

NK Series

NK Series Non-polar 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.
- ◆ For detail specifications, please refer to Engineering Bulletin No.E110



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)	(+20°C,at 120Hz)	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 uF, add 2% per another 1000 uF											
Low Temperature Characteristics (120Hz)	Impedance ratio max.	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)	160	200	250								
		Z-25°C / Z+20°C		2	2	3							
		For Capacitance > 1000 uF, add 0.5 per another 1000 uF for -25°C/+20°C add 1 per another 1000 uF for -40°C/+20°C											
Load Life	Test conditions Duration time : 2000Hrs Ambient temperature : +105°C Applied voltage : Rated DC working voltage After test requirements 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												
Shelf Life	Test conditions Duration time : 1000Hrs Ambient temperature : +105°C Applied voltage : None After test requirements at +20°C: Same limits as Load life. Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes.												

Radial

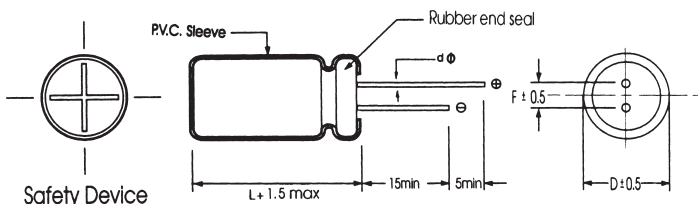
Multiplier for Ripple Current vs. Frequency

CAP(µF) \ Hz		50(60)	120	400	1K	10K	50K-100K
Multiplier	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

Multiplier for Ripple Current vs. Temperature

Temperature°C	45	60	70	85	95	105
Multiplier	2.10	1.90	1.65	1.40	1.25	1.00

Diagram of Dimensions:(unit:mm)



D ψ	5	6.3	8	10	13	16
F	2.0	2.5	3.5	5.0	5.0	7.5
d ψ	0.5			0.6		0.8

NK Series

Case Size

φ DxL(mm)

WV (SV) μF	6.3 (8)		10 (13)		16 (20)		25 (32)		35 (44)	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
10									5x11	38
22					5x11	53	6.3x11	55	6.3x11	65
33			5x11	59	5x11	62	6.3x11	72	8x11.5	75
47			5x11	79	6.3x11	90	6.3x11	96	8x11.5	107
100	5x11	99	6.3x11	99	6.3x11	99	8x11.5	152	10x12.5	198
					8x11.5	123				
220	8x11.5	149	8x11.5	157	8x11.5	200	10x12.5	245	10x20	320
					10x12.5	234				
330	8x11.5	190	10x12.5	235	10x12.5	255	10x16	310	13x20	370
470	10x12.5	280	10x12.5	290	10x16	360	13x20	420	13x25	495
1000	10x16	352	10x20	430	13x20	511				
2200	13x20	645	16x25	830	16x31.5	950				
3300	16x25	950	16x31.5	1150						

WV (SV) μF	50 (63)		63 (79)		100 (125)		160 (200)	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
0.47	5x11	8	5x11	9	5x11	10	5x11	12
1	5x11	12	5x11	14	5x11	15	6.3x11	18
2.2	5x11	17	5x11	20	5x11	20	8x11.5	28
					6.3 x11	22		
3.3	5x11	23	6.3x11	25	6.3x11	28	8x11.5	37
4.7	5x11	30	6.3x11	30	6.3x11	32	10x12.5	45
					8x11.5	36		
10	6.3x11	50	6.3x11	52	8x11.5	52	10x16	79
					10x12.5	55		
22	8x11.5	85	8x11.5	88	10x16	120	13x20	140
			10x12.5	92				
33	8x11.5	89	10x12.5	115	10x20	175	13x20	200
47	10x12.5	123	10x16	150	13x20	187	13x25	215
100	10x16	198	13x20	295	16x25	399		
	10x20	220						
220	13x20	340	13x25	420				
	13x25	375						
330	16x25	500						

Ripple Current (mA, rms) at 105°C 120Hz

WV (SV) μF	200 (250)		250 (300)	
	Size	Ripple	Size	Ripple
0.47	6.3x11	17	6.3x11	22
1	8x11.5	21	8x11.5	25
2.2	8x11.5	32	10x12.5	39
3.3	10x12.5	40	10x16	43
4.7	10x16	52	10x20	65
10	10x20	86	10x20	109
22	13x20	160	13x25	189
33	13x25	213	16x25	250