

Code in front of series have been extracted from product code, which describes the segment of products, such as type and features.

- Compatible with surface mounting, low ESR, high CV capacitors.
- Environmental : GREEN CAP™ , RoHS compliance.
- Supplied with carrier taping.
- Guaranteed 2000 hours at 105°C.



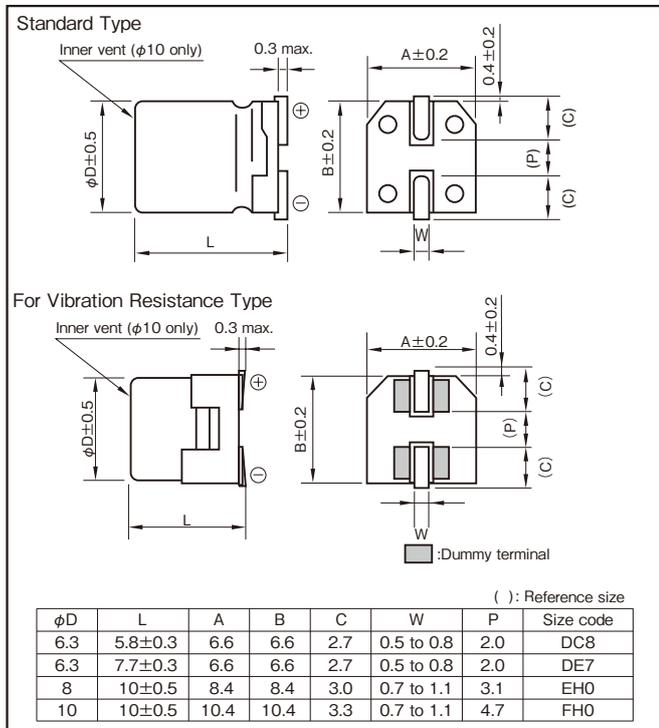
Marking color : Black print

### Specifications

Item	Performance																																			
Category temperature range (°C)	-55 to +105																																			
Tolerance at rated capacitance (%)	±20 (20°C,120Hz)																																			
Leakage current (μA) (max.)	0.01CV or 3 whichever is larger (after 2 minutes) C : Rated capacitance (μF), V : Rated voltage (V) (20°C)																																			
Tangent of loss angle (tanδ)	<table border="1"> <thead> <tr> <th>Rated voltage (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>tanδ (max.)</td> <td>0.26</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> </tr> </tbody> </table> <p>0.02 is added to every 1000μF increase over 1000μF. (20°C,120Hz)</p>	Rated voltage (V)	6.3	10	16	25	35	50	tanδ (max.)	0.26	0.19	0.16	0.14	0.12	0.10																					
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Characteristics at high and low temperature	<table border="1"> <thead> <tr> <th rowspan="2">Rated voltage (V)</th> <th colspan="7">Impedance ratio (max.)</th> </tr> <tr> <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>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> </tr> <tr> <td>Z-55°C/Z+20°C</td> <td>4</td> <td>4</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> </tr> </tbody> </table> <p>(120Hz)</p>	Rated voltage (V)	Impedance ratio (max.)							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	3	3	3	3	3	3	Z-55°C/Z+20°C	4	4	4	3	3	3
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Endurance (105°C) (Applied ripple current)	<table border="1"> <tbody> <tr> <td>Test time</td> <td>2000 hours</td> </tr> <tr> <td>Leakage current</td> <td>The initial specified value or less</td> </tr> <tr> <td>Percentage of capacitance change</td> <td>Within ±30% of initial value</td> </tr> <tr> <td>Tangent of the loss angle</td> <td>200% or less of the initial specified value</td> </tr> </tbody> </table>	Test time	2000 hours	Leakage current	The initial specified value or less	Percentage of capacitance change	Within ±30% of initial value	Tangent of the loss angle	200% or less of the initial specified value																											
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Shelf life (105°C)	Test time : 1000hours ; other items are same as the endurance. Voltage application treatment : According to JIS C5101-4 4.1																																			
Applicable standards	JIS C5101 - 1,- 18 (IEC 60384 - 1,- 18)																																			

### Outline Drawing

Unit : mm



Refer to individual page.  
(Soldering conditions, Land pattern size, The taping specifications)

### Coefficient of Frequency for Rated Ripple Current

Frequency (Hz)	50 · 60	120	1k	10k · 100k
Rated voltage (V)				
6.3 to 50	0.50	0.50	0.75	1

### Product code system (\*For general product)

Standard Type (example : 35V150μF)

RS*	VZD	151	M	1G	DE7	002	U
Category code	Series code	capacitance code	Cap tol. code	Voltage code	Size code	Taping and packing code	Additional code

For Vibration Resistance Type (example : 25V820μF)

RS*	VMD	821	M	1T	FHO	002	U
Category code	Series code	capacitance code	Cap tol. code	Voltage code	Size code	Taping and packing code	Additional code

For details, refer to the various "Product Code System" pages.

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### Standard Ratings

Rated voltage (V) Item Rated capacitance (μF)	6.3 (1J)				10 (1L)				16 (1E)			
	Case φD × L (mm)	Size code	ESR (Ω max.)	Rated ripple current (mA <sub>RMS</sub> )	Case φD × L (mm)	Size code	ESR (Ω max.)	Rated ripple current (mA <sub>RMS</sub> )	Case φD × L (mm)	Size code	ESR (Ω max.)	Rated ripple current (mA <sub>RMS</sub> )
150	—	—	—	—	—	—	—	—	6.3 × 5.8	DC8	0.26	300
220	—	—	—	—	6.3 × 5.8	DC8	0.26	300	6.3 × 5.8	DC8	0.26	300
330	6.3 × 5.8	DC8	0.26	300	6.3 × 7.7	DE7	0.16	600	6.3 × 7.7	DE7	0.16	600
470	6.3 × 7.7	DE7	0.16	600	6.3 × 7.7	DE7	0.16	600	—	—	—	—
680	6.3 × 7.7	DE7	0.16	600	—	—	—	—	8 × 10	EH0	0.08	850
1000	—	—	—	—	8 × 10	EH0	0.08	850	10 × 10	FH0	0.06	1190
1500	8 × 10	EH0	0.08	850	10 × 10	FH0	0.06	1190	—	—	—	—
2200	10 × 10	FH0	0.06	1190	—	—	—	—	—	—	—	—

Rated voltage (V) Item Rated capacitance (μF)	25 (1T)				35 (1G)				50 (1U)			
	Case φD × L (mm)	Size code	ESR (Ω max.)	Rated ripple current (mA <sub>RMS</sub> )	Case φD × L (mm)	Size code	ESR (Ω max.)	Rated ripple current (mA <sub>RMS</sub> )	Case φD × L (mm)	Size code	ESR (Ω max.)	Rated ripple current (mA <sub>RMS</sub> )
47	—	—	—	—	—	—	—	—	6.3 × 5.8	DC8	0.68	195
100	—	—	—	—	6.3 × 5.8	DC8	0.26	300	6.3 × 7.7	DE7	0.34	350
150	6.3 × 5.8	DC8	0.26	300	6.3 × 7.7	DE7	0.16	600	—	—	—	—
220	6.3 × 7.7	DE7	0.16	600	—	—	—	—	8 × 10	EH0	0.18	670
330	—	—	—	—	8 × 10	EH0	0.08	850	10 × 10	FH0	0.12	900
470	8 × 10	EH0	0.08	850	—	—	—	—	—	—	—	—
560	—	—	—	—	10 × 10	FH0	0.06	1190	—	—	—	—
820	10 × 10	FH0	0.06	1190	—	—	—	—	—	—	—	—

(Note) Rated ripple current : 105°C , 100kHz  
ESR : 20°C , 100kHz