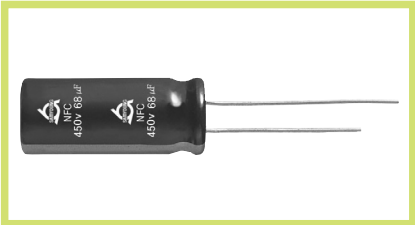
NFC Series

• 105℃ 2,000~5,000Hrs assured.

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

NZE → NFC

Long Life

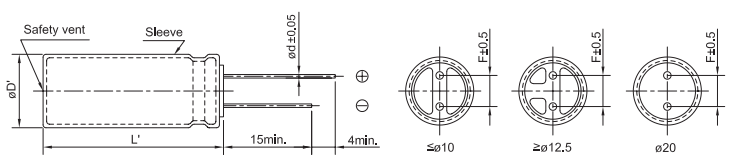


SPECIFICATIONS

Item	Characteristics	
Rated Voltage Range	160 ~ 400 VDC	420~ 500 VDC
Operating Temperature Range	-40 ~+ 105℃	-25 ~ +105℃
Capacitance Tolerance	±20%(M) (at 20℃, 120Hz)	
Leakage Current	C·V \ Time: ≦ 1000 → After 1 minute: I=0.1CV+40, After 5 minutes: I=0.03CV+15; 〉1000 → After 1 minute: I=0.04CV+100, After 5 minutes: I=0.02CV+25 Where, I:Max. Leakage current(μA) C:Nominal capacitance (μF) V:Rated voltage (VDC)(at 20℃)	
Dissipation Factor(Tanδ)	Rated Voltage(VDC): 160~250 → Tanδ(Max.): 0.20; 350~500 → 0.24 (at 20℃, 120Hz)	
Temperature Characteristics (Max. Impedance ratio)	Rated Voltage(VDC): 160~250 / 350~400 / 420~500 Z(-25℃)/Z(+20℃): 3 / 5 / 6 Z(-40℃)/Z(+20℃): 6 / 6 / — (at 120Hz)	
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 5,000 hours at 105℃. (where, 2,000 hours for Ø6.3) 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 NFC Series

Unit(mm)



Marking : DARK BROWN SLEEVE, SILVER INK

ØD	6.3	8	10	12.5	16	18	20	22	25.4
Ød	0.5	0.6	0.6	0.6	0.8	0.8	0.8	1.0	1.0
F	2.5	3.5	5.0	5.0	7.5	7.5	7.5	10.0	10.0
ØD′	ØD+0.5 max.								
L′	L+1.5max.	L+2.0 max.							

※ Ø8 x 50L, L′≦ L+2.0

RATINGS OF NFC Series

VDC	Capacitance (μF)	ØD×L(㎜)	Rated Ripple Current (mArms/105℃, 120Hz)
160	22	8 × 20	135
		10 × 20	192
	33	10 × 20	236
	47	12.5 × 20	312
	68	10 × 20	380
		12.5 × 25	409
	82	8 × 50	360
	100	16 × 25	548
	150	16 × 25	701
	220	16 × 31.5	876
	330	18 × 31.5	1110
		22 × 25	1120
	390	22 × 30	1300
	470	25.4 × 30	1520
	560	22 × 35	1640
		22 × 40	1720
	680	22 × 45	1970
		25.4 × 35	1930
	820	22 × 50	2250
		25.4 × 40	2220
	1000	25.4 × 50	2650
200	3.3	6.3 × 11	36
	10	8 × 11.5	75
	22	8 × 20	135
		10 × 20	192
	33	12.5 × 20	262
	47	12.5 × 20	312
	68	8 × 50	320
		12.5 × 25	409
	82	16 × 20	462
	100	16 × 25	548
	150	16 × 25	701
	220	18 × 31.5	906
		22 × 25	910
	330	22 × 30	1190
		25.4 × 30	1270
	390	22 × 35	1370
	470	22 × 40	1570
		25.4 × 35	1600
	560	22 × 45	1790
		22 × 50	1860
		25.4 × 40	1830
	820	25.4 × 50	2400

VDC	Capacitance (μF)	ØD×L(㎜)	Rated Ripple Current (mArms/105℃, 120Hz)
250	6.8	8 × 11.5	70
	10	8 × 20	95
		10 × 20	130
	22	10 × 20	193
		12.5 × 20	214
	33	12.5 × 25	285
	47	8 × 50	250
		12.5 × 25	340
	68	16 × 25	452
	100	16 × 31.5	591
	150	18 × 31.5	748
	180	22 × 25	780
	220	18 × 35.5	936
		22 × 30	920
	270	22 × 35	1070
		25.4 × 30	1090
	330	20 × 40	1196
		22 × 40	1240
		25.4 × 35	1270
	390	22 × 45	1410
		25.4 × 40	1440
	470	22 × 50	1610
	560	25.4 × 50	1870
350	6.8	8 × 15	65
	10	8 × 20	90
		10 × 20	126
	22	12.5 × 20	207
	33	8 × 50	245
		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 NFC Series

Vdc	Capacitance (μF)	ØD×L(㎜)	Rated Ripple Current (mArms/105℃, 120Hz)
400	1	6.3 × 11	19
	3.3	8 × 11.5	42
	6.8	8 × 15	66
	8.2	8 × 20	80
	10	10 × 16	85
	22	12.5 × 25	225
	27	8 × 50	240
	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	670
	150	18 × 40	760
		22 × 35	750
		25.4 × 30	760
	180	20 × 40	855
		22 × 40	860
		25.4 × 35	880
	200	22 × 45	940
	220	22 × 45	996
		22 × 50	1030
		25.4 × 40	1010
	270	25.4 × 50	1220
	330	25.4 × 50	1260
420	68	18 × 31.5	500
	82	18 × 31.5	560
		22 × 25	490
	100	18 × 35.5	720
		22 × 30	580
	120	18 × 40	740
		22 × 35	670
		25.4 × 30	680
	150	18 × 45	753
		22 × 40	780
		25.4 × 35	800
	180	22 × 45	900
	200	25.4 × 40	970
	220	22 × 50	1030
	270	25.4 × 50	1200

Vdc	Capacitance (μF)	ØD×L(㎜)	Rated Ripple Current (mArms/105℃, 120Hz)
450	1	6.3 × 11	12
	1.5	8 × 11.5	23
	2.2	8 × 15	38
	3.3	8 × 15	42
	4.7	8 × 20	62
	6.8	10 × 20	100
	8.2	10 × 25	121
	10	12.5 × 20	135
	22	8 × 50	230
	27	16 × 25	267
	33	16 × 31.5	319
	47	10 × 50	334
		18 × 25	368
	68	12.5 × 42.5	476
		18 × 31.5	500
		22 × 25	440
	82	12.5 × 50	473
		18 × 31.5	594
	100	12.5 × 60	630
		18 × 35.5	720
		22 × 30	620
	120	18 × 40	740
		22 × 35	650
		25.4 × 30	660
	150	18 × 45	753
		20 × 40	757
		22 × 40	780
		25.4 × 35	780
	180	22 × 45	870
		22 × 50	910
		25.4 × 40	890
	200	22 × 50	950
	220	25.4 × 50	1070
500	6.8	10 × 20	100
	10	12.5 × 20	135
	15	12.5 × 25	182
	22	12.5 × 30	210
	27	10 × 50	253
	33	16 × 31.5	319
		18 × 25	308
	39	12.5 × 50	358
	40	12.5 × 50	360
	47	18 × 31.5	393
	56	12.5 × 60	440
		22 × 25	390
	60	12.5 × 60	455
	68	18 × 35.5	489
		22 × 30	450
	82	18 × 40	594
		25.4 × 30	530
	100	18 × 45	620
		20 × 40	618
		22 × 35	580
		22 × 40	610
	120	22 × 45	702
		25.4 × 35	680
		25.4 × 40	710
	150	22 × 50	827
	180	25.4 × 50	950