When the capacitance exceeds 1,000μF, 0.02 shall be added every 1,000μF increase.</p>	Rated Voltage	10	16	25	35	50	63	Tanδ (max)	0.32	0.24	0.21	0.18	0.15	0.15							
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Low Temperature Characteristics (at 120 Hz)	<p>Impedance ratio shall not exceed the values given in the table below.</p> <table border="1"> <thead> <tr> <th>Rated Voltage</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> </tr> </thead> <tbody> <tr> <td>Impedance Ratio Z(-25°C)/Z(+20°C)</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> </tr> <tr> <td>Z(-40°C)/Z(+20°C)</td> <td>12</td> <td>8</td> <td>6</td> <td>4</td> <td>4</td> <td>4</td> </tr> </tbody> </table>	Rated Voltage	10	16	25	35	50	63	Impedance Ratio Z(-25°C)/Z(+20°C)	6	5	4	3	3	3	Z(-40°C)/Z(+20°C)	12	8	6	4	4	4
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### Diagram of Dimensions

Fig. 1

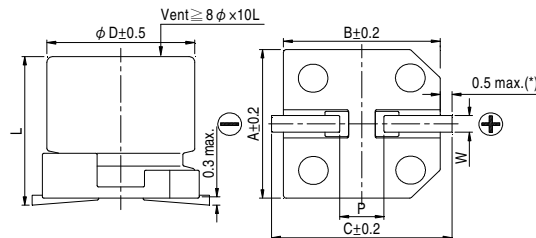
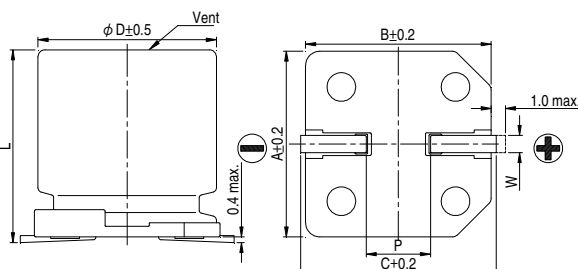


Fig. 2



### Lead Spacing and Diameter

Unit: mm

$\phi D$	L	A	B	C	W	P ± 0.2	Fig. No.
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	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
18	16.5 ± 0.5	19.0	19.0	20.0	1.1 ~ 1.4	6.4	2

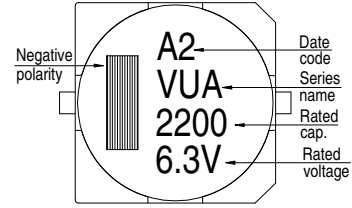
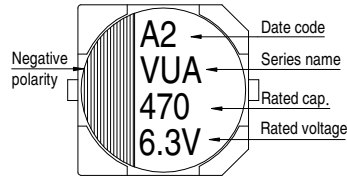
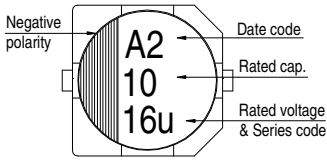
(\*): For 6.3  $\phi$  is 0.4 max.

## Marking

$\phi D = 6.3 \text{ mm}$

$\phi D = 8 \sim 10 \text{ mm}$

$\phi D \geq 12.5 \text{ mm}$



Dimension:  $\phi D \times L(\text{mm})$

Ripple Current: mA/rms at 120 Hz, 125°C

## Dimension and Permissible Ripple Current

Cap. ( $\mu\text{F}$ )	Contents	10V (1A)		16V (1C)		25V (1E)		35V (1V)		50V (1H)		63V (1J)	
		$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA
10	100											8x6.5	60
22	220							6.3x5.7	50	8x6.5	75	8x10	100
33	330			6.3x5.7	50	6.3x5.7	50	6.3x7.7	70	8x10	130	10x10	150
47	470			6.3x7.7	70	6.3x7.7	70	8x6.5	75	8x10	130	10x10	150
68	680	6.3x5.7	50	8x6.5	75	8x6.5	75	8x10	130	10x10	180	10x10	150
100	101	8x6.5	75	8x6.5	75	8x10	130	10x10	180	12.5x13.5	357	12.5x13.5	300
220	221	8x10	130	10x10	180	10x10	180	12.5x13.5	357	12.5x16	400	16x16.5	600
330	331	8x10	130	12.5x13.5	480	12.5x13.5	480	16x16.5	650	16x16.5	650	16x16.5	600
470	471	12.5x13.5	480	12.5x13.5	480	12.5x13.5	480	16x16.5	650	16x16.5	650	18x16.5	800
680	681	12.5x13.5	480	12.5x13.5	480	12.5x16	585	16x16.5	650	18x16.5	855		
1,000	102	12.5x16	585	12.5x16	585	16x16.5	650	18x16.5	855				
1,500	152	12.5x16	585	16x16.5	650	18x16.5	855						
2,200	222	16x16.5	650	18x16.5	855								
3,300	332	18x16.5	855										
4,700	472	18x16.5	855										

## Part Numbering System

VUA Series	33 $\mu\text{F}$	$\pm 20\%$	16V	Carrier Tape	6.3 $\phi$ x 5.7L	Pb-free and PET coating case
<b>VUA</b>	<b>330</b>	<b>M</b>	<b>1C</b>	<b>TR</b>	<b>-</b>	<b>0606</b>
Series Name	Capacitance	Capacitance Tolerance	Rated Voltage	Package Type	Terminal Type	Case size
						Lead Wire and Coating Type

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