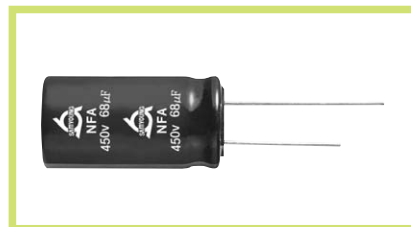


## NFA Series

• 105°C 8,000~10,000Hrs assured.

- Non-solvent proof.
- High ripple and long life.
- For ballasts stabilizer.
- RoHS compliant.
- Halogen-free capacitors are also available.



## SPECIFICATIONS

Item	Characteristics										
Rated Voltage Range	160~400 V <sub>DC</sub>	450 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)	Rated Voltage(V <sub>DC</sub> )	160~250      350~450									
	Tanδ(Max.)	0.20      0.24									
(at 20°C, 120Hz)											
Temperature Characteristics (Max. Impedance ratio)	Rated Voltage(V <sub>DC</sub> )	160~250      350~400      450									
	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 is applied at 105°C for 10,000 hours.(where, 8,000 hours for ∅10)</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 NFA Series

Unit(mm)

Marking : DARK BROWN SLEEVE, SILVER INK

∅D	10	12.5	16	18	20	22
∅d	0.6	0.6	0.8	0.8	0.8	0.8
F	5.0	5.0	7.5	7.5	7.5	10.0
∅D'	∅D + 0.5 max.					
L'	L + 2.0 max.					



## RATINGS OF NFA Series

V <sub>DC</sub>		160		200	
Items μF	∅ D × L (mm)	Rated ripple current (mArms/105°C, 120Hz)		∅ D × L (mm)	Rated ripple current (mArms/105°C, 120Hz)
		22	10 × 20		
33	10 × 20	236	12.5 × 20	262	
47	12.5 × 20	312	12.5 × 20	312	
68	12.5 × 25	409	12.5 × 25	409	
100	16 × 25	548	16 × 25	548	
150	16 × 31.5	724	16 × 31.5	701	
220	16 × 31.5	876	16 × 31.5	906	
330	16 × 35.5	1,110			

V <sub>DC</sub>		250		350	
Items μF	∅ D × L (mm)	Rated ripple current (mArms/105°C, 120Hz)		∅ D × L (mm)	Rated ripple current (mArms/105°C, 120Hz)
		10	10 × 20		
22	12.5 × 20	214	12.5 × 20	207	
33	12.5 × 25	285	16 × 20	284	
47	12.5 × 25	340	16 × 25	364	
68	16 × 25	452	16 × 31.5	472	
100	16 × 31.5	591	18 × 31.5	591	
150	18 × 31.5	748	18 × 40	760	
220	18 × 40	951	22 × 45	970	
330	20 × 40	1,196			

V <sub>DC</sub>		400		450	
Items μF	∅ D × L (mm)	Rated ripple current (mArms/105°C, 120Hz)		∅ D × L (mm)	Rated ripple current (mArms/105°C, 120Hz)
		3.3			
4.7			12.5 × 20	93	
10	10 × 20	126	12.5 × 25	147	
22	12.5 × 25	225	16 × 25	241	
33	16 × 20	284	16 × 31.5	319	
47	16 × 25	364	18 × 25	368	
68	16 × 31.5	472	18 × 31.5	473	
82	18 × 31.5	536	18 × 35.5	537	
100	18 × 35.5	611	18 × 40	602	
120	18 × 40	680	18 × 40	659	
150	18 × 40	760	20 × 40	757	
180	20 × 40	855	22 × 50	892	
220	22 × 45	996			

## RATED RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

Cap. (μF) \ Freq. (Hz)	120	1k	10k	100k
3.3 ~ 100	1.00	1.25	1.50	1.75
120 ~ 330	1.00	1.15	1.30	1.40