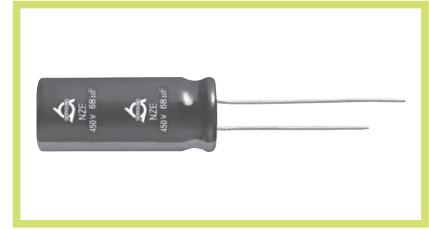


## NZE Series

• 105°C 2,000Hrs assured.

- Non-solvent proof.
- Downsized, High Ripple.
- For SMPS, IP-Board, Adaptor.
- RoHS compliant.
- Halogen-free capacitors are also available.



### SPECIFICATIONS

Item	Characteristics														
Rated Voltage Range	160 ~ 400 V <sub>DC</sub>	420 ~ 500 V <sub>DC</sub>													
Operating Temperature Range	-40 ~ + 105°C	-25 ~ +105°C													
Capacitance Tolerance	±20%(M) (at 20°C, 120Hz)														
Leakage Current	<table border="1"> <thead> <tr> <th>C · V \ Time</th> <th>After 1 minute</th> <th>After 5 minutes</th> </tr> </thead> <tbody> <tr> <td>≤ 1000</td> <td>I = 0.1CV + 40</td> <td>I = 0.03CV + 15</td> </tr> <tr> <td>&gt; 1000</td> <td>I = 0.04CV + 100</td> <td>I = 0.02CV + 25</td> </tr> </tbody> </table>		C · V \ Time	After 1 minute	After 5 minutes	≤ 1000	I = 0.1CV + 40	I = 0.03CV + 15	> 1000	I = 0.04CV + 100	I = 0.02CV + 25				
	C · V \ Time	After 1 minute	After 5 minutes												
≤ 1000	I = 0.1CV + 40	I = 0.03CV + 15													
> 1000	I = 0.04CV + 100	I = 0.02CV + 25													
Where, I:Max. Leakage current(μA) C:Nominal capacitance(μF) V:Rated voltage(V <sub>DC</sub> ) (at 20°C)															
Dissipation Factor(Tanδ)	<table border="1"> <thead> <tr> <th>Rated Voltage(V<sub>DC</sub>)</th> <th>160~250</th> <th>350~500</th> </tr> </thead> <tbody> <tr> <td>Tanδ(Max.)</td> <td>0.20</td> <td>0.24</td> </tr> </tbody> </table>		Rated Voltage(V <sub>DC</sub> )	160~250	350~500	Tanδ(Max.)	0.20	0.24							
	Rated Voltage(V <sub>DC</sub> )	160~250	350~500												
Tanδ(Max.)	0.20	0.24													
(at 20°C, 120Hz)															
Temperature Characteristics (Max. Impedance ratio)	<table border="1"> <thead> <tr> <th>Rated Voltage(V<sub>DC</sub>)</th> <th>160~250</th> <th>350~400</th> <th>420~500</th> </tr> </thead> <tbody> <tr> <td>Z(-25°C)/Z(+20°C)</td> <td>3</td> <td>5</td> <td>6</td> </tr> <tr> <td>Z(-40°C)/Z(+20°C)</td> <td>6</td> <td>6</td> <td>—</td> </tr> </tbody> </table>			Rated Voltage(V <sub>DC</sub> )	160~250	350~400	420~500	Z(-25°C)/Z(+20°C)	3	5	6	Z(-40°C)/Z(+20°C)	6	6	—
	Rated Voltage(V <sub>DC</sub> )	160~250	350~400	420~500											
	Z(-25°C)/Z(+20°C)	3	5	6											
Z(-40°C)/Z(+20°C)	6	6	—												
(at 120Hz)															
Load Life	<p>The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage)for 2,000 hours at 105°C.</p> <p>Capacitance change ≤ ±20% of the initial value                      Tanδ ≤ 200% of the initial specified value                      Leakage current ≤ The initial specified value</p>														
Shelf Life	<p>The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 105°C without voltage applied. The rated voltage shall be applied to the capacitors for a minimum of 30 minutes, at least 24 hours and not more than 48 hours before the measurements.</p> <p>Capacitance change ≤ ±20% of the initial value                      Tanδ ≤ 200% of the initial specified value                      Leakage current ≤ 500% of the initial specified value</p>														
Others	Satisfied characteristics KS C IEC 60384-4														

### DIMENSIONS OF NZE Series

Unit(mm)

Marking : DARK BROWN SLEEVE, SILVER INK

øD	6.3	8	10	12.5	16	18	20	22
ød	0.5	0.6	0.6	0.6	0.8	0.8	0.8	0.8
F	2.5	3.5	5.0	5.0	7.5	7.5	7.5	10.0
øD'	øD + 0.5 max.							
L'	L + 1.5max.		L + 2.0 max.					

## RATINGS OF NZE Series

V <sub>DC</sub> μF	160		200		250	
	Items ∅ D×L(mm)	Rated Ripple Current (mA <sub>rms</sub> /105°C, 120Hz)	∅ D×L(mm)	Rated Ripple Current (mA <sub>rms</sub> /105°C, 120Hz)	∅ D×L(mm)	Rated Ripple Current (mA <sub>rms</sub> /105°C, 120Hz)
3.3			6.3×11	45		
4.7			8×11.5	64	8×11.5	72
6.8			8×11.5	77	8×11.5	86
10			8×11.5	94	8×15	108
22	10×20	211	8×20	160	10×20	211
33	10×20	260	10×20	260	10×25	284
47	10×25	338	10×25	338	12.5×20	343
68	12.5×20	413	12.5×25	413	12.5×30	488
82	12.5×25	494	12.5×25	494	16×25	546
100	12.5×30	589	12.5×30	589	16×25	603
120	16×20	615	16×25	660	16×25	660
150	12.5×35	710	16×25	738	16×31.5	796
	16×25	738				
180	16×25	809	16×31.5	872	16×35.5	891
					18×31.5	901
220	16×31.5	964	16×31.5	964	16×40	1,016
					18×35.5	1,030
270	16×35.5	1,091	16×35.5	1,091	18×40	1,158
			18×31.5	1,104		
330	18×31.5	1,221	16×40	1,245	18×45	1,267
			18×35.5	1,261		
390	18×35.5	1,371	18×40	1,393		

V <sub>DC</sub> μF	350		400		420	
	Items ∅ D×L(mm)	Rated Ripple Current (mA <sub>rms</sub> /105°C, 120Hz)	∅ D×L(mm)	Rated Ripple Current (mA <sub>rms</sub> /105°C, 120Hz)	∅ D×L(mm)	Rated Ripple Current (mA <sub>rms</sub> /105°C, 120Hz)
4.7			6.3×15	55		
6.8			8×11	101		
			8×15	102		
8.2			8×15	105		
			8×20	110		
10	10×16	118	8×20	115	10×20	129
			10×16	118		
15	10×20	169	10×20	169	12.5×16	161
22	10×25	228	10×25	228	12.5×20	207
33	12.5×25	304	12.5×25	304	16×20	265
39	10×40	374	12.5×30	355		
47	16×25	400	16×25	400	16×25	374
56	16×25	437	16×25	437	16×31.5	440
68	16×31.5	510	16×31.5	510	18×25	492
	18×25	502			18×31.5	520
82	16×35.5	582	16×35.5	582	18×31.5	640
	18×31.5	590	18×31.5	590		
100	18×31.5	632	16×40	645	16×45	750
			18×35.5	786	18×35.5	
120	18×35.5	716	18×40	801	16×45	780
					18×40	819
150			18×40	872	18×45	840
					20×40	845

**RATINGS OF NZE Series**

V <sub>dc</sub> μF	450		500	
	Items ∅ D×L(mm)	Rated Ripple Current (mArms/105°C, 120Hz)	∅ D×L(mm)	Rated Ripple Current (mArms/105°C, 120Hz)
4.7	8 × 20	80		
8.2	10 × 16	108		
10	10 × 20	129		
15	12.5 × 20	173		
22	12.5 × 25	232	12.5 × 30	238
33	12.5 × 30	292	12.5 × 45	327
	16 × 25	306		
39	10 × 45	330	12.5 × 50	376
47	16 × 25	374	16 × 35.5	385
			18 × 31.5	389
53	10 × 50	424		
56	16 × 31.5	440	16 × 40	452
			12.5 × 60	473
60			12.5 × 60	494
68	16 × 35.5	514	16 × 45	567
	18 × 31.5	520	18 × 35.5	546
82	12.5 × 50	670	18 × 40	588
	16 × 40	640		
	18 × 31.5	640		
100	12.5 × 60	790	18 × 45	700
	16 × 45	750	20 × 40	
	18 × 35.5	750		
120	16 × 50	819	18 × 50	800
	18 × 40	819	22 × 45	900
150	18 × 45	840	22 × 50	950
	20 × 40	845		

**RATED RIPPLE CURRENT MULTIPLIERS**

Frequency Multipliers

Freq.(Hz)	120	1k	10k	50k	100k
Factor	1.00	1.25	1.50	1.60	1.75