

## NK Series Non-polarized 105°C



### Features

- ◆ NK Series for crossover networks of high-pitched, mean and low-pitched sounds in high-fidelity sound systems.
- ◆ The series offers excellent frequency characteristics and minimal capacitance deviation with frequency.
- ◆ RoHS Compliant

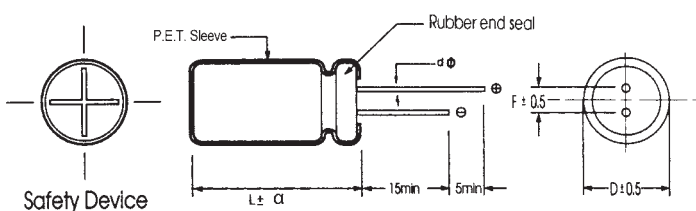
### Specifications

Item	Performance Characteristics																																					
Operating Temperature Range	-40 to +105°C	-25 to +105°C																																				
Rated Voltage Range	6.3 to 100 VDC	160 to 250 VDC																																				
Capacitance Range	0.47 to 3300 µF	0.47 to 47 µF																																				
Capacitance Tolerance	±20%(120Hz,+20°C)																																					
Leakage Current (+20°C,max.)	I ≤ 0.03 CV or 3(µA) After 1 minute whichever is greater measured with rated working voltage applied.																																					
Dissipation Factor (tan δ , at 20°C , 120Hz)	<table border="1"> <tr> <th>Working Voltage(VDC)</th> <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><td>160</td><td>200</td><td>250</td> </tr> <tr> <th>D.F. (%)max.</th> <td>25</td><td>25</td><td>20</td><td>15</td><td>15</td><td>13</td><td>10</td><td>10</td><td>15</td><td>15</td><td>20</td> </tr> </table>											Working Voltage(VDC)	6.3	10	16	25	35	50	63	100	160	200	250	D.F. (%)max.	25	25	20	15	15	13	10	10	15	15	20			
	Working Voltage(VDC)	6.3	10	16	25	35	50	63	100	160	200	250																										
D.F. (%)max.	25	25	20	15	15	13	10	10	15	15	20																											
For Capacitance > 1000 µF, add 2% per another 1000 µF																																						
Low Temperature Characteristics (at 120Hz)	Impedance ratio max																																					
	<table border="1"> <tr> <th>Working Voltage(VDC)</th> <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> <th>Z-25°C / Z+20°C</th> <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> <th>Z-40°C / Z+20°C</th> <td>8</td><td>6</td><td>4</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td> </tr> </table>											Working Voltage(VDC)	6.3	10	16	25	35	50	63	100	Z-25°C / Z+20°C	4	3	2	2	2	2	2	2	Z-40°C / Z+20°C	8	6	4	3	3	3	3	3
	Working Voltage(VDC)	6.3	10	16	25	35	50	63	100																													
	Z-25°C / Z+20°C	4	3	2	2	2	2	2	2																													
Z-40°C / Z+20°C	8	6	4	3	3	3	3	3																														
<table border="1"> <tr> <th>Working Voltage(VDC)</th> <td>160</td><td>200</td><td>250</td> </tr> <tr> <th>Z-25°C / Z+20°C</th> <td>2</td><td>2</td><td>3</td> </tr> </table>											Working Voltage(VDC)	160	200	250	Z-25°C / Z+20°C	2	2	3																				
Working Voltage(VDC)	160	200	250																																			
Z-25°C / Z+20°C	2	2	3																																			
For Capacitance > 1000 µF, add 0.5 per another 1000 µF for -25°C / +20°C add 1 per another 1000 µF for -40°C / +20°C																																						
Endurance	Test conditions Duration time : 2000Hrs Ambient temperature : +105°C Applied voltage : Rated DC working voltage Each 250 hours, we will reserve the terminal and test the characteristics. After test requirement at +20°C Capacitance change : ≤ ±20% of the initial measured value Dissipation factor : ≤ 150% of the initial specified value Leakage current : ≤ The initial specified value																																					
	Test conditions Duration time : 1000Hrs Ambient temperature : +105°C Applied voltage : None After test requirement at +20°C: Same limits as Endurance. Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes.																																					
Shelf Life	Test conditions Duration time : 1000Hrs Ambient temperature : +105°C Applied voltage : None After test requirement at +20°C: Same limits as Endurance. Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes.																																					

### Multiplier for Ripple Current vs. Frequency

CAP(µF)\Frequency(Hz)	50(60)	120	400	1K	10K	50K~100K
CAP ≤ 10	0.8	1	1.30	1.45	1.65	1.70
10 < CAP ≤ 100	0.8	1	1.23	1.36	1.48	1.53
100 < CAP ≤ 1000	0.8	1	1.16	1.25	1.35	1.38
1000 < CAP	0.8	1	1.11	1.17	1.25	1.28

### Diagram of Dimensions:(unit:mm)



D φ	5	6.3	8	10	13	16	18
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
d φ	0.5		L < 20 0.5	L ≥ 20 0.6	0.6		0.8

α	D < 16	D = 16		D = 18		D > 18
	L: 25~35.5	L < 25 and L ≥ 40	L: 25~31.5	L < 25 and L ≥ 35.5		
	1.5	1.5	2.0	1.5	2.0	2.0

## Case Size

WV (Vdc)	Cap (µF)	Size (mm)	Rated Ripple current (mArms/105°C /120Hz)
6.3	100	5x11	99
6.3	220	8x11.5	149
6.3	330	8x11.5	190
6.3	470	10x12.5	280
6.3	1000	10x16	352
6.3	2200	13x20	645
6.3	3300	16x25	950
10	33	5x11	59
10	47	5x11	79
10	100	6.3x11	99
10	220	8x11.5	157
10	330	10x12.5	235
10	470	10x12.5	290
10	1000	10x20	430
10	2200	16x25	830
10	3300	16x31.5	1150
16	22	5x11	53
16	33	5x11	62
16	47	6.3x11	90
16	100	6.3x11	99
16	100	8x11.5	123
16	220	8x11.5	200
16	220	10x12.5	234
16	330	10x12.5	255
16	470	10x16	360
16	1000	13x20	511
16	2200	16x31.5	950
25	10	5x11	34
25	22	6.3x11	55
25	33	6.3x11	72
25	47	6.3x11	96
25	100	8x11.5	152
25	220	10x12.5	245
25	330	10x16	310
25	470	13x20	420
35	10	5x11	38
35	22	6.3x11	65
35	33	8x11.5	75
35	47	8x11.5	107
35	100	10x12.5	198
35	220	10x20	320
35	330	13x20	370
35	470	13x25	495
50	0.47	5x11	8
50	1	5x11	12
50	2.2	5x11	17
50	3.3	5x11	23
50	4.7	5x11	30
50	10	6.3x11	50
50	22	8x11.5	85
50	33	8x11.5	89
50	47	10x12.5	123
50	100	10x16	198
50	100	10x20	220

WV (Vdc)	Cap (µF)	Size (mm)	Rated Ripple current (mArms/105°C /120Hz)
50	220	13x20	340
50	220	13x25	375
50	330	16x25	500
63	0.47	5x11	9
63	1	5x11	14
63	2.2	5x11	20
63	3.3	6.3x11	25
63	4.7	6.3x11	30
63	10	6.3x11	52
63	22	8x11.5	88
63	22	10x12.5	92
63	33	10x12.5	115
63	47	10x16	150
63	100	13x20	295
63	220	13x25	420
100	0.47	5x11	10
100	1	5x11	15
100	2.2	5x11	20
100	2.2	6.3x11	22
100	3.3	6.3x11	28
100	4.7	6.3x11	32
100	4.7	8x11.5	36
100	10	8x11.5	52
100	10	10x12.5	55
100	22	10x16	120
100	33	10x20	175
100	47	13x20	187
100	100	16x25	399
160	0.47	5x11	12
160	1	6.3x11	18
160	2.2	8x11.5	28
160	3.3	8x11.5	37
160	4.7	10x12.5	45
160	10	10x16	79
160	22	13x20	140
160	33	13x20	200
160	47	13x25	215
200	0.47	6.3x11	17
200	1	8x11.5	21
200	2.2	8x11.5	32
200	3.3	10x12.5	40
200	4.7	10x16	52
200	10	10x20	86
200	22	13x20	160
200	33	13x25	213
250	0.47	6.3x11	22
250	1	8x11.5	25
250	2.2	10x12.5	39
250	3.3	10x16	43
250	4.7	10x20	65
250	10	10x20	109
250	22	13x25	189
250	33	16x25	250