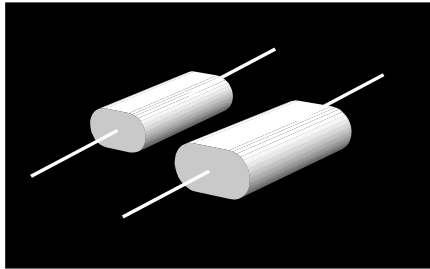


S N U B B E R C A P A C I T O R S

MP-4A Axial Oval



Highlight

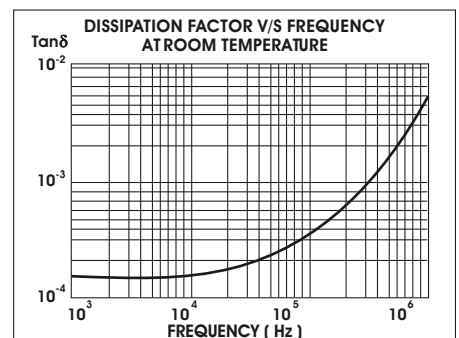
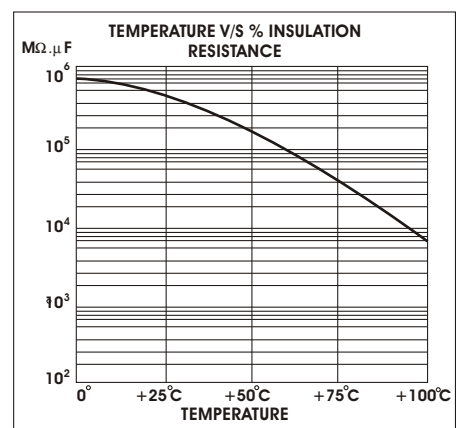
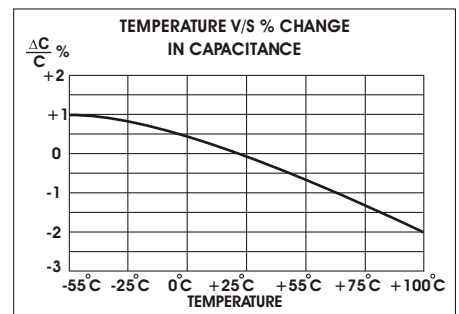
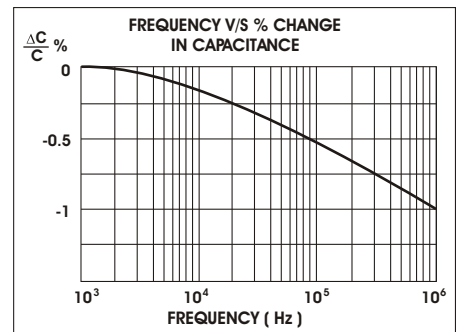
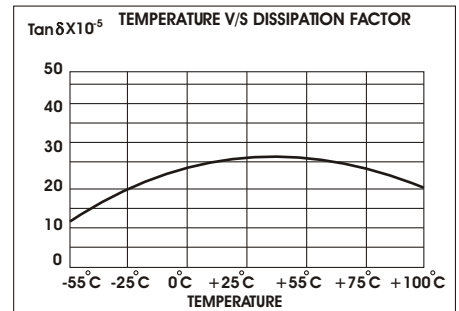
- Low loss polypropylene dielectric
- High frequency & High voltage capability
- High peak current
- High DV/DT
- Low ESR
- Reference Standard – IEC 384

Applications

These capacitors are used in high voltage, high current and medium to high pulse applications such as:

- Snubber circuits
- Speed control
- SMPS

Construction



S N U B B E R C A P A C I T O R S

MP-4A Axial Oval

Technical specifications

Physical Characteristics

- | | |
|---|---|
| <ul style="list-style-type: none"> • Dielectric material • Electrode material | <p>Polypropylene film.
Double metallized polyester and Metallized polypropylene film.</p> |
| <ul style="list-style-type: none"> • Winding construction | <p>Polypropylene film,
Double metallized polyester and Metallized polypropylene film wound in a series construction</p> |
| <ul style="list-style-type: none"> • Terminals • Enclosure | <p>Tinned copper.
UL94-V0 Tape wrap with thermosetting resin end fill.</p> |

Electrical Characteristics

- | | |
|--|--|
| <ul style="list-style-type: none"> • Capacitance range • Capacitance Tolerance • Rated voltage Vdc • Rated voltage Vac • Test voltage between terminals • Dissipation factor • Insulation resistance • Temperature range | <p>0.015 μF to 5 μF
 $\pm 5\%$(J), $\pm 10\%$(K)
 600 ,850,1000,1200,1600,2000,2500,3000
 275,450,500,500,630,700,750
 2 x rated Vdc for 10 secs.
 ≤ 0.0005 at 1 KHz and +25°C
 $> 100,000 \times \mu$F at 100Vdc after 2 min.
 -55°C to +105°C*</p> |
|--|--|

* upto + 85°C full rated Vdc at +105°C derated Vdc to 50%

Marking on Capacitors

Each capacitor will have the following information printed on it, sequentially:

- Company's name – ALCON
- Capacitor grade viz MP-4A
- Capacitance value MFD
- The rated voltage VDC
- Capacitance tolerance and manufacturing date code
- Design reference number on non-standard capacitors

S N U B B E R C A P A C I T O R S

MP-4A Axial Oval

Standard Capacitor Values

Working voltage 600 VDC (275 VAC)

Rated Capacitance MFD	Dimensions in mm *				DV/DT V/ μ Sec	I Peak Amps	I _{rms} Max at 70°C Amps	Typical ESR at 100Khz m Ω
	Tmax	Wmax	Lmax	d				
0.33	10.0	16.0	34	1.0	200	66	6.0	9.0
0.47	12.0	18.0	34	1.0	200	94	7.5	7.0
0.68	14.5	20.5	34	1.0	200	136	9.0	6.0
1.00	17.5	23.5	34	1.0	200	200	10	6.0
1.50	21.5	27.5	34	1.2	200	300	12	5.0
2.00	18.0	27.5	46	1.2	125	250	13	5.0
3.30	22.5	31.5	54	1.2	100	330	17	4.0
4.70	28.0	33.0	54	1.2	100	470	18.5	4.0
5.00	30.0	34.0	54	1.2	100	500	19.5	3.5

Working voltage 850 VDC (450 VAC)

Rated Capacitance MFD	Dimensions in mm *				DV/DT V/ μ Sec	I Peak Amps	I _{rms} Max at 70°C Amps	Typical ESR at 100Khz m Ω
	Tmax	Wmax	Lmax	d				
0.15	9.5	16.0	34	1.0	700	105	6.4	8.0
0.22	11.5	18.0	34	1.0	700	154	7.0	8.0
0.33	14.5	20.5	34	1.0	700	231	8.3	7.0
0.47	17.0	23.5	34	1.0	700	329	10.8	5.0
0.68	21.0	27.0	34	1.2	700	476	13.3	4.0
1.00	17.5	27.0	46	1.2	400	400	12.7	5.0
1.50	21.5	31.0	46	1.2	400	600	15.8	4.0
2.00	25.0	34.5	46	1.2	400	800	19.8	3.0
2.20	26.5	36.0	46	1.2	400	880	20.4	3.0
2.50	28.5	38	46	1.2	400	1000	21.2	3.0

S N U B B E R C A P A C I T O R S

MP-4A Axial Oval

Standard Capacitor Values

Working voltage 1000 VDC (500 VAC)

Rated Capacitance MFD	Dimensions in mm *				DV/DT V/ μ Sec	I Peak Amps	I _{rms} Max at 70°C Amps	Typical ESR at 100Khz m Ω
	T _{max}	W _{max}	L _{max}	d				
0.15	11.5	17.5	34	1.0	850	127	7.4	7.0
0.22	13.5	20.0	34	1.0	850	187	8.2	7.0
0.33	16.5	23.0	34	1.0	850	280	9.6	6.0
0.47	20.0	26.5	34	1.2	850	399	11.6	5.0
0.68	24.0	30.5	34	1.2	850	578	13.1	5.0
1.00	20.5	30.0	46	1.2	480	480	13.7	5.0
1.50	25.5	34.5	46	1.2	480	720	17.4	4.0
2.00	30	40	46	1.2	480	960	21.6	3.0

Working voltage 1200 VDC (500 VAC)

Rated Capacitance MFD	Dimensions in mm *				DV/DT V/ μ Sec	I Peak Amps	I _{rms} Max at 70°C Amps	Typical ESR at 100Khz m Ω
	T _{max}	W _{max}	L _{max}	d				
0.10	11.5	18.0	34	1.0	1150	115	6.7	9.0
0.15	14.5	20.5	34	1.0	1150	172	8.3	7.0
0.22	17.5	23.5	34	1.0	1150	253	9.2	7.0
0.33	14.5	24.0	46	1.0	650	214	10.1	7.0
0.47	17.5	27.0	46	1.2	650	305	10.8	7.0
0.68	21.5	31.0	46	1.2	650	442	13.2	6.0
1.00	26.5	36.0	46	1.2	650	650	15.8	5.0
1.50	27.5	40.0	54	1.2	500	750	19.6	4.0

S N U B B E R C A P A C I T O R S

MP-4A Axial Oval

Standard Capacitor Values

Working voltage 1600 VDC (630 VAC)

Rated Capacitance MFD	Dimensions in mm *				DV/DT V/ μ Sec	I Peak Amps	I _{rms} Max at 70°C Amps	Typical ESR at 100Khz m Ω
	Tmax	Wmax	Lmax	d				
0.10	14.5	20.5	34	1.0	1400	140	8.4	7.0
0.15	17.5	24.0	34	1.0	1400	210	11.2	5.0
0.22	21.5	28.0	34	1.2	1400	308	10.2	7.0
0.33	18.0	27.5	46	1.2	800	264	11.1	7.0
0.47	22.0	31.5	46	1.2	800	376	13.2	6.0
0.68	27.0	36.0	46	1.2	800	544	14.4	6.0
1.00	33.0	43.2	46	1.2	800	800	17.8	5.0
1.50	34.5	47.0	54	1.2	600	900	22.3	4.0

Working voltage 2000 VDC (630 VAC)

Rated Capacitance MFD	Dimensions in mm *				DV/DT V/ μ Sec	I Peak Amps	I _{rms} Max at 70°C Amps	Typical ESR at 100Khz m Ω
	Tmax	Wmax	Lmax	d				
0.022	8.0	14.0	34	1.0	1700	38	2.8	35.0
0.033	10.0	16.0	34	1.0	1700	56	4.1	20.0
0.047	11.5	17.5	34	1.0	1700	80	5.7	12.0
0.068	14.0	20.2	34	1.0	1700	115	7.7	8.0
0.100	17.0	23.5	34	1.0	1700	170	9.1	7.0
0.150	14.0	23.5	46	1.0	950	142	9.7	7.0
0.220	17.5	26.5	46	1.0	950	209	10.2	8.0
0.330	21.5	31.0	46	1.2	950	313	11.2	8.0
0.470	26.0	35.5	46	1.2	950	446	14.5	6.0
0.560	23.9	36.5	54	1.2	750	420	13.8	7.0
0.680	26.6	39.2	54	1.2	750	510	15.8	6.0
1.000	33.0	45.5	54	1.2	750	750	19.5	5.0

S N U B B E R C A P A C I T O R S

MP-4A Axial Oval

Standard Capacitor Values

Working voltage 2500 VDC (700 VAC)

Rated Capacitance MFD	Dimensions in mm *				DV/DT V/ μ Sec	I Peak Amps	I _{rms} Max at 70°C Amps	Typical ESR at 100Khz m Ω
	Tmax	Wmax	Lmax	d				
0.022	8.0	14.0	34	1.0	2000	44	2.0	30.0
0.033	10.0	16.0	34	1.0	2000	66	3.5	16.0
0.047	11.5	17.5	34	1.0	2000	94	5.0	16.0
0.068	14.0	20.2	34	1.0	2000	136	5.9	14.0
0.100	17.0	23.5	34	1.0	2000	200	6.3	12.0
0.150	14.0	23.5	46	1.0	1550	232	7.2	10.0
0.220	17.5	26.5	46	1.0	1550	341	8.5	9.0
0.330	21.5	31.0	46	1.2	1550	511	10.0	7.0
0.470	26.0	35.5	46	1.2	1550	728	11.6	6.0
0.680	27.0	39.5	54	1.2	900	612	12.9	5.0
1.000	33.0	46.5	54	1.2	900	900	13.9	4.0

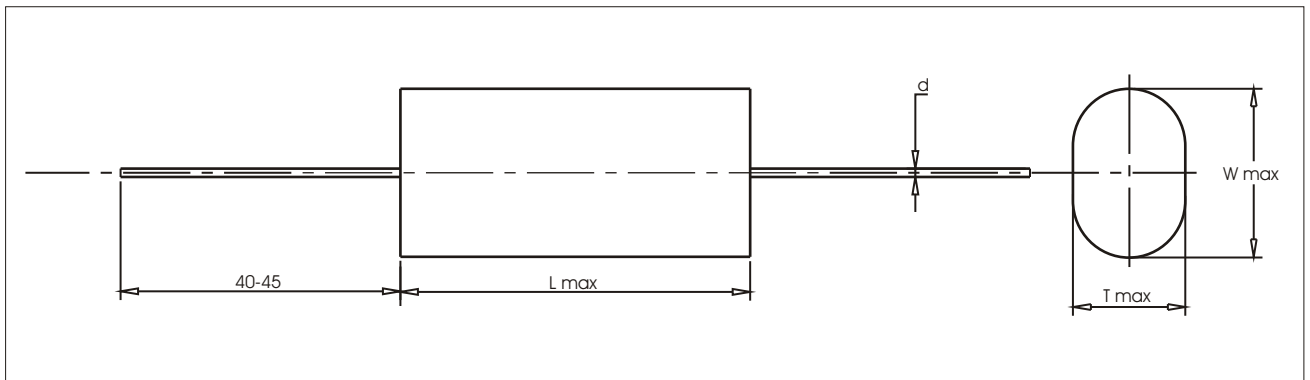
Working voltage 3000 VDC (750 VAC)

Rated Capacitance MFD	Dimensions in mm *				DV/DT V/ μ Sec	I Peak Amps	I _{rms} Max at 70°C Amps	Typical ESR at 100Khz m Ω
	Tmax	Wmax	Lmax	d				
0.022	11.5	17.5	34	1.0	2500	55	2.9	25.0
0.033	14.0	20.5	34	1.0	2500	82	4.0	14.0
0.047	11.5	20.5	46	1.0	1450	68	5.7	14.0
0.068	14.0	24	46	1.0	1450	98	6.3	12.0
0.100	17.0	26.5	46	1.2	1450	145	7.4	10.0
0.150	21.5	31.0	46	1.2	1450	217	8.0	8.0
0.220	27.5	40	46	1.2	1450	319	9.0	7.0
0.330	25.5	37	54	1.2	1000	330	11.2	6.0
0.470	28.5	41.0	54	1.2	1000	470	12.6	5.0
0.680	35.5	49.0	54	1.2	1000	680	13.8	4.0

S N U B B E R C A P A C I T O R S

MP-4A Axial Oval

Capacitor Drawing and Terminal Style



Dimensions in mm

Precaution

1. These capacitors are not suitable for 'across the line' applications
2. VAC (rated): Frequency should be less than 1000Hz
3. VDC (rated): $1.4 \times V_{rms} + VDC$ should be less than rated VDC