

NZE Series

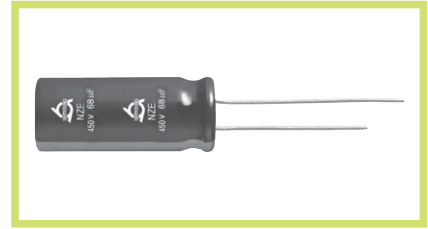
• 105°C 2,000Hrs assured.

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

NFD
(KMF)

Downsized

NZE



SPECIFICATIONS

Item	Characteristics														
Rated Voltage Range	160 ~ 400 V _{DC}	420 ~ 500 V _{DC}													
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>> 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 _{DC}) (at 20°C)															
Dissipation Factor(Tanδ)	<table border="1"> <thead> <tr> <th>Rated Voltage(V_{DC})</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 _{DC})	160~250	350~500	Tanδ(Max.)	0.20	0.24							
	Rated Voltage(V _{DC})	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_{DC})</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 _{DC})	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 _{DC})	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 + 2.0max.					

RATINGS OF NZE Series

V _{DC}		160		200		250	
μF	Items	$\varnothing D \times L$ (mm)	Rated Ripple Current (mA _{rms} /105°C, 120Hz)	$\varnothing D \times L$ (mm)	Rated Ripple Current (mA _{rms} /105°C, 120Hz)	$\varnothing D \times L$ (mm)	Rated Ripple Current (mA _{rms} /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 _{DC}		350		400		420	
μF	Items	$\varnothing D \times L$ (mm)	Rated Ripple Current (mA _{rms} /105°C, 120Hz)	$\varnothing D \times L$ (mm)	Rated Ripple Current (mA _{rms} /105°C, 120Hz)	$\varnothing D \times L$ (mm)	Rated Ripple Current (mA _{rms} /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
		16 × 31.5	510			18 × 25	492
68		18 × 25	502	16 × 31.5	510	18 × 31.5	520
		16 × 35.5	582			18 × 31.5	640
82		18 × 31.5	590	18 × 31.5	590		
				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 _{dc} μF	450		500	
	Items ∅ D×L(mm)	Rated Ripple Current (mA _{rms} /105°C, 120Hz)	∅ D×L(mm)	Rated Ripple Current (mA _{rms} /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