

NZL Series

• 105°C 3,000Hrs assured.

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



SPECIFICATIONS

Item	Characteristics										
Rated Voltage Range	400 V _{DC}	420 ~ 500 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>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>> 1000</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>400~500</th> </tr> </thead> <tbody> <tr> <td>Tanδ(Max.)</td> <td>0.24</td> </tr> </tbody> </table> <p>(at 20°C, 120Hz)</p>		Rated Voltage(V _{DC})	400~500	Tanδ(Max.)	0.24					
Rated Voltage(V _{DC})	400~500										
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Temperature Characteristics (Max. Impedance ratio)	<table border="1"> <thead> <tr> <th>Rated Voltage(V_{DC})</th> <th>400</th> <th>420~500</th> </tr> </thead> <tbody> <tr> <td>Z(-25°C)/Z(+20°C)</td> <td>5</td> <td>6</td> </tr> <tr> <td>Z(-40°C)/Z(+20°C)</td> <td>6</td> <td>-</td> </tr> </tbody> </table> <p>(at 120Hz)</p>		Rated Voltage(V _{DC})	400	420~500	Z(-25°C)/Z(+20°C)	5	6	Z(-40°C)/Z(+20°C)	6	-
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Z(-25°C)/Z(+20°C)	5	6									
Z(-40°C)/Z(+20°C)	6	-									
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 3,000 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 NZL Series

Unit(mm)

Marking : DARK BROWN SLEEVE, SILVER INK

øD	10	12.5	16	18	20
ød	0.6	0.6	0.8	0.8	0.8
F	5.0	5.0	7.5	7.5	7.5
øD'	øD + 0.5 max.				
L'	L + 2.0 max.				

RATINGS OF NZL Series

V _{oc}	400		420		450	
μF / Items	$\varnothing D \times L$ (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)
10	10 × 16	118	10 × 20	129	10 × 20	129
15	10 × 20	169	12.5 × 16	161	12.5 × 20	173
22	10 × 25	228	12.5 × 20	207	12.5 × 25	263
33	12.5 × 25	304	16 × 20	265	16 × 25	306
47	16 × 25	400	16 × 25	374	16 × 25	374
56	16 × 25	437	16 × 31.5	440	16 × 31.5	440
68	16 × 31.5	550	18 × 25	492	16 × 35.5	514
			18 × 31.5	520	18 × 31.5	520
82	16 × 35.5	582	18 × 31.5	640	16 × 40	640
	18 × 31.5	590			18 × 31.5	
100	16 × 40	645	16 × 40	710	16 × 40	710
	18 × 35.5	786	18 × 35.5	750	18 × 35.5	750
120	18 × 40	801	16 × 45	780	16 × 50	819
			18 × 40	819	18 × 40	
150	18 × 40	872	18 × 45	840	18 × 45	840
			20 × 40	845	20 × 40	845

V _{oc}	500	
μF / Items	$\varnothing D \times L$ (mm)	Rated Ripple Current (mA _{rms} /105°C, 120Hz)
22	12.5 × 30	238
33	18 × 25	310
47	16 × 35.5	385
56	16 × 40	452
68	16 × 45	567
	18 × 35.5	546
82	16 × 50	599
	18 × 40	588
100	18 × 45	700
	20 × 40	
120	18 × 50	800

RATED RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

Freq. (Hz)	120	1k	10k	50k	100k
Factor	1.00	1.25	1.50	1.75	2.00