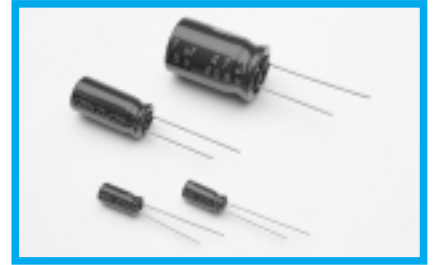


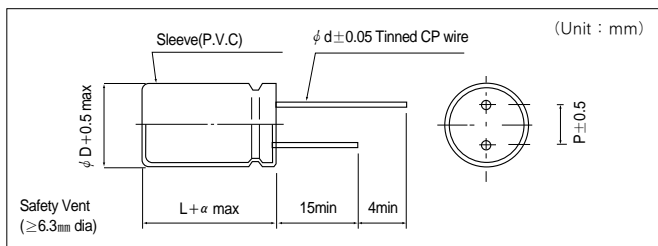
- Standard series for general purpose



### Specifications

Item	Performance Characteristics																															
Operating Voltage	-40 ~ +85°C (6.3 ~ 400V), -25 ~ +85°C (450V)																															
Capacitance Range	0.1 ~ 15000 $\mu$ F																															
Capacitance Tolerance	$\pm$ 20% at 120Hz, 20°C																															
Leakage Current	6.3 ~ 100V $I = 0.01CV$ or $3\mu$ A whichever is greater (After 2minute)	160 ~ 450V $I = 0.03CV + 15\mu$ A ( $CV \leq 1000$ ) $I = 0.02CV + 25\mu$ A ( $CV > 1000$ ) (After 5minute)																														
	(20°C, 120Hz)																															
tan $\delta$	<table border="1"> <tr> <th>Rated voltage(V)</th> <td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td><td>160~250</td><td>350~450</td> </tr> <tr> <th>tan <math>\delta</math> (MAX.)</th> <td>0.24</td><td>0.20</td><td>0.16</td><td>0.14</td><td>0.12</td><td>0.10</td><td>0.08</td><td>0.07</td><td>0.15</td><td>0.20</td> </tr> </table>										Rated voltage(V)	6.3	10	16	25	35	50	63	100	160~250	350~450	tan $\delta$ (MAX.)	0.24	0.20	0.16	0.14	0.12	0.10	0.08	0.07	0.15	0.20
	Rated voltage(V)	6.3	10	16	25	35	50	63	100	160~250	350~450																					
tan $\delta$ (MAX.)	0.24	0.20	0.16	0.14	0.12	0.10	0.08	0.07	0.15	0.20																						
Add 0.02 per 1000 $\mu$ F for more than 1000 $\mu$ F items																																
Stability at Low Temperature	(120Hz)																															
	Rated voltage(V)	6.3	10	16	25	35~100	160~400	450																								
	Z(-25°C)/Z(+20°C)	4	3	2	2	2	3	6																								
Z(-40°C)/Z(+20°C)	12	10	8	6	4	6	-																									
Load Life	After 2000hours application of DC rated working voltage at 85°C the measurement shall meet following limits. Measurements shall be performed after 2hours exposure at room temperature.		Leakage current	Initial specified value or less																												
			Capacitance change	Within $\pm$ 20% of the initial measured value																												
			tan $\delta$	Within 150% of the initial specified value																												
Shelf Life	After 1000hours at 85°C without voltage application measurements shall meet the following limits. Measurement shall be performed after exposure for 24hours at room temperature after application of DC rated voltage to the capacitors for 30minutes.		Leakage current	Initial specified value or less																												
			Capacitance change	Within $\pm$ 20% of the initial measured value																												
			tan $\delta$	Within 150% of the initial specified value																												
Marking	Printed with white color letter on blue sleeve																															
Applicable Standards	JIS C-5141, JIS C-5102																															

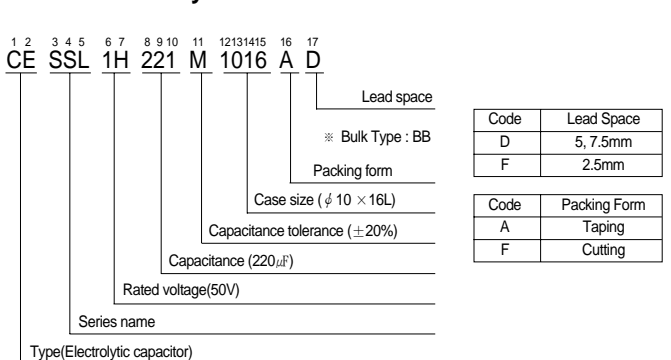
### Dimensions



$\phi$ D	5	6.3	8	10	13	16	18
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5
$\phi$ d	0.5	0.5	0.6	0.6	0.6	0.8	0.8
$\alpha$	L $\leq$ 16 : 1.5, L $\geq$ 16 : 2.0						

In case size L > 25 for  $\phi$  13 case sizes, lead diameter  $\phi$  d 0.8 will be applied.

### Part number system



■ Case size table

( $\phi$  D×L<sub>mm</sub>)

W.V(Vdc) Cap( $\mu$ F)	6.3 (0J)	10 (1A)	16 (1C)	25 (1E)	35 (1V)	50 (1H)	63 (1J)	100 (2A)
0.1(OR1)						5×11	5×11	5×11
0.22(R22)						5×11	5×11	5×11
0.33(R22)						5×11	5×11	5×11
0.47(R47)						5×11	5×11	5×11
1 (010)						5×11	5×11	5×11
2.2(2R2)						5×11	5×11	5×11
3.3(3R3)						5×11	5×11	5×11
4.7(4R7)						5×11	5×11	5×11
10 (100)			5×11	5×11	5×11	5×11	5×11	6.3×11
22 (220)			5×11	5×11	5×11	5×11	6.3×11	8×11.5
33 (330)			5×11	5×11	5×11	6.3×11	6.3×11	10×12.5
47 (470)		5×11	5×11	5×11	6.3×11	6.3×11	8×11.5	10×16
100 (101)	5×11	5×11	6.3×11	6.3×11	8×11.5	8×11.5	10×12.5	13×20
220 (221)	6.3×11	6.3×11	8×11.5	8×11.5	10×12.5	10×16	10×20	16×25
330 (331)	6.3×11	8×11.5	8×11.5	10×12.5	10×16	10×20	13×20	16×25
470 (471)	8×11.5	8×11.5	10×12.5	10×16	10×20	13×20	13×25	16×31.5
1000 (102)	10×12.5	10×16	10×20	13×20	13×25	16×25	16×31.5	
2200 (222)	13×20	13×20	13×25	16×25	16×31.5	18×35.5		
3300 (332)	13×20	13×25	16×25	16×31.5	18×35.5			
4700 (472)	16×25	16×25	16×31.5	18×35.5	18×40			
6800 (682)	16×25	16×31.5	18×35.5	18×40				
10000 (103)	16×31.5	18×35.5	18×40					
15000 (153)	18×35.5							

W.V(VDC) Cap( $\mu$ F)	160 (2C)	200 (2D)	250 (2E)	350 (2V)	400 (2G)	450 (2W)
1 (101)	6.3×11	6.3×11	6.3×11	6.3×11	8×11.5	10×12.5
2.2 (2R2)	6.3×11	6.3×11	8×11.5	10×12.5	10×12.5	10×16
3.3 (3R3)	8×11.5	8×11.5	10×12.5	10×12.5	10×16	10×16
4.7 (4R7)	8×11.5	10×12.5	10×12.5	10×16	10×16	10×20
10 (100)	10×12.5	10×16	10×16	10×20	13×20	13×20
22 (220)	10×20	10×20	13×20	13×25	16×25	16×25
33 (330)	13×20	13×20	13×25	16×25	16×31.5	16×31.5
47 (470)	13×25	13×25	16×25	16×31.5	16×35.5	16×35.5
100 (101)	16×25	16×31.5	16×35.5	18×40	22×40	
220 (221)	18×35.5	18×40	22×40			
330 (331)	22×40					

■ Maximum permissible ripple current

(at 85 °C, 120Hz:mArms)

W.V μF	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450
0.1						7	7	8						
0.22						10	11	12						
0.33						12	14	15						
0.47						15	17	18						
1						22	24	26	23	23	23	22	27	24
2.2						33	37	39	34	34	42	45	45	46
3.3						40	45	48	51	51	57	55	63	56
4.7						48	54	57	61	68	68	75	75	74
10			55	59	64	70	78	93	100	113	113	121	143	128
22			82	88	95	104	129	169	185	185	219	229	256	229
33			101	108	117	142	159	230	268	268	290	313	338	303
47		108	121	129	139	169	231	311	346	346	386	404	432	386
100	144	157	195	209	276	302	376	593	563	609	651	730	769	
220	237	259	354	379	455	563	695	987	1030	1119	1178			
330	290	318	434	516	630	761	1007	1208	1443					
470	423	463	576	696	829	1075	1297	1558						
1000	686	849	975	1234	1545	1891	2283							
2200	1390	1460	1742	2064	2384	2577								
3300	1645	1848	2207	2575	3116									
4700	2070	2414	2661	3326	3612									
6800	2419	2912	3578	3967										
10000	3006	3474	4199											
15000	3758													