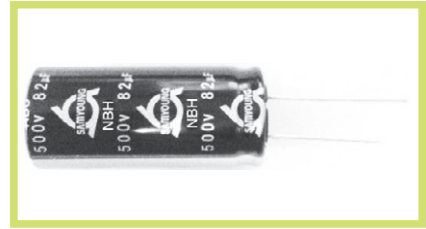
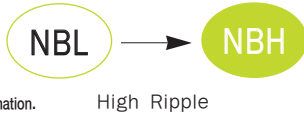


NBH Series

• 105°C 20,000Hrs assured.

- Non-solvent proof
- High Ripple and Long Life, Low Temp.
- For SMPS, IP-Board, Adaptor, LED Lighting
- RoHS compliant.
- Halogen-free capacitors are also available.
- AEC-Q200 compliant : Please contact us for more details, test data, information.



SPECIFICATIONS

Item	Characteristics												
Rated Voltage Range	160~500 V _{DC}												
Operating Temperature Range	-40 ~ +105°C												
Capacitance Tolerance	±20%(M) (at 20°C, 120Hz)												
Leakage Current	<table border="1"> <thead> <tr> <th>C · V</th> <th>Time</th> <th>After 1 minute</th> <th>After 5 minutes</th> </tr> </thead> <tbody> <tr> <td>≤ 1000</td> <td></td> <td>I = 0.1CV + 40</td> <td>I = 0.03CV + 15</td> </tr> <tr> <td>> 1000</td> <td></td> <td>I = 0.04CV + 100</td> <td>I = 0.02CV + 25</td> </tr> </tbody> </table> <p>Where, I: Max. Leakage current(µA) C: Nominal capacitance(µF) V: Rated voltage(V_{DC}) (at 20°C)</p>	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 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> <p>(at 20°C, 120Hz)</p>	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 border="1"> <thead> <tr> <th>Rated Voltage(V_{DC})</th> <th>160~500</th> </tr> </thead> <tbody> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>3</td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>6</td> </tr> </tbody> </table> <p>(at 120Hz)</p>	Rated Voltage(V _{DC})	160~500	Z(-25°C)/Z(20°C)	3	Z(-40°C)/Z(20°C)	6						
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Z(-25°C)/Z(20°C)	3												
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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 20,000 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 NBH Series

Unit(mm)

Marking : DARK BLUE SLEEVE, SILVER INK

ØD	16	18	20	22
Ød	0.8	0.8	0.8	0.8
F	7.5	7.5	7.5	10.0
ØD'	ØD + 0.5 max.			
L'	L + 2.0 max.			

RATINGS OF NBH Series

Vdc	160		200		250		350	
Items μF	$\varnothing D \times L$ (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)	$\varnothing D \times L$ (mm)	Rated Ripple Current (mA rms/105°C, 120Hz)
68							16 × 31.5	685
82			16 × 20	678			18 × 25	756
100			16 × 25	789	16 × 25	789	18 × 31.5	899
120			16 × 25	864	16 × 31.5	884	18 × 35.5	1,016
150	16 × 25	908	16 × 31.5	894	16 × 35.5	992	18 × 40	1,191
180	16 × 25	980	16 × 35.5	1,046	18 × 31.5	1,113	18 × 45	1,353
220	16 × 31.5	1,065	18 × 31.5	1,210	18 × 35.5	1,233		
	18 × 25	1,065						
270	16 × 35.5	1,210	18 × 40	1,419				
330	18 × 31.5	1,354	18 × 45	1,529				
470	18 × 40	1,789						

Vdc	400		420		450		500	
Items μF	$\varnothing D \times L$ (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)	$\varnothing D \times L$ (mm)	Rated Ripple Current (mA rms/105°C, 120Hz)
33			16 × 20	380	16 × 25	397	16 × 31.5	418
39			16 × 25	440	16 × 31.5	465	16 × 35.5	477
47	16 × 25	528	16 × 25	495	16 × 31.5	526	18 × 31.5	515
68	16 × 35.5	690	18 × 31.5	638	18 × 31.5	638	18 × 40	693
82	16 × 40	847	16 × 40	682	18 × 35.5	715	18 × 45	754
100	18 × 35.5	962	18 × 35.5	847	18 × 40	873	22 × 35	820
120	18 × 40	1,100	18 × 45	990	18 × 50	1,000	22 × 45	950
150	18 × 50	1,300					22 × 50	1,030

RATED RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

Cap. (μF)	Freq.(Hz)	120	1k	10k	50k	100k
33~82		1.00	1.75	2.25	2.35	2.50
100~470		1.00	1.67	2.05	2.15	2.25