

# MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

## I14011 (SBP)

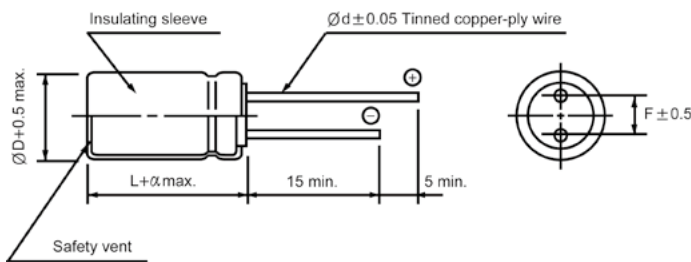
Non-polarized Series

- Standard non-polarized series
- Designed for use in circuits with reversing polarity
- Higher voltage ratings available up to 250V
- Load life of 2000 hours at 85°C
- Complied to the RoHS directive

Items	Performance characteristics																							
Operating temperature range	-40 ~ +85°C																							
Leakage current max.	$I=0.03CV$ or $3\mu A$ whichever is greater (after 5 minutes)																							
Capacitance tolerance	$\pm 20\%$ at 120Hz, 20°C																							
Dissipation factor max. (at 120Hz, 20°C)	Capacitance > 1000 $\mu F$ : $\tan\delta$ increases by 0.02 for each 1000 $\mu F$ from below value.																							
	<table border="1"> <tr> <td>WV</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>80</td> <td>100</td> <td>160</td> <td>200,250</td> </tr> <tr> <td>Tan<math>\delta</math></td> <td>0.25</td> <td>0.23</td> <td>0.20</td> <td>0.15</td> <td>0.15</td> <td>0.12</td> <td>0.12</td> <td>0.12</td> <td>0.12</td> <td>0.15</td> <td>0.20</td> </tr> </table>	WV	6.3	10	16	25	35	50	63	80	100	160	200,250	Tan $\delta$	0.25	0.23	0.20	0.15	0.15	0.12	0.12	0.12	0.12	0.15
WV	6.3	10	16	25	35	50	63	80	100	160	200,250													
Tan $\delta$	0.25	0.23	0.20	0.15	0.15	0.12	0.12	0.12	0.12	0.15	0.20													
Low temperature characteristics (Impedance ratio at 120Hz)	WV	6.3	10	16	25~100	160~250																		
	Z-25°C / Z+20°C	4	3	2	2	3																		
	Z-40°C / Z+20°C	10	8	6	4	5																		
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																						
	Test method	Polarity reverse each 250 hours																						
Shelf life (at 85°C)	After 1000 hours no load test, leakage current, capacitance and $\tan\delta$ are same as load life value.																							

### ● DRAWING

Unit : mm



ΦD	5	6.3	8	10	12.5	16	18	22
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10.0
Φd	0.5		0.6		0.8			
α	1.5		2.0		3.0			

### ● FREQUENCY COEFFICIENT OF PERMISSIBLE RIPPLE CURRENT

μF \ Frequency	50Hz	120Hz	1kHz	10kHz≤
~ 47	0.75	1.00	1.55	2.00
68 ~ 680	0.80	1.00	1.34	1.50
1000 ~	0.85	1.00	1.13	1.15

# MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

## I14011 (SBP) Series

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

WV μF	6.3		10		16		25		35		50		63		
	1.0											5×11	18	5×11	18
1.5											5×11	21	5×11	21	
2.2											5×11	26	5×11	26	
3.3											5×11	32	5×11	32	
4.7											5×11	38	5×11	38	
6.8											5×11	46	5×11	46	
10											5×11	55	6.3×11	64	
15										5×11	61	6.3×11	78	6.3×11	78
22							5×11	73	6.3×11	84	6.3×11	94	8×11.5	111	
33					5×11	78	6.3×11	103	6.3×11	103	8×11.5	136	10×12.5	158	
47			5×11	87	6.3×11	107	6.3×11	123	8×11.5	145	10×12.5	189	10×16	207	
68	5×11	100	6.3×11	120	6.3×11	129	8×11.5	175	10×12.5	203	10×16	249	10×20	272	
100	6.3×11	139	6.3×11	145	8×11.5	184	10×12.5	247	10×16	270	10×20	329	10×20	329	
150	6.3×11	171	8×11.5	210	10×12.5	262	10×16	331	10×20	361	10×20	404	12.5×20	474	
220	8×11.5	244	10×12.5	295	10×16	347	10×20	437	10×20	437	12.5×20	574	12.5×25	625	
330	10×12.5	347	10×16	396	10×20	464	10×20	535	12.5×20	628	16×25	850	16×25	850	
470	10×16	454	10×20	516	10×20	553	12.5×20	750	12.5×25	818	16×31.5	1110	16×35.5	1164	
680	10×20	595	12.5×20	729	12.5×20	781	12.5×25	984	16×25	1091	18×35.5	1503	18×40	1577	
1000	12.5×20	847	12.5×20	883	12.5×25	1033	16×25	1323	16×35.5	1519	18×40	1912	22×40	2105	
1500	12.5×20	999	12.5×25	1132	16×25	1338	16×35.5	1748	18×40	1968	22×40	2386			
2200	12.5×25	1272	16×25	1463	16×35.5	1781	18×40	2254	22×40	2481					
3300	16×25	1672	16×35.5	1985	18×40	2360	22×40	2890							
4700	16×35.5	2221	18×40	2579	22×40	2987									
6800	18×40	2840	22×40	3214											
10000	22×40	3516													

WV μF	80		100		160		200		250	
	1.0	5×11	18	5×11	18					
1.5	5×11	21	5×11	21						
2.2	5×11	26	5×11	26						
3.3	5×11	32	5×11	32	10×16	49	10×16	42	10×20	46
4.7	5×11	38	6.3×11	44	10×16	59	10×20	55	12.5×20	63
6.8	6.3×11	52	8×11.5	62	10×20	77	12.5×20	78	12.5×20	78
10	6.3×11	64	8×11.5	75	12.5×20	109	12.5×20	95	12.5×25	103
15	8×11.5	92	10×12.5	107	12.5×20	134	12.5×25	127	16×25	140
22	10×12.5	129	10×16	142	12.5×25	177	16×25	170	16×31.5	186
33	10×16	173	10×20	189	16×25	240	16×35.5	239	18×35.5	256
47	10×20	226	12.5×20	265	16×35.5	329	18×40	321		
68	12.5×20	319	12.5×25	348	18×35.5	425				
100	12.5×20	387	16×25	468						
150	12.5×25	516	16×25	573						
220	16×25	694	16×35.5	797						
330	16×35.5	976	18×40	1098						
470	18×40	1311	22×40	1443						
680	22×40	1736								

↑ Case size Φ D×L (mm)  
 ← Ripple current (mA rms) at 85°C , 120Hz