

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 capacitors.
- Environmental : GREEN CAP™, RoHS compliance.
- Supplied with carrier taping.
- Guaranteed 5000 hours at 105°C.
($\phi 8 \times 6.5L$ or less: 1000hours)
($\phi 8 \times 10L$ to $\phi 10$: 2000hours)

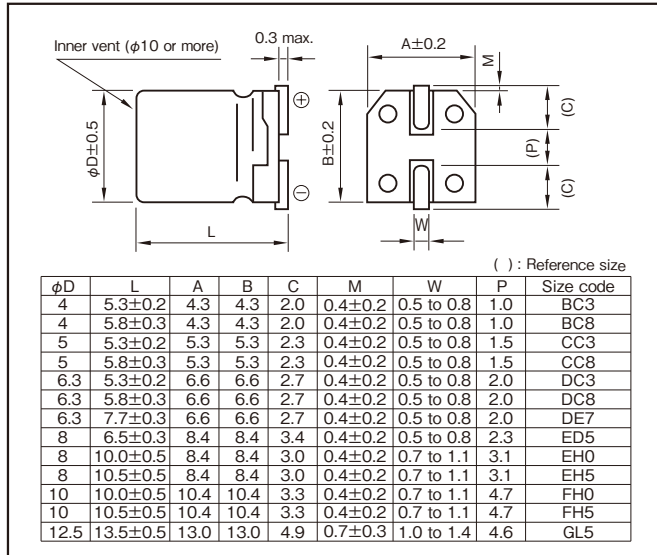


Specifications

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><tr><td colspan="2">Rated voltage (V)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td></tr><tr><td colspan="2">tanδ (max.)</td><td>0.28</td><td>0.24</td><td>0.20</td><td>0.16</td><td>0.14</td></tr></table>						Rated voltage (V)		6.3	10	16	25	35	tanδ (max.)		0.28	0.24	0.20	0.16	0.14						
	Rated voltage (V)		6.3	10	16	25	35																			
	tanδ (max.)		0.28	0.24	0.20	0.16	0.14																			
0.02 is added to every 1000μF increase over 1000μF. (20°C,120Hz)																										
Characteristics at high and low temperature	<table><tr><td colspan="2">Rated voltage (V)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td></tr><tr><td rowspan="2">Impedance ratio (max.)</td><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>8</td><td>5</td><td>4</td><td>3</td><td>3</td></tr></table>						Rated voltage (V)		6.3	10	16	25	35	Impedance ratio (max.)	Z-25°C/Z+20°C	4	3	2	2	2	Z-55°C/Z+20°C	8	5	4	3	3
	Rated voltage (V)		6.3	10	16	25	35																			
	Impedance ratio (max.)	Z-25°C/Z+20°C	4	3	2	2	2																			
Z-55°C/Z+20°C		8	5	4	3	3																				
(120Hz)																										
Endurance (105°C) (Applied ripple current)	Test time		1000 hours (φ8×6.5L or less) 2000 hours (φ8×10L to φ10) 5000 hours (φ12.5)																							
	Leakage current		The initial specified value or less																							
	Percentage of capacitance change		Within ±25% of initial value																							
	Tangent of the loss angle		200% or less of initial specified value																							
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)	120	1k	10k	100k
Rated voltage (V)				
6.3 to 35	0.50	0.75	0.90	1

Product code system (*For general product)

$\phi 8 \times 6.5L$ and $\phi 6.3$ or less (example : 6.3V330 μF)

RS*	VVZ	331	M	1J	ED5	002	U
Category code	Series code	capacitance code	Cap tol. code	Voltage code	Size code	Taping and packing code	Additional code

$\phi 8 \times 10L$, $\phi 8 \times 10.5L$ (example : 10V220 μF)

RS*	VVZ	221	M	1L	EH0	002	Y1U
Category code	Series code	capacitance code	Cap tol. code	Voltage code	Size code	Taping and packing code	Additional code

$\phi 10$ (example : 16V330 μF)

RS*	VVZ	331	M	1E	FH0	002	EU
Category code	Series code	capacitance code	Cap tol. code	Voltage code	Size code	Taping and packing code	Additional code

$\phi 12.5$ (example : 25V680 μF)

RS*	VVZ	681	M	1T	GL5	005	T
Category code	Series code	capacitance code	Cap tol. code	Voltage code	Size code	Taping and packing code	Additional code

- If "For Vibration Resistance" type is required, please see the series VTZ.
- For details, refer to the various "Product Code System" pages.

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Standard Ratings

Rated voltage (V) Rated capacitance (μF)	Item	6.3 (1J)				10 (1L)				16 (1E)				25 (1T)				35 (1G)			
		Case φD×L (mm)	Size code	ESR (Ω max.)	Rated ripple current (mA rms)	Case φD×L (mm)	Size code	ESR (Ω max.)	Rated ripple current (mA rms)	Case φD×L (mm)	Size code	ESR (Ω max.)	Rated ripple current (mA rms)	Case φD×L (mm)	Size code	ESR (Ω max.)	Rated ripple current (mA rms)	Case φD×L (mm)	Size code	ESR (Ω max.)	Rated ripple current (mA rms)
4.7	—	—	—	—	—	—	—	—	—	—	—	—	—	4×5.3	BC3	3.20	65	4×5.3	BC3	3.20	65
10	—	—	—	—	4×5.3	BC3	3.20	65	4×5.3	BC3	3.20	65	4×5.8	BC8	1.80	80	5×5.3	CC3	1.50	110	
													5×5.3	CC3	1.50	110	5×5.8	CC8	0.76	150	
15	—	—	—	—	—	—	—	—	4×5.8	BC8	1.80	80	5×5.8	CC8	0.76	150	5×5.8	CC8	0.76	150	
22	4×5.3	BC3	3.20	65	4×5.8	BC8	1.80	80	5×5.3	CC3	1.50	110	5×5.8	CC8	0.76	150	5×5.8	CC8	0.76	150	
	4×5.8	BC8	1.80	80	5×5.3	CC3	1.50	110	5×5.8	CC8	0.76	150	6.3×5.3	DC3	0.85	170	6.3×5.3	DC3	0.85	170	
33	5×5.3	CC3	1.50	110	5×5.3	CC3	1.50	110	6.3×5.3	DC3	0.85	170	6.3×5.3	DC3	0.85	170	6.3×5.3	DC3	0.85	170	
	5×5.8	CC8	0.76	150	5×5.8	CC8	0.76	150	6.3×5.8	DC8	0.44	230	6.3×5.8	DC8	0.44	230	6.3×5.8	DC8	0.44	230	
47	5×5.3	CC3	1.50	110	6.3×5.3	DC3	0.85	170	6.3×5.3	DC3	0.85	170	6.3×5.3	DC3	0.85	170	6.3×5.8	DC8	0.44	230	
	5×5.8	CC8	0.76	150	6.3×5.8	DC8	0.44	230	6.3×5.8	DC8	0.44	230	6.3×5.8	DC8	0.44	230	6.3×5.8	DC8	0.44	230	
																	6.3×5.8	DC8	0.44	230	6.3×7.7
68	6.3×5.8	DC8	0.44	230	6.3×5.8	DC8	0.44	230	6.3×5.8	DC8	0.44	230	6.3×5.8	DC8	0.44	230	6.3×7.7	DE7	0.34	280	
																	8×6.5	ED5	0.34	280	
																	8×6.5	ED5	0.34	280	
100	6.3×5.3	DC3	0.85	170	6.3×5.3	DC3	0.85	170	6.3×5.3	DC3	0.85	170	6.3×7.7	DE7	0.34	280	8×10	EH0	0.20	450	
	6.3×5.8	DC8	0.44	230	6.3×5.8	DC8	0.44	230	6.3×5.8	DC8	0.44	230	8×6.5	ED5	0.34	280	8×10.5	EH5	0.17	450	
150	6.3×5.8	DC8	0.44	230	6.3×5.8	DC8	0.44	230	6.3×7.7	DE7	0.34	280	8×10	EH0	0.20	450	8×10.5	EH5	0.17	450	
									8×6.5	ED5	0.34	280	8×10.5	EH5	0.17	450	10×10	FH0	0.10	670	
220	6.3×5.8	DC8	0.44	230	6.3×7.7	DE7	0.34	280	6.3×7.7	DE7	0.34	280	8×10.5	EH5	0.17	450	8×10.5	EH5	0.17	450	
	6.3×7.7	DE7	0.34	280	8×6.5	ED5	0.34	280	8×10	EH0	0.20	450	8×10.5	EH5	0.17	450	8×10.5	EH5	0.17	450	
330	6.3×7.7	DE7	0.34	280	8×10.5	EH5	0.17	450	8×10.5	EH5	0.17	450	8×10.5	EH5	0.17	450	10×10.5	FH5	0.09	670	
	8×6.5	ED5	0.34	280	10×10	FH0	0.10	670	10×10	FH0	0.10	670	10×10	FH0	0.10	670					
	8×10	EH0	0.20	450																	
470	8×10.5	EH5	0.17	450	8×10.5	EH5	0.17	450	8×10.5	EH5	0.17	450	10×10.5	FH5	0.09	670	12.5×13.5	GL5	0.06	1100	
	10×10	FH0	0.10	670	10×10	FH0	0.10	670	10×10	FH0	0.10	670									
680	8×10.5	EH5	0.17	450	10×10.5	FH5	0.09	670	10×10.5	FH5	0.09	670	12.5×13.5	GL5	0.06	1100	12.5×13.5	GL5	0.06	1100	
1000	8×10.5	EH5	0.17	450	10×10.5	FH5	0.09	670	12.5×13.5	GL5	0.06	1100	12.5×13.5	GL5	0.06	1100	—	—	—	—	
	10×10	FH0	0.10	670																	
1500	10×10.5	FH5	0.09	670	12.5×13.5	GL5	0.06	1100	12.5×13.5	GL5	0.06	1100	—	—	—	—	—	—	—	—	
2200	12.5×13.5	GL5	0.06	1100	12.5×13.5	GL5	0.06	1100	—	—	—	—	—	—	—	—	—	—	—	—	
2700	12.5×13.5	GL5	0.06	1100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

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