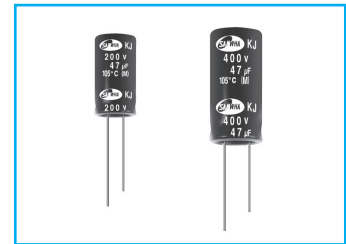


# MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

**KJ** For PSU, High Ripple, Long Life Series

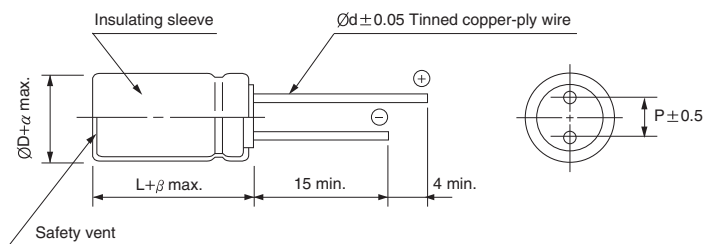
- High reliability withstanding 12000 hours load life at 105°C
- Suitable for CFL, adapter and power supply
- Complied to the RoHS directive



Item	Characteristics																											
Operating temperature range	-40 ~ +105°C (160 ~ 450WV), -25 ~ +105°C (500WV)																											
Leakage current max.	I = 0.04CV + 100µA (after 1 minutes) I = 0.02CV + 25µA (after 5 minutes)																											
Capacitance tolerance	±20% at 120Hz, 20°C																											
Dissipation factor max. (at 120Hz, 20°C)	<table border="1"> <tr> <td>WV</td> <td>160</td> <td>200</td> <td>250</td> <td>350</td> <td>400</td> <td>420</td> <td>450</td> <td>500</td> </tr> <tr> <td>tanδ</td> <td>0.15</td> <td>0.15</td> <td>0.15</td> <td>0.20</td> <td>0.20</td> <td>0.20</td> <td>0.20</td> <td>0.24</td> </tr> </table>	WV	160	200	250	350	400	420	450	500	tanδ	0.15	0.15	0.15	0.20	0.20	0.20	0.20	0.24									
	WV	160	200	250	350	400	420	450	500																			
tanδ	0.15	0.15	0.15	0.20	0.20	0.20	0.20	0.24																				
Low temperature characteristics (Impedance ratio at 120Hz)	<table border="1"> <tr> <td>WV</td> <td>160</td> <td>200</td> <td>250</td> <td>350</td> <td>400</td> <td>420</td> <td>450</td> <td>500</td> </tr> <tr> <td>Z-25°C/Z+20°C</td> <td>3</td> <td>3</td> <td>3</td> <td>6</td> <td>6</td> <td>6</td> <td>6</td> <td>6</td> </tr> <tr> <td>Z-40°C/Z+20°C</td> <td>4</td> <td>4</td> <td>4</td> <td>6</td> <td>6</td> <td>6</td> <td>6</td> <td>-</td> </tr> </table>	WV	160	200	250	350	400	420	450	500	Z-25°C/Z+20°C	3	3	3	6	6	6	6	6	Z-40°C/Z+20°C	4	4	4	6	6	6	6	-
WV	160	200	250	350	400	420	450	500																				
Z-25°C/Z+20°C	3	3	3	6	6	6	6	6																				
Z-40°C/Z+20°C	4	4	4	6	6	6	6	-																				
Load life	After an application of DC bias voltage plus the rated AC ripple current for 12000 hours at 105°C. The measurement shall meet the following limits. The DC voltage plus the peak AC voltage combined must not exceed the rated voltage.																											
	<table border="1"> <tr> <td>Leakage current</td> <td>Less than specified value</td> </tr> <tr> <td>Capacitance change</td> <td>Within ±20% of initial value</td> </tr> <tr> <td>tanδ</td> <td>Less than 200% of specified value</td> </tr> </table>	Leakage current	Less than specified value	Capacitance change	Within ±20% of initial value	tanδ	Less than 200% of specified value																					
	Leakage current	Less than specified value																										
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tanδ	Less than 200% of specified value																											
Shelf life (at 105°C)	After 1000 hours no load test, leakage current, capacitance and tanδ are same as load life value. The measurement shall be performed at 20°C by the KS C IEC 60384 - 4																											

## ● DRAWING

Unit : mm



ØD	8	10	12.5	16	18	20
P	3.5	5.0	5.0	7.5	7.5	10.0
Ød	0.6	0.6	0.6	0.8	0.8	0.8
α	0.5					1.0
β	1.5	2.0			3.0	

## ● FREQUENCY COEFFICIENT OF PERMISSIBLE RIPPLE CURRENT

WV	µF	Frequency					
		120Hz	300Hz	1kHz	10kHz	50kHz	100kHz ≤
160~450	~ 15	0.30	0.50	0.60	0.90	0.95	1.00
	22 ~ 47	0.40	0.50	0.70	0.90	0.95	1.00
	68 ~	0.50	0.60	0.80	0.90	0.95	1.00
500	~ 39	0.40	0.50	0.70	0.90	0.95	1.00
	47 ~	0.50	0.60	0.80	0.90	0.95	1.00

## KJ series

### ● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

$\mu\text{F}$ \diagdown WV	160		200		250		350	
4.7					8 × 11.5	193	10 × 12.5	198
6.8					8 × 11.5	220	10 × 16	308
					10 × 12.5	319		
10	10 × 16	358	10 × 16	407	8 × 15	292	8 × 20	424
					10 × 16	407	10 × 20	462
22	10 × 16	572	10 × 20	638	10 × 20	580	12.5 × 20	743
27	10 × 16	611	10 × 20	638	10 × 20	660	12.5 × 20	784
33	10 × 16	690	10 × 20	825	12.5 × 20	853	16 × 20	858
39	10 × 20	759	12.5 × 20	839	12.5 × 20	886	16 × 20	880
47	10 × 20	924	12.5 × 20	1100	12.5 × 20	1100	16 × 25	1130
68	12.5 × 20	924	12.5 × 25	1188	16 × 20	1210	18 × 25	1220
			16 × 20	1210				
82	12.5 × 25	1040	16 × 25	1232	16 × 20	1340	18 × 25	1380
100	12.5 × 25	1210	16 × 25	1434	16 × 25	1540	18 × 31.5	1617
	16 × 20				18 × 20			
120	16 × 25	1325	16 × 25	1571	18 × 25	1645	18 × 35.5	1848
150	16 × 25	1645	18 × 25	1727	18 × 25	1914	18 × 40	2072
180	16 × 25	1782	18 × 25	1760	18 × 31.5	2024	20 × 41	2310
220	18 × 25	2090	18 × 31.5	2222	18 × 35.5	2200		
270	16 × 35.5	2200	18 × 35.5	2530				
330	16 × 40	2508	18 × 40	2750				
470	18 × 45	3084						

$\mu\text{F}$ \diagdown WV	400		420		450		500	
1	8 × 11.5	72			8 × 11.5	90		
2.2	8 × 11.5	99			8 × 11.5	105		
3.3	8 × 11.5	160			8 × 11.5	145		
3.9	8 × 11.5	171			8 × 15	165		
4.7	8 × 15	176			8 × 20	242		
	10 × 12.5	242			10 × 12.5	242		
6.8	8 × 20	231			10 × 16	363		
	10 × 16	308			10 × 20	440		
10	10 × 20	462	10 × 20	462	10 × 20	440	12.5 × 20	413
					12.5 × 20	528		
15	12.5 × 20	528	12.5 × 20	528	12.5 × 20	528	12.5 × 25	440
					12.5 × 25	660		
22	12.5 × 25	792	12.5 × 25	745	12.5 × 25	890	16 × 20	500
			16 × 20	780	16 × 20	900	16 × 25	675
27	16 × 20	803	16 × 20	875	16 × 20	950	16 × 25	823
33	16 × 20	960	12.5 × 30	980	16 × 25	1095	16 × 31.5	880
			16 × 25	1035	18 × 20		18 × 25	
39	16 × 20	1000	16 × 25	1050	16 × 25	1100	16 × 31.5	1033
47	16 × 25	1188	16 × 25	1125	18 × 25	1150	18 × 25	1000
	18 × 20						18 × 31.5	1033
68	16 × 31.5	1309	18 × 25	1265	18 × 31.5	1180	18 × 35.5	1100
							18 × 40	1200
82	18 × 31.5	1639	18 × 31.5	1450	18 × 35.5	1430	18 × 35.5	1250
							18 × 40	1340
100	18 × 35.5	1810	18 × 35.5	1700	18 × 35.5	1740	18 × 45	1400
					18 × 40	1740	20 × 41	1600
120	18 × 40	2006	18 × 40	1700	18 × 45	1740		
150	20 × 41	2244	20 × 41	2000				

Ripple current (mA rms) at 105°C, 100kHz  
 Case size  $\varnothing D \times L$  (mm)