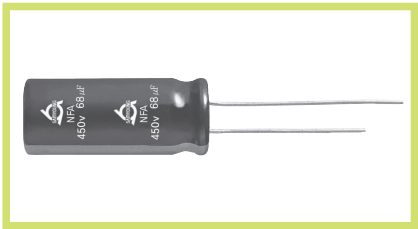




NFA Series

• 105°C 7,000~10,000Hrs assured.

- Non-solvent proof.
- High Ripple, Long Life.
- For ballasts stabilizer.
- RoHS compliant.
- Halogen-free capacitors are also available.



SPECIFICATIONS

Item	Characteristics														
Rated Voltage Range	160~400 V _{DC}		420~500 V _{DC}												
Operating Temperature Range	-40~ + 105℃		-25~ + 105℃												
Capacitance Tolerance	±20%(M) (at 20℃, 120Hz)														
Leakage Current	<table><tr><td> C · V \ Time </td><td>After 1 minute</td><td colspan="2">After 5 minutes</td></tr><tr><td>≤ 1000</td><td>I = 0.1CV + 40</td><td colspan="2">I = 0.03CV + 15</td></tr><tr><td>> 1000</td><td>I = 0.04CV + 100</td><td colspan="2">I = 0.02CV + 25</td></tr></table> Where, I:Max. Leakage current(μA) C:Nominal capacitance(μF) V:Rated voltage(V_{DC}) (at 20℃)			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													
Dissipation Factor(Tanδ)	<table><tr><td>Rated Voltage(V_{DC})</td><td>160~250</td><td colspan="2">350~500</td></tr><tr><td>Tanδ(Max.)</td><td>0.20</td><td colspan="2">0.24</td></tr></table> (at 20℃, 120Hz)			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													
Temperature Characteristics (Max. Impedance ratio)	<table><tr><td>Rated Voltage(V_{DC})</td><td>160~250</td><td>350~400</td><td>420~500</td></tr><tr><td>Z(-25℃)/Z(20℃)</td><td>3</td><td>5</td><td>6</td></tr><tr><td>Z(-40℃)/Z(20℃)</td><td>6</td><td>6</td><td>-</td></tr></table> (at 120Hz)			Rated Voltage(V _{DC})	160~250	350~400	420~500	Z(-25℃)/Z(20℃)	3	5	6	Z(-40℃)/Z(20℃)	6	6	-
Rated Voltage(V _{DC})	160~250	350~400	420~500												
Z(-25℃)/Z(20℃)	3	5	6												
Z(-40℃)/Z(20℃)	6	6	-												
Load Life	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for 10,000 hours at 105℃. (where, 7,000 hours for ø8, 8,000 hours for ø10) Capacitance change ≤ ±20% of the initial value Tanδ ≤ 200% of the initial specified value Leakage current ≤ The initial specified value														
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1,000 hours at 105℃ 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. Capacitance change ≤ ±20% of the initial value Tanδ ≤ 200% of the initial specified value Leakage current ≤ 500% of the initial specified value														
Others	Satisfied characteristics KS C IEC 60384-4														

DIMENSIONS OF NFA Series

Unit(mm)

Marking : DARK BROWN SLEEVE, SILVER INK

øD	8	10	12.5	16	18	20	22	25.4
ød	0.6	0.6	0.6	0.8	0.8	0.8	1.0	1.0
F	3.5	5.0	5.0	7.5	7.5	7.5	10.0	10.0
øD'	øD + 0.5 max.							
L'	L + 1.5 max.		L + 2.0 max.					

NFA Series



MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

RATINGS OF NFA Series

V _{DC}	Capacitance (μF)	∅ D × L (mm)	Rated Ripple Current (mA _{rms} /105°C, 120Hz)
160	22	10 × 20	192
	33	10 × 20	236
	47	12.5 × 20	312
	68	12.5 × 25	409
	100	16 × 25	548
	150	16 × 31.5	724
	220	16 × 31.5	876
	330	16 × 35.5	1110
		22 × 25	1130
	390	22 × 30	1310
	470	25.4 × 30	1540
	560	22 × 35	1650
		22 × 40	1730
	680	22 × 45	1990
		25.4 × 35	1950
	820	22 × 50	2270
		25.4 × 40	2240
200	1000	25.4 × 50	2670
	22	10 × 20	192
	33	10 × 20	236
		12.5 × 20	262
	47	12.5 × 20	312
	68	10 × 33	409
		12.5 × 25	409
	100	16 × 25	548
	150	12.5 × 35	600
		16 × 31.5	701
	220	12.5 × 45	700
		16 × 31.5	800
		18 × 31.5	906
		22 × 25	730
	330	16 × 45	1100
		22 × 30	1090
	390	22 × 35	1250
		25.4 × 30	1270
	470	22 × 40	1440
		25.4 × 35	1470
	560	22 × 45	1640
		22 × 50	1710
		25.4 × 40	1680
	820	25.4 × 50	2200

V _{DC}	Capacitance (μF)	∅ D × L (mm)	Rated Ripple Current (mA _{rms} /105°C, 120Hz)
250	10	10 × 20	130
	22	12.5 × 20	214
	33	12.5 × 25	285
	47	12.5 × 25	340
	56	10 × 33	350
	68	16 × 25	452
	100	16 × 31.5	591
	150	18 × 25	700
	180	22 × 25	770
	220	18 × 31.5	850
		22 × 30	910
	270	22 × 35	1060
		25.4 × 30	1080
	330	20 × 40	1196
		22 × 40	1230
		25.4 × 35	1260
	390	22 × 45	1400
		25.4 × 40	1430
350	470	22 × 50	1600
	560	25.4 × 50	1860
	10	10 × 20	126
	22	12.5 × 20	207
	33	16 × 20	284
	47	16 × 25	364
	68	16 × 31.5	472
	100	18 × 31.5	591
		22 × 25	530
	120	22 × 30	620
	150	18 × 40	760
		25.4 × 30	740
	180	22 × 35	800
	200	22 × 40	880
		25.4 × 35	900
	220	22 × 45	970
	270	22 × 50	1110
		25.4 × 40	1090
	330	25.4 × 50	1310

RATED RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

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

RATINGS OF NFA Series

V _{dc}	Capacitance (μF)	ø D×L(mm)	Rated Ripple Current (mA _{rms} /105°C, 120Hz)
400	6.8	8 × 15	63
	8.2	8 × 20	75
	10	10 × 20	126
	15	10 × 20	154
	22	12.5 × 25	225
	33	16 × 20	284
	47	16 × 25	364
	68	16 × 31.5	472
	82	18 × 31.5	536
		22 × 25	490
	100	18 × 35.5	611
	120	18 × 40	680
		22 × 30	630
	150	18 × 40	760
		22 × 35	750
		25.4 × 30	800
	180	20 × 40	855
		22 × 40	860
		25.4 × 35	880
	200	22 × 45	940
420	6.8	8 × 20	76
		10 × 16	87
	8.2	10 × 20	116
	10	10 × 25	155
	22	12.5 × 20	191
	33	16 × 20	262
	47	16 × 25	335
	68	18 × 25	435
	82	16 × 31.5	507
		22 × 25	490
	100	18 × 31.5	580
		22 × 30	580
	120	18 × 40	659
		22 × 35	670
		25.4 × 30	680
	150	18 × 45	757
		22 × 40	790
		25.4 × 35	800
	180	22 × 45	900
	200	25.4 × 40	970
	220	22 × 50	1030
	270	25.4 × 50	1200

V _{dc}	Capacitance (μF)	ø D×L(mm)	Rated Ripple Current (mA _{rms} /105°C, 120Hz)
450	2.2	8 × 15	44
	3.3	10 × 16	63
	4.7	10 × 16	74
	6.8	10 × 20	96
	8.2	10 × 20	106
	10	10 × 20	108
		12.5 × 20	114
	22	16 × 25	241
	33	12.5 × 30	315
		16 × 31.5	319
	47	18 × 25	368
	56	16 × 31.5	410
	68	18 × 25	435
		18 × 31.5	473
		22 × 25	440
	82	18 × 35.5	537
	100	18 × 40	602
		22 × 30	570
	120	18 × 40	659
		22 × 35	660
		25.4 × 30	670
500	150	20 × 40	757
		22 × 40	780
		25.4 × 35	790
	180	22 × 45	892
		25.4 × 40	910
	200	22 × 50	970
	220	25.4 × 50	1090
	3.3	10 × 12.5	52
	4.7	10 × 12.5	62
	6.8	10 × 16	83
	8.2	10 × 20	98
	10	12.5 × 20	120
	22	16 × 25	228
	33	18 × 20	230
		18 × 25	260
	47	18 × 31.5	393
	56	18 × 31.5	393
		22 × 25	390
	68	16 × 45	625
		18 × 35.5	550
		22 × 30	460
	82	25.4 × 30	540
	100	22 × 35	590
		22 × 40	620
	120	22 × 45	710
		25.4 × 35	690
		25.4 × 40	720
	150	22 × 50	827
	180	25.4 × 50	960