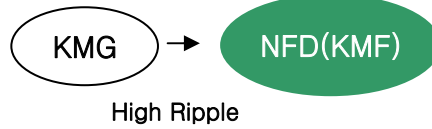


**NFD(KMF)
Series**

● 105 °C 2,000Hrs assured.

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

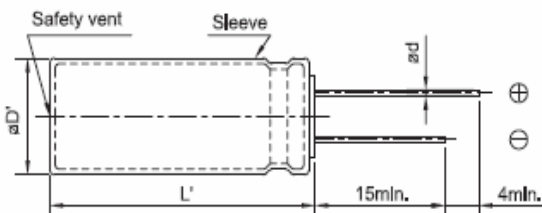


SPECIFICATIONS

Item	Characteristics														
Rated Voltage Range	160 ~ 400 V _{DC}	450 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>Time</th> <th>After 1 minute</th> <th>After 5 minute</th> </tr> </thead> <tbody> <tr> <td>C-V ≤ 1000</td> <td>I=0.1CV + 40</td> <td>I=0.03CV + 15</td> </tr> <tr> <td>C-V > 1000</td> <td>I=0.04CV + 100</td> <td>I=0.02CV + 25</td> </tr> </tbody> </table>		Time	After 1 minute	After 5 minute	C-V ≤ 1000	I=0.1CV + 40	I=0.03CV + 15	C-V > 1000	I=0.04CV + 100	I=0.02CV + 25				
	Time	After 1 minute	After 5 minute												
	C-V ≤ 1000	I=0.1CV + 40	I=0.03CV + 15												
C-V > 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 (tan δ)	<table border="1"> <thead> <tr> <th>Rated Voltage(V_{DC})</th> <th>160 ~ 250</th> <th>400~500</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	400~500	Tanδ(Max.)	0.20	0.24							
	Rated Voltage(V _{DC})	160 ~ 250	400~500												
Tanδ(Max.)	0.20	0.24													
(at 20 °C, 120Hz)															
Temperature Characteristics (Capacitance change ratio)	<table border="1"> <thead> <tr> <th>Rated Voltage(V_{DC})</th> <th>160 ~ 250</th> <th>400</th> <th>450~500</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	400	450~500	Z(-25 °C) / Z(+20 °C)	3	5	6	Z(-40 °C) / Z(+20 °C)	6	6	-
	Rated Voltage(V _{DC})	160 ~ 250	400	450~500											
	Z(-25 °C) / Z(+20 °C)	3	5	6											
Z(-40 °C) / Z(+20 °C)	6	6	-												
(at 120Hz)															
Load Life	The following specifications shall be satisfied when the capacitors are restored to 20 °C after the rated voltage is applied at 105 °C for 2,000 hours.														
	Capacitance change	≤ ±20 % of the initial value													
	tan δ	≤ 200 % of the initial specified value													
Shelf Life	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.														
	Capacitance change	≤ ±20 % of the initial value													
	tan δ	≤ 200 % of the initial specified value													
Leakage current	≤ 500 % of the initial specified value														
	Others														
Satisfied characteristics W of KS C 6421															

* Please refer each approval sheet for detail specification.

DIMENSIONS OF NFD(KMF) Series



Marking : DARK BROWN SLEEVE, SILVER INK

øD	10	12.5	16	18
ød	0.6	0.6	0.8	0.8
F	5.0	5.0	7.5	7.5
øD'	øD+0.5 max.			
L'	L+2.0 max.			



RATINGS OF NFD(KMF) Series

V _{DC}		160		200		250	
Items μF	ØD × L(mm)	Rated ripple current (mArms/105°C, 120Hz)	ØD × L(mm)	Rated ripple current (mArms/105°C, 120Hz)	ØD × L(mm)	Rated ripple current (mArms/105°C, 120Hz)	
	10					10 × 20	110
22	10 × 20	165	10 × 20	165	12.5 × 20	185	
33	10 × 20	210	12.5 × 20	230	12.5 × 25	250	
47	12.5 × 20	270	12.5 × 20	270	12.5 × 25	295	
68	12.5 × 25	350	12.5 × 25	350	16 × 25	390	
100	16 × 25	475	16 × 25	475	16 × 31.5	520	
150	16 × 25	580	16 × 25	580	18 × 31.5	640	
220	16 × 31.5	750	18 × 31.5	780	18 × 40	820	
330	18 × 31.5	960					

V _{DC}		350		400		450	
Items μF	ØD × L(mm)	Rated ripple current (mArms/105°C, 120Hz)	ØD × L(mm)	Rated ripple current (mArms/105°C, 120Hz)	ØD × L(mm)	Rated ripple current (mArms/105°C, 120Hz)	
	3.3					10 × 20	60
4.7					12.5 × 20	80	
10	10 × 20	110	10 × 20	110	12.5 × 25	125	
22	12.5 × 20	185	12.5 × 25	200	16 × 25	210	
33	16 × 20	250	16 × 20	250	16 × 31.5	275	
47	16 × 25	325	16 × 25	325	18 × 31.5	340	
68	16 × 31.5	420	16 × 31.5	420	18 × 35.5	420	
100	18 × 31.5	530	18 × 40	560			

RATED RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

Fre.(Hz)	120	1k	10k	100k
Factor	1.00	1.25	1.50	1.75