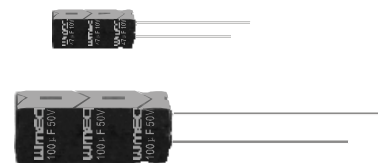


NK Non-polarized, Wide Temperature Range, Height 5mm Series

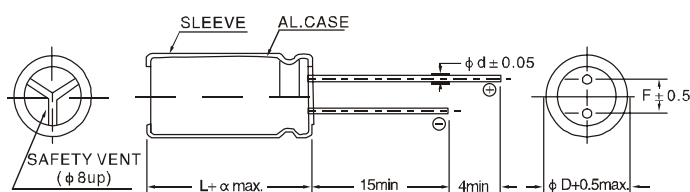
- Wide operating temperature range of -40~ +105°C
- Designed for use in circuits with reversing polarity



• SPECIFICATIONS

Item	Characteristics																											
Operating Temperature Range	-40~+105°C																											
Rated Working Voltage Range	6.3~100V.DC																											
Capacitance Tolerance	±20%(M)at 120Hz,25°C																											
Leakage Current (max.)	I=0.03CV or 3μA whichever is greater after 5 minutes. I: Leakage Current (μA) C: Nominal Capacitance (μF) V: Rated Working Voltage(V)																											
Dissipation Factor (tan δ) (at 120Hz, 25°C) (max.)	When nominal capacitance is over 1000 μF, Tan δ shall be added 0.02 to the listed value with increase of every 1000 μF. <table border="1"> <thead> <tr> <th>WV</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>tan δ</td> <td>0.24</td> <td>0.20</td> <td>0.16</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.09</td> </tr> </tbody> </table>	WV	6.3	10	16	25	35	50	63	100	tan δ	0.24	0.20	0.16	0.16	0.14	0.12	0.10	0.09									
WV	6.3	10	16	25	35	50	63	100																				
tan δ	0.24	0.20	0.16	0.16	0.14	0.12	0.10	0.09																				
Low Temperature Stability (Impedance ratio at 120Hz)	<table border="1"> <thead> <tr> <th>WV</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>Z(-25°C)/Z(+25°C)</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z(-40°C)/Z(+25°C)</td> <td>10</td> <td>8</td> <td>6</td> <td>6</td> <td>6</td> <td>6</td> <td>6</td> <td>6</td> </tr> </tbody> </table>	WV	6.3	10	16	25	35	50	63	100	Z(-25°C)/Z(+25°C)	4	3	2	2	2	2	2	2	Z(-40°C)/Z(+25°C)	10	8	6	6	6	6	6	6
WV	6.3	10	16	25	35	50	63	100																				
Z(-25°C)/Z(+25°C)	4	3	2	2	2	2	2	2																				
Z(-40°C)/Z(+25°C)	10	8	6	6	6	6	6	6																				
Load Life	After 1000 hours application of W.V. at 105°C the capacitor shall meet the following limits. <table border="1"> <tbody> <tr> <td>Capacitance Change</td> <td>≤ ±20% of the initial measured value.</td> </tr> <tr> <td>Dissipation Factor</td> <td>≤200% of the initial specified value.</td> </tr> <tr> <td>Leakage current</td> <td>≤the initial specified value.</td> </tr> <tr> <td>Test Method</td> <td>Polarity reverse every 250 hours.</td> </tr> </tbody> </table>	Capacitance Change	≤ ±20% of the initial measured value.	Dissipation Factor	≤200% of the initial specified value.	Leakage current	≤the initial specified value.	Test Method	Polarity reverse every 250 hours.																			
Capacitance Change	≤ ±20% of the initial measured value.																											
Dissipation Factor	≤200% of the initial specified value.																											
Leakage current	≤the initial specified value.																											
Test Method	Polarity reverse every 250 hours.																											
Shelf Life	At 105°C no voltage applied after 500 hours the capacitor shall meet the following limits. <table border="1"> <tbody> <tr> <td>Capacitance Change</td> <td>≤ +20% of the initial measured value.</td> </tr> <tr> <td>Dissipation Factor</td> <td>≤200% of the initial specified value.</td> </tr> <tr> <td>Leakage Current</td> <td>≤the initial specified value.</td> </tr> </tbody> </table>	Capacitance Change	≤ +20% of the initial measured value.	Dissipation Factor	≤200% of the initial specified value.	Leakage Current	≤the initial specified value.																					
Capacitance Change	≤ +20% of the initial measured value.																											
Dissipation Factor	≤200% of the initial specified value.																											
Leakage Current	≤the initial specified value.																											
Reference Standard	JISC – 5141																											

• DRAWING(Unit:mm)



φD	5	6.3	8	10	13	16	18	22	25
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10.0	10.0
φd	0.5	0.5	0.5	0.6	0.6	0.8	0.8	1.0	1.0
α	1.0		1.5			2.0			

• MULTIPLIER FOR RIPPLE CURRENT

Frequency Multipliers

Frequency Cap(μF)	50Hz	120Hz	300Hz	1KHz	≥10KHz
0.1~47	0.75	1	1.35	1.55	2.0
68~680	0.80	1	1.25	1.34	1.5
1000~10000	0.85	1	1.10	1.13	1.15

Temperature Multipliers

Temp(°C)	40	60	70	85	105
Coefficient	2.4	2.1	1.78	1.65	1

NK SERIES

• DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

WV Cap.(μF)	6.3		10		16		25	
	SIZE	R.C.	SIZE	R.C.	SIZE	R.C.	SIZE	R.C.
6.8							5×11	26
10					5×11	31	5×11	31
15			5×11	34	5×11	38	6.3×11	44
22	5×11	38	5×11	41	5×11	53	6.3×11	63
33	5×11	46	5×11	58	6.3×11	77	6.3×11	77
47	5×11	63	6.3×11	69	6.3×11	92	8×11	106
68	6.3×11	76	6.3×11	98	8×11	128	10×12	140
100	6.3×11	109	8×11	139	10×12	170	10×17	185
150	10×12	155	10×16	186	10×20	227	13×20	267
220	8×11	188	10×17	246	10×20	323	10×20	323
330	10×17	252	10×20	354	10×20	396	13×21	431
470	10×17	328	10×20	422	13×21	515	13×25	571
680	10×20	464	13×21	554	13×25	687	16×26	788
1000	13×21	613	13×25	745	16×26	956	16×35	1026
1500	16×25	800	16×36	999	18×36	1184	18×40	1123
2200	16×26	1072	16×26	1242	18×36	1428	22×30	1243
3300	16×35	1361	18×40	1534	22×40	1835	22×40	1572
4700	18×40	1650	22×40	1942	25×50	2498	25×40	2005
6800	22×40	2060	25×50	2603				
10000	25×50	2755						

WV Cap.(μF)	35		50		63		100	
	SIZE	R.C.	SIZE	R.C.	SIZE	R.C.	SIZE	R.C.
0.1			5×11	3.6	5×11	3.9	5×11	4.2
0.15			5×11	4.4	5×11	4.8	5×11	5.1
0.22			5×11	5.9	5×11	4.8	5×11	6.2
0.33			5×11	6.5	5×11	7.2	5×11	7.5
0.47			5×11	7.8	5×11	8.5	5×11	9.2
0.68			5×11	9.4	5×11	10	5×11	11
1.0			5×11	11	5×11	12	5×11	13
1.5			5×11	14	5×11	15	5×11	16
2.2			5×11	17	5×11	18	5×11	19
3.3			5×11	21	5×11	23	6.3×11	27
4.7	5×11	23	5×11	25	6.3×11	31	8×11	39
6.8	5×11	27	6.3×11	34	6.3×11	37	8×11	54
10	5×11	38	6.3×11	41	8×11	53	10×12	65
15	6.3×11	55	8×11	60	10×12	76	10×16	88
22	6.3×11	67	8×11	84	10×12	101		
33	8×11	95	10×12	113	10×17	124		
47	10×12	125	10×17	147	10×20	161		
68	10×17	164	10×20	177	13×21	227		
100	10×20	198	13×21	251	13×25	300		
150	13×20	285	13×25	336	16×25	408		
220	13×21	376	13×25	451	16×35	567		
330	16×26	511	16×35	634	16×35	745		
470	16×26	701	16×35	812	18×40	933		
680	16×35	904	18×35	1025	22×30	1236		
1000	18×40	1151	22×40	1368	22×40	1637		
1500	22×40	1451	25×40	1694				
2200	22×40	1974						
3300								
4700								
6800								
10000								