

MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

I14056 (SHM)

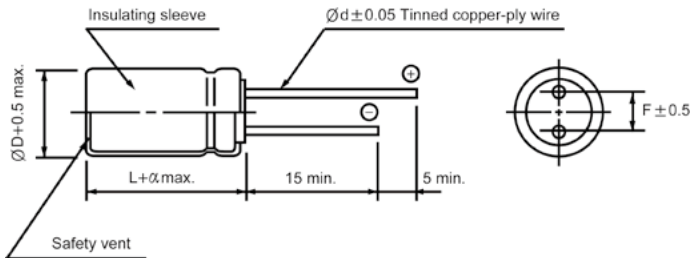
High Ripple Current Series

- Enabled high ripple current by a reduction of impedance at high frequency
- High reliability withstanding 5000 hours load life at 105°C
(2000~3000 hours for smaller case sizes as specified below)
- Complied to the RoHS directive

Items	Performance characteristics																	
Operating temperature range	-40 ~ +105°C																	
Leakage current max.	I=0.01CV or 3μA whichever is greater (after 2 minutes) I=0.03CV or 4μA whichever is greater (after 1 minute)																	
Capacitance tolerance	±20% at 120Hz, 20°C																	
Dissipation factor max. (at 120Hz, 20°C)	Capacitance > 1000μF: tanδ increases by 0.02 for each 1000μF 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>100</td> </tr> <tr> <td>Tanδ</td> <td>0.22</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.08</td> <td>0.08</td> </tr> </table>	WV	6.3	10	16	25	35	50	63	100	Tanδ	0.22	0.19	0.16	0.14	0.12	0.10	0.08
WV	6.3	10	16	25	35	50	63	100										
Tanδ	0.22	0.19	0.16	0.14	0.12	0.10	0.08	0.08										
Low temperature characteristics (Impedance ratio at 120Hz)	Z-40°C / Z+20°C																	
	Z-25°C / Z+20°C																	
Load life (after application of the rated voltage for 5000 hours at 105°C)	Leakage current	Less than specified value																
	Capacitance change	Within ±25% of initial value																
	Tanδ	Less than 200% of specified value																
	Φ5, Φ6.3 : 2000 hours; Φ8: 3000 hours; ≥ Φ10: 5000 hours.																	
Shelf life (at 105°C)	After 1000 hours no load test, leakage current, capacitance and tanδ are same as load life value.																	

● DRAWING

Unit : mm



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

● FREQUENCY COEFFICIENT OF PERMISSIBLE RIPPLE CURRENT

Frequency μF	120Hz	1kHz	10kHz	50kHz	100kHz≤
~ 33	0.40	0.65	0.82	0.94	1.00
39 ~ 270	0.50	0.70	0.84	0.96	1.00
330 ~ 680	0.55	0.75	0.86	0.96	1.00
820 ~ 1800	0.60	0.80	0.88	0.97	1.00
2200 ~	0.70	0.85	0.90	0.97	1.00

MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

I14056 (SHM) Series

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

WV μF	6.3			10			16			25		
	10							5×11	0.525	250	5×11	0.850
22	5×11	0.525	250	5×11	0.525	250	5×11	0.525	270	5×11	0.525	270
33	5×11	0.525	270	5×11	0.525	270	5×11	0.525	290	5×11	0.525	290
47	5×11	0.450	290	5×11	0.450	290	5×11	0.450	310	5×11	0.500	310
100	5×11	0.450	310	5×11	0.450	310	5×11 6.3×11	0.450 0.300	310 405	6.3×11	0.225	460
150	6.3×11	0.300	405	6.3×11	0.300	405	6.3×11	0.225	460	8×11.5	0.160	760
220	6.3×11	0.225	460	6.3×11	0.225	460	8×11.5	0.108	760	8×11.5	0.160	950
330	6.3×11	0.225	505	8×11.5	0.150	760	8×11.5	0.108	950	10×12.5	0.098	1280
390	8×11.5	0.108	550	8×11.5	0.150	760	8×16 10×12.5	0.098 0.098	1000 1000	8×16 10×12.5	0.098 0.098	1430 1430
470	8×11.5	0.108	950	8×11.5	0.150	950	8×11.5 8×16 10×12.5	0.108 0.098 0.088	950 1100 1280	10×12.5 10×16 10×20	0.098 0.065 0.060	1430 1785 1785
560	8×16 10×12.5	0.098 0.098	1000 1050	8×16 10×12.5	0.098 0.098	1100 1100	8×20 10×16	0.088 0.088	1280 1280	8×20 10×16	0.088 0.088	1900 1900
680	10×12.5	0.088	1280	8×16 10×12.5	0.098 0.088	1280 1280	10×16	0.065	1785	10×16 10×20	0.065 0.050	1900 2270
820	10×16	0.075	1300	10×12.5	0.088	1400	10×16	0.065	1785	10×20	0.050	2300
1000	10×16	0.065	1785	8×20 10×12.5 10×16	0.088 0.088 0.065	1600 1600 1785	8×20 10×16 10×20	0.088 0.065 0.050	2000 2000 2270	10×20 10×25 12.5×20	0.050 0.045 0.043	2400 2560 2950
1200				10×16	0.065	2200				12.5×20	0.043	3100
1500	10×20	0.050	2270	10×20	0.050	2270	10×25 12.5×20	0.043 0.043	2450 2450	12.5×25 16×20	0.029 0.029	3470 3600
1800	10×20	0.050	2300	12.5×20	0.043	2350	12.5×25	0.029	2950	12.5×25	0.029	3650
2200	12.5×20	0.043	2950	10×20 10×25 12.5×20	0.050 0.048 0.043	2650 2950 2950	10×30 12.5×25	0.029 0.029	3460 3460	12.5×25 16×25	0.029 0.024	3700 3890
3300	12.5×20	0.040	3000	12.5×25 16×20	0.029 0.029	3140 3140	16×25	0.024	3500	16×31.5	0.024	3900
4700	16×25	0.024	3114	16×25	0.024	3200	16×31.5	0.024	3600	18×35.5	0.022	3950
6800	16×25	0.024	3114	16×31.5	0.024	3312	18×35.5	0.022	3700			
10000	16×31.5	0.024	3312	18×35.5	0.022	3420						
15000	18×35.5	0.022	3420									

WV μF	35			50			63			100		
	1.0				5×11	3.000	250					
2.2				5×11	3.000	250				5×11	3.000	125
3.3				5×11	1.500	250	5×11	2.000	165	5×11	2.000	125
4.7	5×11	0.525	250	5×11	1.500	270	5×11	2.000	165	5×11	2.000	125
10	5×11	0.525	270	5×11	0.750	290	5×11	0.800	165	6.3×11	1.200	205
22	5×11	0.525	290	5×11	0.500	310	6.3×11	0.500	265	8×11.5	0.600	355
33	5×11	0.450	310	6.3×11	0.300	405	6.3×11	0.500	265	10×12.5	0.250	450
47	6.3×11	0.330	460	6.3×11	0.300	460	8×11.5	0.300	500	8×16 10×16	0.300 0.200	500 580
56	6.3×11	0.330	460	8×11.5	0.160	580	10×12.5	0.160	680	10×16	0.160	750
100	8×11.5	0.160	760	8×11.5 8×16	0.160 0.108	950 960	10×16	0.100	945	10×20 12.5×20	0.150 0.100	800 1045
150	8×11.5	0.160	950	10×12.5	0.088	1280	10×20	0.080	1100	12.5×25	0.080	1195
220	8×16 10×12.5	0.098 0.088	1030 1280	10×16	0.065	1785	10×25	0.070	1300	16×25	0.060	1600
330	10×16	0.065	1785	10×20	0.050	2270	12.5×20	0.050	1495	16×31.5	0.040	1750
390	8×20	0.088	1830	10×20	0.050	2270	12.5×25	0.039	1600	16×31.5	0.040	1750
470	8×20 10×16 10×20	0.088 0.065 0.050	1930 1930 2270	12.5×20	0.043	2950	16×20	0.035	1990	18×40	0.030	2060
680	10×20 12.5×20	0.050 0.043	2400 2950	12.5×25	0.029	3460	16×25	0.030	2780			
1000	12.5×20 12.5×25	0.043 0.032	3100 3460	16×25	0.027	3890	16×35.5	0.020	2835			
1500	12.5×25 16×20 16×25	0.029 0.027 0.024	3500 3600 3890	16×31.5	0.024	3900						
2200	16×31.5	0.024	3900	18×35.5	0.022	3950						
3300	18×35.5	0.022	3950									

Case size ΦD×L(mm)
 Ripple current (mA rms) at 105°C, 100kHz
 Impedance (Ω) max. at 20°C, 100kHz