

## NK Series

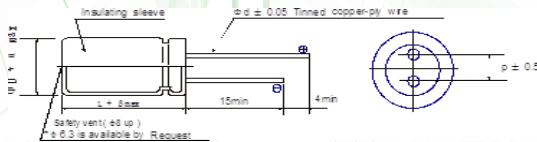
- Standard non-polarized series
- Designed for use in circuits with reversing polarity
- Load life of 1000 hours at 105
- Solvent-proof
- Rohs compliance.

### SPECIFICATIONS

Item	Characteristics																											
Operating Temperature Range	- 40 ~ +105°C																											
Voltage Range	6.3 ~ 100 V.DC																											
Nominal Cap. Range	0.47 ~ 4700 $\mu$ F																											
Capacitance Tolerance	- 20% ~ + 20% (at 20°C, 120Hz)																											
Leakage Current	$I = 0.03CV$ or $3(\mu A)$ whichever is greater.(after 5 min.) where, I: Max Leakage Current( $\mu A$ ), C: Nominal Capacitance( $\mu F$ ), V: Rated Voltage(V) (at 20°C)																											
Dissipation Factor (tan $\delta$ ) (at 120Hz, +20°C)	<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<math>\delta</math></td> <td>0.24</td> <td>0.20</td> <td>0.17</td> <td>0.15</td> <td>0.14</td> <td>0.12</td> <td>0.12</td> <td>0.10</td> </tr> </tbody> </table>	WV	6.3	10	16	25	35	50	63	100	tan $\delta$	0.24	0.20	0.17	0.15	0.14	0.12	0.12	0.10									
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tan $\delta$	0.24	0.20	0.17	0.15	0.14	0.12	0.12	0.10																				
Low Temp. Impedance Stability at 120Hz	<table border="1"> <thead> <tr> <th>W, V</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(+20°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(+20°C)</td> <td>10</td> <td>8</td> <td>6</td> <td>5</td> <td>4</td> <td>4</td> <td>3</td> <td>3</td> </tr> </tbody> </table>	W, V	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)	10	8	6	5	4	4	3	3
W, V	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)	10	8	6	5	4	4	3	3																				
High Temp. Load Test	105°C 1,000 hours, at rated voltage, during which the polarity of DC voltage is reversed for each 500 hours, the capacitor shall meet the following limits: Capacitance change ... $\leq \pm 20\%$ of the initial measured value Tan $\delta$ ... $\leq 150\%$ of the initial specified value DC leakage current ... $\leq$ the initial specified value																											
High Temp. Non-Load Test	After storage for 500 hours at 105°C with no voltage applied, voltage treatment of JIS-C-5102 article 4-4 is to be given and then measurement shall be made, at which time requirements specified in the table "High temperature loading" can be met.																											

Note: Some cleaning solvents may adversely affect the capacitors. Consult us about the suitable type of cleaning solvents to be used.

### DRAWING



Unit : mm

$\Phi D$	5	6.3	8	10	13	16	18
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5
$\Phi d$	0.5	0.5	0.5	0.6	0.6	0.8	0.8
$\beta$	1.0			1.5			
$\alpha$	0.5						

### MULTIPLIER FOR RIPPLE CURRENT

Frequency coefficient

Freq.(HZ)	60(50)	120	300	1K	10K
Cap( $\mu F$ )					
0.47~47	0.75	1.00	1.35	1.55	2.00
68~680	0.80	1.00	1.25	1.34	1.50
1000~4700	0.85	1.00	1.10	1.13	1.15

### PART NUMBERING SYSTEM

Series	Rated Cap.	Cap. Tolerance	Rated Voltage	Case Size D	Case Size L
NK	□□□	□	□□□	□	□□

## NK Series

### STANDARD RATINGS

Parameter Cap (μF)	6.3		10		16		25		35		50		63		100	
	ΦDxL (mm)	Ripple current (mArms)	ΦDxL (mm)	Ripple current (mArms)	ΦDxL (mm)	Ripple current (mArms)	ΦDxL (mm)	Ripple current (mArms)	ΦDxL (mm)	Ripple current (mArms)	ΦDxL (mm)	Ripple current (mArms)	ΦDxL (mm)	Ripple current (mArms)	ΦDxL (mm)	Ripple current (mArms)
0.47											5 X 11	7.8	5 X 11	8.5	5 X 11	9.2
1											5 X 11	11	5 X 11	12	5 X 11	13
2.2											5 X 11	17	5 X 11	18	5 X 11	19
3.3											5 X 11	21	5 X 11	23	6.3 X 11	27
4.7									5 X 11	23	5 X 11	25	6.3 X 11	31	8 X 12	39
10					5 X 11	31	5 X 11	26	6.3 X 11	38	6.3 X 11	41	6.3 X 11	53	10 X 12	65
22	5 X 11	38	5 X 11	41	6.3 X 11	53	8 X 12	63	8 X 12	67	8 X 12	84	10 X 16	101		
33	5 X 11	46	6.3 X 11	58	8 X 12	77	8 X 12	77	10 X 12	95	10 X 16	114	10 X 16	124		
47	6.3 X 11	63	6.3 X 11	69	8 X 12	92	10 X 12	106	10 X 16	125	10 X 20	147	10 X 20	161		
68	6.3 X 11	76	8 X 12	98	10 X 12	128	10 X 16	140	10 X 20	164	10 X 20	177	13 X 20	227		
100	8 X 12	109	10 X 12	139	10 X 16	170	10 X 20	185	10 X 20	198	13 X 20	251	13 X 25	300		
220	10 X 12	188	10 X 20	246	13 X 20	323	13 X 20	323	13 X 25	376	16 X 25	451	16 X 35	567		
330	10 X 16	252	13 X 20	354	13 X 20	396	13 X 25	431	16 X 25	511	16 X 35	634	18 X 35	745		
470	10 X 20	328	13 X 20	422	13 X 25	515	16 X 25	571	16 X 35	701	18 X 35	812	18 X 40	993		
680	13 X 20	464	13 X 25	554	16 X 25	687	16 X 35	788	18 X 35	904	18 X 40	1025	22 X 40	1236		
1000	13 X 25	613	16 X 25	745	16 X 35	956	18 X 35	1026	18 X 40	1151	22 X 40	1366	25 X 40	1637		
2200	16 X 35	1072	18 X 35	1242	18 X 40	1428	22 X 40	1572	25 X 50	1974	25 X 40	1694				
3300	18 X 35	1361	18 X 40	1534	22 X 40	1835	25 X 40	2005								
4700	18 X 40	1650	22 X 40	1942	25 X 50	2498										

Rated Ripple Current (mArms) at 105 120Hz  
 Case Size: ΦDxL (mm)