

# Aluminum Electrolytic Capacitors

## NP Series – Non-Polarized 105°C



### Specifications

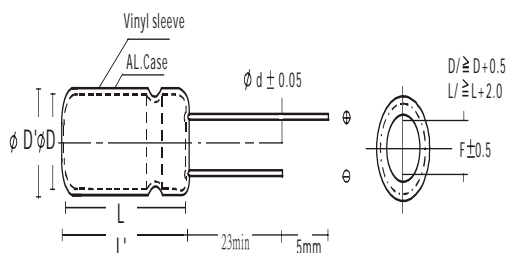
Item	Performance																																				
Operating Temperature Range	-40 to +105°C																																				
Rated Working Voltage Range	6.3 – 250VDC																																				
Nominal Capacitance Range	0.47 - 3300μ F																																				
Capacitance Tolerance	± 20% (at +20°C , 120Hz)																																				
Leakage Current	$I \leq 0.03CV$ or $3(\mu A)$ max, Whichever is greater after 1 minute																																				
Dissipation Factor ( $\tan\delta$ ) (120Hz \ +20°C)	<table border="1"> <thead> <tr> <th>Vol.</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>160</th> <th>200</th> <th>250</th> </tr> </thead> <tbody> <tr> <td>% max</td> <td>25</td> <td>25</td> <td>20</td> <td>15</td> <td>15</td> <td>13</td> <td>10</td> <td>10</td> <td>15</td> <td>15</td> <td>20</td> </tr> </tbody> </table> <p>Capacitance &gt;1000Uf, Tan shall be added 2% with increase of every 1000uF</p>	Vol.	6.3	10	16	25	35	50	63	100	160	200	250	% max	25	25	20	15	15	13	10	10	15	15	20												
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Characteristics at low temperature (stability at 120 Hz)	<table border="1"> <thead> <tr> <th>Vol VDC</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>160</th> <th>200</th> <th>250</th> </tr> </thead> <tbody> <tr> <td>-25c/+20°C</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>3</td> </tr> <tr> <td>-40c/+20°C</td> <td>8</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table> <p>Capacitance &gt;1000Uf, add 0.5 with increase of every 1000Uf for -25c/+20°C, add 1 with increase of every 1000Uf for -40c/+20°C</p>	Vol VDC	6.3	10	16	25	35	50	63	100	160	200	250	-25c/+20°C	4	3	2	2	2	2	2	2	2	2	3	-40c/+20°C	8	6	4	3	3	3	3	3	-	-	-
Vol VDC	6.3	10	16	25	35	50	63	100	160	200	250																										
-25c/+20°C	4	3	2	2	2	2	2	2	2	2	3																										
-40c/+20°C	8	6	4	3	3	3	3	3	-	-	-																										
Load life	<p>After 2000hrs application of DC rated working voltage at +105°C, the capacitor shall meet the following limits:</p> <table border="1"> <tbody> <tr> <td>Leakage current</td> <td>the initial specified value</td> </tr> <tr> <td>Capacitance change</td> <td>±20% of initial measured value</td> </tr> <tr> <td>Dissipation Factor(<math>\tan\delta</math>)</td> <td>200% of initial specified value</td> </tr> </tbody> </table>	Leakage current	the initial specified value	Capacitance change	±20% of initial measured value	Dissipation Factor( $\tan\delta$ )	200% of initial specified value																														
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Shelf Life	<p>After storage for 2000hrs. at +105°C with no voltage applied. Post test requirements at +20°C, same limits as high temperature loading.</p>																																				

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## NP Series – Non-Polarized 105°C



### Diagram of Dimensions



D	5	6.3	8	10	13	16
F	2.0	2.5	3.5	5.0	5.0	7.5
d	0.5	0.5	0.5	0.6	0.6	0.8

### Case Size

Max ripple current: mA rms at 105°C. 120Hz

W.V	6.3V		10V		16V		25V		35V		50V		63V		100V	
μF	DxL	mA	DxL	mA	DxL	mA	DxL	mA	DxL	mA	DxL	mA	DxL	mA	DxL	mA
0.47											5x11	8	5x11	9	5x11	10
1											5x11	12	5x11	14	5x11	15
2.2											5x11	17	5x11	20	5x11	20
3.3											5x11	23	6.3x11	25	6.3x11	28
4.7											5x11	30	6.3x11	30	6.3x11	32
10							5x11	34	5x11	38	6.3x11	50	6.3x11	52	8x11.5	52
22					5x11	53	6.3x11	55	6.3x11	65	8x11.5	85	8x11.5	88	10x16	120
33			5x11	59	5x11	62	6.3x11	72	8x11.5	75	8x11.5	89	10x12.5	115	10x20	175
47			5x11	79	6.3x11	90	6.3x11	96	8x11.5	107	10x12.5	123	10x16	150	13x20	187
100	5x11	99	6.3x11	99	6.3x11	99	8x11.5	152	10x12.5	198	10x16	198	13x20	295	16x25	399
220	8x11.5	149	8x11.5	157	8x11.5	200	10x12.5	245	10x20	320	13x20	340	13x25	420		
330	8x11.5	190	10x12.5	235	10x12.5	255	10x16	310	13x20	370	16x25	500				
470	10x12.5	280	10x12.5	290	10x16	360	13x120	420	13x25	495						
1000	10x16	352	10x20	430	13x20	511										
2200	13x20	645	16x25	830	16x31.5	950										
3300	16x25	950	16x31.5	1150												

# Aluminum Electrolytic Capacitors

## NP Series – Non-Polarized 105°C



Max ripple current: mA (rms) (at 105°C. 120Hz)

W.V	160V		200V		250V	
μ F	Size	Ripple	Size	Ripple	Size	Ripple
0.47	5x11	12	6.3x11	17	6.3x11	22
1	6.3x11	18	8x11.5	21	8x11.5	25
2.2	8x11.5	28	8x11.5	32	10x12.5	39
3.3	8x11.5	37	10x12.5	40	10x16	43
4.7	10x12.5	45	10x16	52	10x20	65
10	10x16	79	10x20	86	10x20	109
22	13x20	140	13x20	160	13x25	189
33	13x20	200	13x25	213	16x25	250
47	13x25	215				