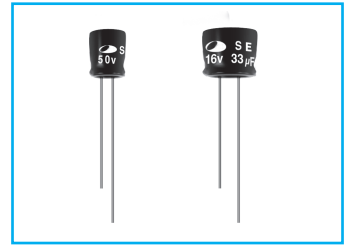
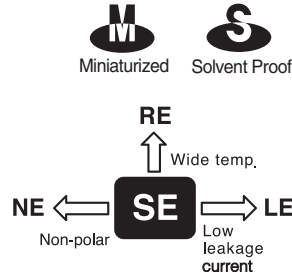


SE Standard, Height 5mmL Series

- Ultra miniature series with 5mmL height
- Suitable to replace tantalum capacitors at low cost
- Load life of 2000 hours at 85°C
- Complied to the RoHS directive



Item	Characteristics																		
Operating temperature range	-40 ~ +85°C																		
Leakage current max.	$I = 0.01CV$ or $4\mu A$ whichever is greater (after 1 minute)																		
Capacitance tolerance	$\pm 20\%$ at 120Hz, 20°C																		
Dissipation factor max. (at 120Hz, 20°C)	<table border="1"> <thead> <tr> <th>WV</th> <th>4</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> </tr> </thead> <tbody> <tr> <td>$\tan\delta$</td> <td>0.35</td> <td>0.24</td> <td>0.20</td> <td>0.16(0.20)</td> <td>0.13(0.15)</td> <td>0.12(0.14)</td> <td>0.09(0.11)</td> <td>0.09(0.11)</td> </tr> </tbody> </table>	WV	4	6.3	10	16	25	35	50	63	$\tan\delta$	0.35	0.24	0.20	0.16(0.20)	0.13(0.15)	0.12(0.14)	0.09(0.11)	0.09(0.11)
	WV	4	6.3	10	16	25	35	50	63										
$\tan\delta$	0.35	0.24	0.20	0.16(0.20)	0.13(0.15)	0.12(0.14)	0.09(0.11)	0.09(0.11)											
Figures in () are for $\varnothing 3$ products.																			
Low temperature characteristics (Impedance ratio at 120Hz)	<table border="1"> <thead> <tr> <th>WV</th> <th>4</th> <th>6.3</th> <th>10</th> <th>16 ~ 63</th> </tr> </thead> <tbody> <tr> <td>Z-25°C/Z+20°C</td> <td>6</td> <td>4</td> <td>3</td> <td>2</td> </tr> <tr> <td>Z-40°C/Z+20°C</td> <td>12</td> <td>8</td> <td>6</td> <td>4</td> </tr> </tbody> </table>	WV	4	6.3	10	16 ~ 63	Z-25°C/Z+20°C	6	4	3	2	Z-40°C/Z+20°C	12	8	6	4			
	WV	4	6.3	10	16 ~ 63														
	Z-25°C/Z+20°C	6	4	3	2														
Z-40°C/Z+20°C	12	8	6	4															
Load life (after application of the rated voltage for 2000 hours at 85°C)	Leakage current	Less than specified value																	
	Capacitance change	Within $\pm 20\%$ of initial value																	
	$\tan\delta$	Less than 200% of specified value																	
Shelf life (at 85°C)	After 1000 hours no load test, leakage current, capacitance and $\tan\delta$ are same as load life value. The measurement shall be performed at 20°C by the KS C IEC 60384 - 4																		

● DRAWING (See page 100)

Unit : mm

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

μF \ WV	4	6.3	10	16	25	35	50	63
1.0							4×5(3×5) 13(9.8)	4×5(3×5) 13(9.8)
1.5							4×5(3×5) 16(12)	4×5 16
2.2						4×5(3×5) 17(13)	4×5 19	4×5 19
3.3					4×5(3×5) 20(15)	4×5 20	4×5 24	5×5 27
4.7				4×5(3×5) 21(16)	4×5 23	4×5 24	5×5 33	5×5 33
6.8			4×5(3×5) 23(19)	4×5 25	4×5 28	5×5 34	5×5 39	6.3×5 46
10	4×5(3×5) 21(17)	4×5(3×5) 25(21)	4×5 28	4×5 31	5×5 40	5×5 41	6.3×5 56	6.3×5 56
15	4×5(3×5) 26(21)	4×5 31	4×5 34	5×5 44	5×5 49	6.3×5 59	6.3×5 68	8×5 81
22	4×5(3×5) 31(26)	4×5 37	5×5 47	5×5 53	6.3×5 69	6.3×5 72	8×5 98	8×5 98
33	4×5 38	5×5 53	5×5 58	6.3×5 76	6.3×5 84	8×5 104	8×5 120	
47	4×5 45	5×5 63	6.3×5 81	6.3×5 91	8×5 119	8×5 124		
68	5×5 63	6.3×5 89	6.3×5 98	6.3×5 109	8×5 143			
100	5×5 89	6.3×5 108	8×5 140	8×5 157	8×5 174			
150	6.3×5 109	8×5 157	8×5 172	8×5 192				
220	6.3×5 133	8×5 190	8×5 208					
330	8×5 192							

Ripple current (mA rms) at 85°C, 120Hz
Case size $\varnothing D \times L$ (mm)

● FREQUENCY COEFFICIENT OF PERMISSIBLE RIPPLE CURRENT

μF \ Frequency	60Hz	120Hz	1kHz	10kHz	50kHz	100kHz \leq
~ 47	0.75	1.00	1.55	2.00	2.00	2.00
68 ~	0.80	1.00	1.35	1.50	1.62	1.75