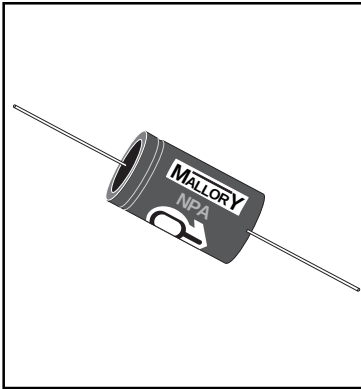


Type NPA Axial Leaded Capacitors



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NPA parts are available taped and reeled. See page 136 for details.

- 85°C Non-Polar
- Axial Leads
- Small Size
- Suitable For Use in Circuits Where Polarity is Unknown or Reversed Such as Signal Coupling Circuits & Speakers

GENERAL SPECIFICATIONS

Operating Temperature:
-40°C to +85°C

Voltage Range:
16 WVNP to 100 WVNP

Capacitance Range:
0.47 μ F to 1000 μ F

Capacitance Tolerance:
 $\pm 20\%$

DC Leakage Current:

$I = 0.03CV$ or $3 \mu A$ whichever is greater after 5 minutes

C = Capacitance in μF

V = Rated Voltage

I = Leakage Current in μA

QA Stability Test:

Apply WVNP for 1,000 hrs at 85°C

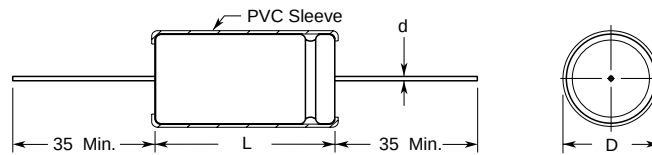
- Capacitance change $\pm 20\%$ of initial limits
- DC leakage current meets initial limits
- ESR $\leq 200\%$ of initial measured value

Dissipation Factor:

Rated Voltage (V)	16	25	35	50	63	100
Tan δ	0.22	0.20	0.20	0.14	0.12	0.10

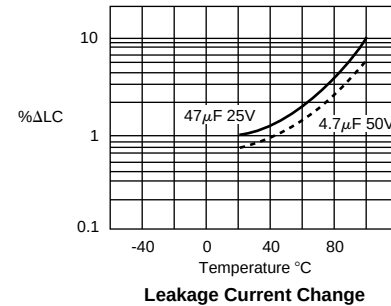
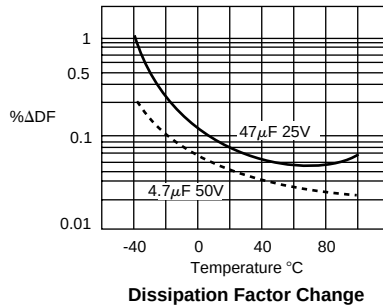
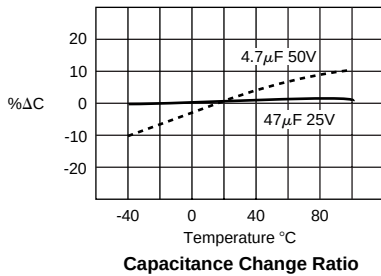
For Capacitance of more than 1,000 μF , add 0.002 for every increase of 1,000 μF at 120Hz/20°C

Outline Dimensions (Millimeters)

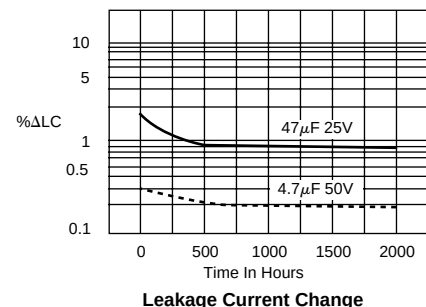
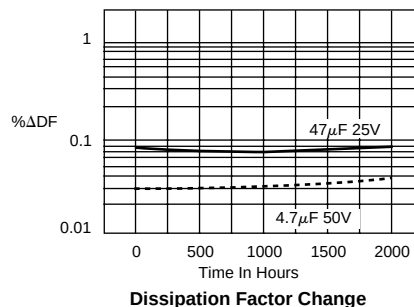
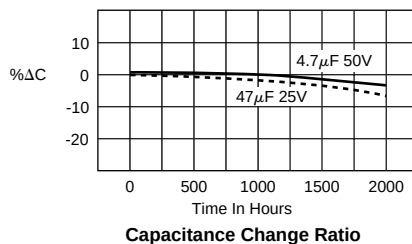


Vinyl sleeve adds .5 Max. to diameter and 2.0 Max. to length.

Temperature Characteristics



Load Life Characteristics



Type NPA Axial Leaded Capacitors



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Cap μF	Max ESR Ohms 120Hz 25°C	Max Ripple mA 120Hz 85°C	Max LC μA 5 Minutes	Size (Millimeters)			Catalog Number
				D Diameter	L Length	d	
16 WVNP; 20 VNP Surge							
0.47	451.40	9	4.0	6	16	0.6	NPAR47M016ST
1	212.20	12	4.0	6	16	0.6	NPA010M016ST
2.2	96.40	18	4.0	6	16	0.6	NPA2R2M016ST
3.3	64.30	23	4.0	6	16	0.6	NPA3R3M016ST
4.7	45.10	27	4.0	6	16	0.6	NPA4R7M016ST
10	21.50	40	4.8	6	16	0.6	NPA100M016ST
15	14.10	49	7.2	6	16	0.6	NPA150M016ST
22	9.60	60	10.0	6	16	0.6	NPA220M016ST
33	6.40	85	16.0	8	16	0.6	NPA330M016ST
47	7.76	110	23.0	8	16	0.6	NPA470M016ST
68	5.36	155	33.0	8	16	0.6	NPA680M016ST
100	3.65	175	48.0	8	20	0.6	NPA101M016ST
150	1.40	243	72.0	10	20	0.6	NPA151M016ST
220	0.90	220	105.0	10	20	0.6	NPA221M016ST
330	1.11	450	158.0	10	25	0.6	NPA331M016ST
470	0.78	565	226.0	10	30	0.6	NPA471M016ST
1,000	0.36	950	480.0	13	30	0.6	NPA102M016ST
25 WVNP; 32 VNP Surge							
0.47	451.40	9	4.0	6	16	0.6	NPAR47M025ST
1	212.20	12	4.0	6	16	0.6	NPA010M025ST
2.2	96.40	18	4.0	6	16	0.6	NPA2R2M025ST
3.3	64.30	23	4.0	6	16	0.6	NPA3R3M025ST
4.7	45.10	27	4.0	6	16	0.6	NPA4R7M025ST
10	21.20	46	7.5	6	16	0.6	NPA100M025ST
15	22.10	73	11.0	6	16	0.6	NPA150M025ST
22	15.07	88	17.0	6	16	0.6	NPA220M025ST
33	10.05	120	25.0	8	16	0.6	NPA330M025ST
47	7.05	140	35.0	8	16	0.6	NPA470M025ST
68	3.10	151	51.0	10	20	0.6	NPA680M025ST
100	3.32	235	75.0	10	20	0.6	NPA101M025ST
150	1.40	266	112.5	10	20	0.6	NPA151M025ST
220	1.51	390	165.0	10	25	0.6	NPA221M025ST
330	1.00	555	247.0	13	30	0.6	NPA331M025ST
470	0.71	665	352.0	13	30	0.6	NPA471M025ST
35 WVNP; 44 VNP Surge							
0.47	472.60	11	3.5	6	16	0.6	NPAR47M035ST
1	222.15	16	3.5	6	16	0.6	NPA010M035ST
2.2	101.00	24	3.7	6	16	0.6	NPA2R2M035ST
3.3	67.32	30	4.5	6	16	0.6	NPA3R3M035ST
4.7	47.24	37	5.5	6	16	0.6	NPA4R7M035ST
10	20.63	68	10.5	6	16	0.6	NPA100M035ST
15	12.50	92	15.1	6	16	0.6	NPA150M035ST
22	4.38	116	19.8	6	16	0.6	NPA220M035ST
33	6.25	143	34.7	8	16	0.6	NPA330M035ST
47	4.14	197	49.4	8	20	0.6	NPA470M035ST
68	3.31	239	71.6	10	20	0.6	NPA680M035ST
100	2.06	302	105.0	10	20	0.6	NPA101M035ST
150	1.49	425	170.0	10	25	0.6	NPA151M035ST
220	0.94	549	231.0	10	30	0.6	NPA221M035ST
330	0.63	723	346.5	13	30	0.6	NPA331M035ST
470	0.44	892	493.5	13	30	0.6	NPA471M035ST

Cap μF	Max ESR Ohms 120Hz 25°C	Max Ripple mA 120Hz 85°C	Max LC μA 5 Minutes	Size (Millimeters)			Catalog Number
				D Diameter	L Length	d	
50 WVNP; 63 VNP Surge							
0.47	493.80	13	3.0	6	16	0.6	NPAR47M050ST
1	232.10	19	3.0	6	16	0.6	NPA010M050ST
2.2	105.50	30	3.3	6	16	0.6	NPA2R2M050ST
3.3	70.33	37	5.0	6	16	0.6	NPA3R3M050ST
4.7	49.38	46	7.0	6	16	0.6	NPA4R7M050ST
10	23.21	68	15.0	6	16	0.6	NPA100M050ST
15	10.60	72	10.6	8	16	0.6	NPA150M050ST
22	10.55	120	33.0	8	16	0.6	NPA220M050ST
33	7.03	145	49.0	8	20	0.6	NPA330M050ST
47	4.94	200	70.0	10	20	0.6	NPA470M050ST
68	3.41	260	102.0	10	25	0.6	NPA680M050ST
100	2.32	325	150.0	10	25	0.6	NPA101M050ST
150	1.00	379	225.0	13	30	0.6	NPA151M050ST
220	1.06	600	330.0	13	30	0.6	NPA221M050ST
330	0.70	730	495.0	16	30	0.8	NPA331M050ST
470	0.49	860	705.0	16	40	0.8	NPA471M050ST
63 WVNP; 79 VNP Surge							
0.47	313.50	13	3.0	6	16	0.6	NPAR47M063ST
1	218.84	20	3.0	6	16	0.6	NPA010M063ST
2.2	99.47	31	4.0	6	16	0.6	NPA2R2M063ST
3.3	44.66	46	6.0	6	16	0.6	NPA3R3M063ST
4.7	31.35	55	8.8	6	16	0.6	NPA4R7M063ST
10	14.74	93	18.9	6	16	0.6	NPA100M063ST
15	9.82	114	34.1	8	16	0.6	NPA151M063ST
22	6.70	159	41.5	8	20	0.6	NPA220M063ST
33	4.46	195	62.3	10	20	0.6	NPA330M063ST
47	3.14	245	88.8	10	25	0.6	NPA470M063ST
68	2.17	327	153.5	10	30	0.6	NPA680M063ST
100	1.47	438	189.0	13	25	0.6	NPA101M063ST
150	0.98	557	282.0	13	30	0.6	NPA151M063ST
100 WVNP; 125 VNP Surge							
1	165.80	25	3.0	6	16	0.6	NPA010M100ST
2.2	75.36	36	6.6	6	16	0.6	NPA2R2M100ST
3.3	50.24	46	9.9	6	16	0.6	NPA3R3M100ST
4.7	35.27	55	14.1	6	16	0.6	NPA4R7M100ST
10	16.58	92	30.0	8	16	0.6	NPA100M100ST
15	12.06	124	82.5	8	20	0.6	NPA150M100ST
22	7.54	155	66.0	10	20	0.6	NPA220M100ST
33	5.02	210	99.0	10	25	0.6	NPA330M100ST
47	3.53	285	141.0	13	25	0.6	NPA470M100ST
68	3.01	371	205.0	13	30	0.6	NPA680M100ST
100	1.66	500	300.0	13	30	0.6	NPA101M100ST

Aluminum Capacitors