

SEV SERIES

85°C, Lead Free Reflow Soldering.

◆FEATURES

- Case Dia  $\phi 3 \sim \phi 18\text{mm}$
- Lead free reflow soldering is available.
- Available for high density mounting.
- RoHS compliance.



◆SPECIFICATIONS

Items	Characteristics																																								
Category Temperature Range	-40~+85°C																																								
Rated Voltage Range	4~100V.DC																																								
Capacitance Tolerance	±20% (20°C, 120Hz)																																								
Leakage Current(MAX)	I=0.01CV or 3 $\mu\text{A}$ whichever is greater. (After 2 minutes application of rated voltage) I=Leakage Current( $\mu\text{A}$ )      C=Rated Capacitance( $\mu\text{F}$ )      V=Rated Voltage(V)																																								
Dissipation Factor(MAX) (tan $\delta$ )	<table border="1"> <thead> <tr> <th>Rated Voltage (V)</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> <th>100</th> </tr> </thead> <tbody> <tr> <td><math>\phi 3</math></td> <td>0.40</td> <td>0.30</td> <td>—</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.14</td> <td>—</td> <td>—</td> </tr> <tr> <td><math>\phi 4, \phi 5, \phi 6.3 \times 5.5</math></td> <td>0.40</td> <td>0.26</td> <td>0.22</td> <td>0.18</td> <td>0.16</td> <td>0.13</td> <td>0.12</td> <td>—</td> <td>—</td> </tr> <tr> <td><math>\phi 6.3 \times 8, \phi 8 \sim \phi 18</math></td> <td>0.50</td> <td>0.35</td> <td>0.26</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.12</td> <td>0.10</td> </tr> </tbody> </table> <p>(20°C, 120Hz)</p> <p>When rated capacitance is over 1000 <math>\mu\text{F}</math>, tan <math>\delta</math> shall be added 0.02 to the listed value with increase of every 1000 <math>\mu\text{F}</math>.</p>	Rated Voltage (V)	4	6.3	10	16	25	35	50	63	100	$\phi 3$	0.40	0.30	—	0.20	0.16	0.14	0.14	—	—	$\phi 4, \phi 5, \phi 6.3 \times 5.5$	0.40	0.26	0.22	0.18	0.16	0.13	0.12	—	—	$\phi 6.3 \times 8, \phi 8 \sim \phi 18$	0.50	0.35	0.26	0.20	0.16	0.14	0.12	0.12	0.10
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Endurance	After applying rated voltage with rated ripple current for 2000 hrs at 85°C, the capacitors shall meet the following requirements. <table border="1"> <tr> <td>Capacitance Change</td> <td>Within ±25% of the initial value.</td> </tr> <tr> <td>Dissipation Factor</td> <td>Not more than 200% of the specified value.</td> </tr> <tr> <td>Leakage Current</td> <td>Not more than the specified value.</td> </tr> </table>	Capacitance Change	Within ±25% of the initial value.	Dissipation Factor	Not more than 200% of the specified value.	Leakage Current	Not more than the specified value.																																		
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Z(-25°C)/Z(20°C)	7	4	3	2	2	2	2	2	2																																
Z(-40°C)/Z(20°C)	15	8	8	4	4	3	3	5	5																																

◆MULTIPLIER FOR RIPPLE CURRENT

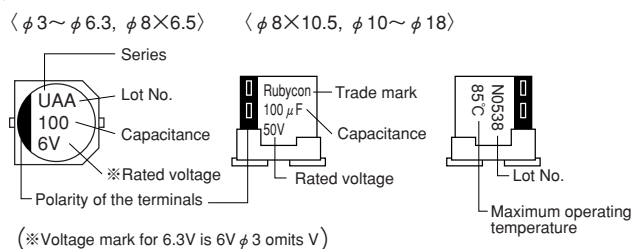
Frequency coefficient

Frequency (Hz)	60 (50)	120	500	1k	10k $\leq$
0.1~1 $\mu\text{F}$	0.50	1.00	1.20	1.30	1.50
2.2~4.7 $\mu\text{F}$	0.65	1.00	1.20	1.30	1.50
10~47 $\mu\text{F}$	0.80	1.00	1.20	1.30	1.50
100~1000 $\mu\text{F}$	0.80	1.00	1.10	1.15	1.20
2200~10000 $\mu\text{F}$	0.80	1.00	1.05	1.10	1.15

◆PART NUMBER

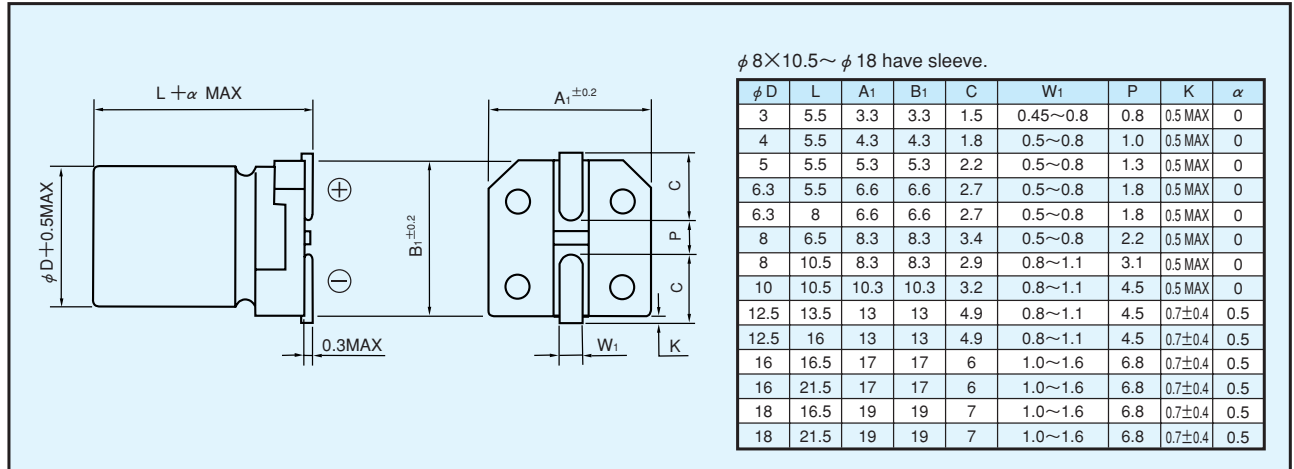
SEV         D×L  
 Rated Voltage    Series    Rated Capacitance    Capacitance Tolerance    Option    Case Size

◆MARKING



**◆ DIMENSIONS**

(mm)



**◆ STANDARD SIZE, RATED RIPPLE CURRENT**

Size  $\phi D \times L$ (mm), Ripple Current (mA r.m.s./85°C, 120Hz)

WV(V.DC) Cap(μF)	4 (0G)		6.3 (0J)		10 (1A)		16 (1C)		25 (1E)		35 (1V)		50 (1H)		63 (1J)		100 (2A)	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
0.1												3×5.5 4×5.5	1.0					
0.22												3×5.5 4×5.5	2.0					
0.33												3×5.5 4×5.5	2.8					
0.47												3×5.5 4×5.5	4.0					
1												3×5.5 4×5.5	8.0 8.4					
2.2											3×5.5	8.4	3×5.5 4×5.5	10 14				
3.3											3×5.5	10	4×5.5	17				
4.7							3×5.5	12	3×5.5 4×5.5	12 18	4×5.5	18	4×5.5 5×5.5	18 22			8×10.5	80
10							3×5.5 4×5.5	18 25	4×5.5	25	5×5.5	30	5×5.5 6.3×5.5	30 35			8×10.5	90
22	3×5.5	19	3×5.5 4×5.5	21 29			4×5.5 5×5.5	30 39			6.3×5.5	48	6.3×5.5 8×6.5	48 80	8×10.5	75	8×10.5	130
33	4×5.5	28			4×5.5 5×5.5	32 43	5×5.5	43	6.3×5.5	54	6.3×5.5	58	6.3×8 8×10.5	95 200	8×10.5	160	10×10.5	170
47	4×5.5	34	4×5.5 5×5.5	36 46			5×5.5 6.3×5.5	50 60	6.3×5.5	60	6.3×8 8×6.5	105 115	8×10.5 10×10.5	240 280	8×10.5	170	12.5×13.5	250
100	5×5.5	61	5×5.5 6.3×5.5	61 71	6.3×5.5	71	6.3×5.5 8×6.5	86 135	6.3×8 8×6.5	145 160	8×10.5 10×10.5	280 480	8×10.5 10×10.5	320 500	10×10.5	240	12.5×16	440
220	6.3×5.5	96	6.3×5.5	96	6.3×8 8×6.5	175 190	6.3×8 8×10.5	165 290	8×10.5 10×10.5	300 560	10×10.5	570	12.5×13.5	580	12.5×16	580	16×21.5 18×16.5	665
330			6.3×8 8×6.5	190 210	8×10.5	330	8×10.5 10×10.5	330 670	10×10.5	680			12.5×13.5	600	18×16.5	680	18×21.5	825
470	6.3×8	200	8×10.5	380	8×10.5 10×10.5	380 680	8×10.5 10×10.5	385 690	12.5×13.5	700	12.5×13.5	700	16×16.5	740	16×21.5 18×16.5	850		
1000			10×10.5	700	12.5×13.5	710	12.5×13.5	720	12.5×16	820	16×16.5	1000	18×21.5	1150				
2200			12.5×16	890	12.5×16	960	16×16.5	1150	16×21.5 18×16.5	1350	18×21.5	1550						
3300			16×16.5	1200	16×16.5	1300	16×21.5 18×16.5	1450	18×21.5	1700								
4700			16×16.5	1400	16×21.5 18×16.5	1500	18×21.5	1750										
6800			16×21.5 18×16.5	1650	18×21.5	1850												
10000			18×21.5	2000														