

MP-4A

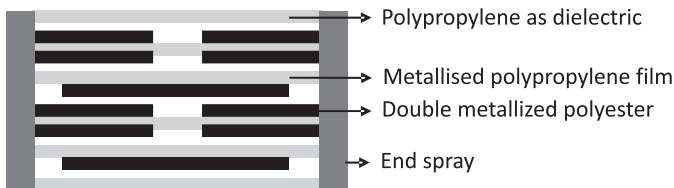


Highlights

- Low loss polypropylene dielectric
- High frequency & high voltage capability
- High peak current
- High DV/DT
- Low ESR
- Reference standard-IEC 61071
- Flame retardant UL94 - V0, ROHS compliant

Construction

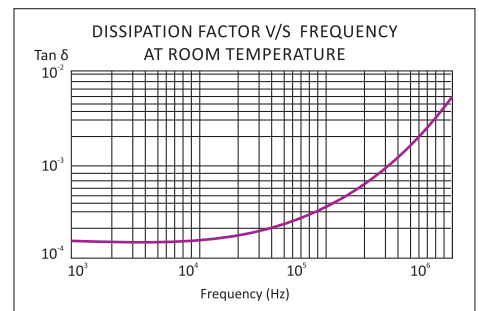
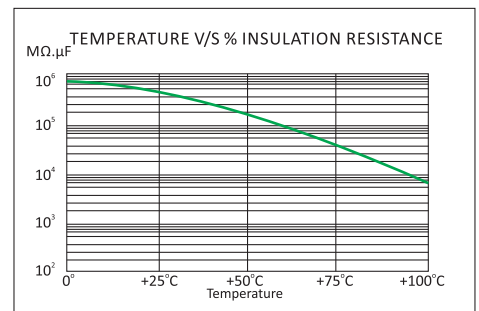
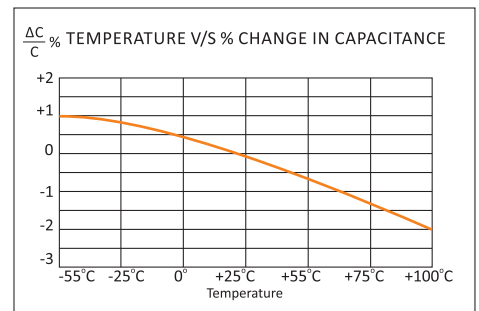
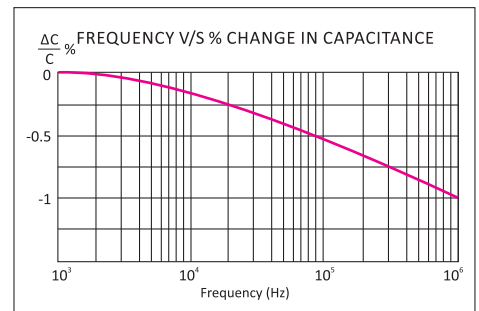
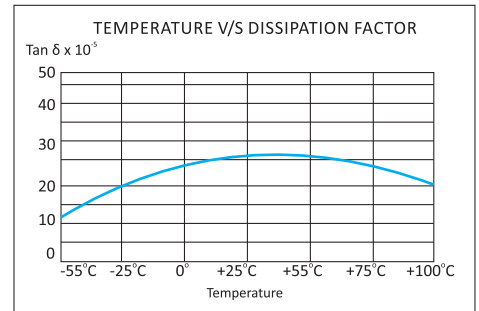
Extended double metallised polyester electrodes with metallised polypropylene dielectric internal series connection



Applications

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

- Snubber circuits
- Speed control
- SMPS



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Technical Specifications

Physical Characteristics

▪ Dielectric material	Polypropylene film
▪ Electrode material	Double metallized polyester and metallized polypropylene film
▪ Winding construction	Extended double metallised polyester electrodes with metallised polypropylene dielectric internal series connection
▪ Terminal	Tinned copper
▪ Enclosure	UL94-V0 Tape wrap with thermosetting resin end fill

Electrical Characteristics

▪ Capacitance range	0.015 μ F to 5 μ F
▪ Capacity tolerance	\pm 5%(J), \pm 10%(K)
▪ Rated voltage VDC	600, 850, 1000, 1200, 1600, 2000, 2500, 3000
▪ Rated voltage VAC	275, 450, 500, 500, 630, 630, 700, 750,
▪ Test voltage between terminals	2 x rated VDC for 10 secs.
▪ Test voltage terminal to case	3 KV AC
▪ Dissipation factor	< 0.0005 at 1 KHz and + 25°C
▪ Insulation resistance	>100,000 x μ F at 100 VDC after 2 min
▪ Temperature range	-55°C to +105°C Upto + 85°C full rated voltage can be applied. However, at +105°C only half the rated voltage can be applied.

Marking on Capacitors

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

- The Company name in words ALCON
- The capacitor grade viz MP-4A
- The capacitance value MFD
- The rated voltage VDC
- Capacity tolerance and manufacturing date code
- Design reference number on non-standard capacitors

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Standard Capacitor Values

Working Voltage 600 VDC (275 VAC)

Rated Capacitance MFD	Dimensions in mm *				Case Code	DV/DT V/ μ Sec	I peak Amps	Irms Max at 70°C Amps	Typical ESR at 100Khz m Ω	Ordering Code
	Tmax	Wmax	Lmax	d						
0.330	10.0	16.0	34.0	1.0	P1	200	66.00	6.00	9.00	SI00U330600AKOP10AXLK01
0.470	12.0	18.0	34.0	1.0	P2	200	94.00	7.50	7.00	SI00U470600AKOP20AXLK01
0.680	14.5	20.5	34.0	1.0	BF	200	136.00	9.00	6.00	SI00U680600AKOBF0AXLK01
1.000	17.5	23.5	34.0	1.0	BG	200	200.00	10.00	6.00	SI000010600AKOBG0AXLK01
1.500	21.5	27.5	34.0	1.2	BH	200	300.00	12.00	5.00	SI01U500600AKOBH0AXLK01
2.000	18.0	27.5	46.0	1.2	BI	125	250.00	13.00	5.00	SI000020600AKOBIOAXLK01
3.300	22.5	31.5	54.0	1.2	BJ	100	330.00	17.00	4.00	SI03U300600AKOBJOAXLK01
4.700	28.0	33.0	54.0	1.2	BK	100	470.00	18.50	4.00	SI04U700600AKOBKOAXLK01
5.000	30.0	34.0	54.0	1.2	BL	100	500.00	19.50	3.50	SI000050600AKOBLOAXLK01

Working voltage 850 VDC (450 VAC)

Rated Capacitance MFD	Dimensions in mm *				Case Code	DV/DT V/ μ Sec	I peak Amps	Irms Max at 70°C Amps	Typical ESR at 100Khz m Ω	Ordering Code
	Tmax	Wmax	Lmax	d						
0.150	9.5	16.0	34.0	1.0	PB	700	105.00	6.40	8.00	SI00U150850AKOPB0AXLK01
0.220	11.5	18.0	34.0	1.0	BM	700	154.00	7.00	8.00	SI00U220850AKOBMOAXLK01
0.330	14.5	20.5	34.0	1.0	BF	700	231.00	8.30	7.00	SI00U330850AKOBF0AXLK01
0.470	17.0	23.5	34.0	1.0	BO	700	329.00	10.80	5.00	SI00U470850AKOBO0AXLK01
0.680	21.0	27.0	34.0	1.2	BP	700	476.00	13.30	4.00	SI00U680850AKOBPOAXLK01
1.000	17.5	27.0	46.0	1.2	BQ	400	400.00	12.70	5.00	SI000010850AKOBQ0AXLK01
1.500	21.5	31.0	46.0	1.2	BR	400	600.00	15.80	4.00	SI01U500850AKOBROAXLK01
2.000	25.0	34.5	46.0	1.2	BS	400	800.00	19.80	4.00	SI000020850AKOBS0AXLK01
2.200	26.5	36.0	46.0	1.2	BT	400	880.00	20.40	3.00	SI02U200850AKOBT0AXLK01
2.500	28.5	38.0	46.0	1.2	BU	400	1000.00	21.20	3.00	SI02U500850AKOBU0AXLK01

Working Voltage 1000 VDC (500 VAC)

Rated Capacitance MFD	Dimensions in mm *				Case Code	DV/DT V/ μ Sec	I peak Amps	Irms Max at 70°C Amps	Typical ESR at 100Khz m Ω	Ordering Code
	Tmax	Wmax	Lmax	d						
0.150	11.5	17.5	34.0	1.0	BV	850	127.00	7.40	9.20	SI00U151000AKOBV0AXLK01
0.220	13.5	20.0	34.0	1.0	BW	850	187.00	8.20	7.00	SI00U221000AKOBW0AXLK01
0.330	16.5	23.0	34.0	1.0	BX	850	280.00	9.60	6.00	SI00U331000AKOBX0AXLK01
0.470	20.0	26.5	34.0	1.2	BY	850	399.00	11.60	5.00	SI00U471000AKOBY0AXLK01
0.680	24.0	30.5	34.0	1.2	BZ	850	578.00	13.10	5.00	SI00U681000AKOBZ0AXLK01
1.000	20.5	30.0	46.0	1.2	CA	480	480.00	13.70	5.00	SI000011000AKOCA0AXLK01
1.500	25.5	34.5	46.0	1.2	CB	480	720.00	17.40	4.00	SI01U501000AKOCB0AXLK01
2.000	30.0	40.0	46.0	1.2	CC	480	960.00	21.60	3.00	SI000021000AKOCC0AXLK01

Custom-designed capacitors are available on request

* Refer to "Capacitor Drawing" on page 6

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Standard Capacitor Values

Working voltage 1200 VDC (500 VAC)

Rated Capacitance MFD	Dimensions in mm *				Case Code	DV/DT V/ μ Sec	I peak Amps	Irms Max at 70°C Amps	Typical ESR at 100Khz m Ω	Ordering Code
	Tmax	Wmax	Lmax	d						
0.100	11.5	18.0	34.0	1.0	BM	1150	115.00	6.70	11.00	SI00U101200AK0BM0AXLK01
0.150	14.5	20.5	34.0	1.0	BF	1150	172.00	8.30	7.00	SI00U151200AK0BF0AXLK01
0.220	17.5	23.5	34.0	1.0	BG	1150	253.00	9.20	7.00	SI00U221200AK0BG0AXLK01
0.330	14.5	24.0	46.0	1.0	CD	650	214.00	10.10	7.00	SI00U331200AK0CDOAXLK01
0.470	17.5	27.0	46.0	1.2	BQ	650	305.00	10.80	7.00	SI00U471200AK0BQ0AXLK01
0.680	21.5	31.0	46.0	1.2	BR	650	442.00	13.20	6.00	SI00U681200AK0BROAXLK01
1.000	26.5	36.0	46.0	1.2	BT	650	650.00	15.80	5.00	SI000011200AK0BTOAXLK01
1.500	27.5	40.0	54.0	1.2	CE	500	750.00	19.60	4.00	SI01U501200AK0CEOAXLK01

Working Voltage 1600 VDC (630 VAC)

Rated Capacitance MFD	Dimensions in mm *				Case Code	DV/DT V/ μ Sec	I peak Amps	Irms Max at 70°C Amps	Typical ESR at 100Khz m Ω	Ordering Code
	Tmax	Wmax	Lmax	d						
0.100	14.5	20.5	34.0	1.0	BF	1400	140.00	8.40	7.00	SI00U101600AK0BF0AXLK01
0.150	17.5	24.0	34.0	1.0	CF	1400	210.00	11.20	5.00	SI00U151600AK0CF0AXLK01
0.220	21.5	28.0	34.0	1.2	CG	1400	308.00	10.20	7.00	SI00U221600AK0CG0AXLK01
0.330	18.0	27.5	46.0	1.2	BI	800	264.00	11.10	7.00	SI00U331600AK0BIOAXLK01
0.470	22.0	31.5	46.0	1.2	CH	800	376.00	13.20	6.00	SI00U471600AK0CHOAXLK01
0.680	27.0	36.0	46.0	1.2	CI	800	544.00	14.40	6.00	SI00U681600AK0CIOAXLK01
1.000	33.0	43.2	46.0	1.2	CJ	800	800.00	17.80	5.00	SI000011600AK0CJOAXLK01
1.500	34.5	47.0	54.0	1.2	CK	600	900.00	22.30	4.00	SI01U501600AK0CKOAXLK01

Working voltage 2000 VDC (630 VAC)

Rated Capacitance MFD	Dimensions in mm *				Case Code	DV/DT V/ μ Sec	I peak Amps	Irms Max at 70°C Amps	Typical ESR at 100Khz m Ω	Ordering Code
	Tmax	Wmax	Lmax	d						
0.022	8.0	14.0	34.0	1.0	PO	1700	38.00	2.80	35.00	SI0U0222000AK0PO0AXLK01
0.033	10.0	16.0	34.0	1.0	P1	1700	56.00	4.10	20.00	SI0U0332000AK0P10AXLK01
0.047	11.5	17.5	34.0	1.0	BV	1700	80.00	5.70	12.00	SI0U0472000AK0BVOAXLK01
0.068	14.0	20.2	34.0	1.0	BN	1700	115.00	7.70	8.00	SI0U0682000AK0BNOAXLK01
0.100	17.0	23.5	34.0	1.0	BO	1700	170.00	9.10	7.00	SI00U102000AK0BO0AXLK01
0.150	14.0	23.5	46.0	1.0	CL	950	142.00	9.70	7.00	SI00U152000AK0CLOAXLK01
0.220	17.5	26.5	46.0	1.0	CM	950	209.00	10.20	8.00	SI00U222000AK0CM0AXLK01
0.330	21.5	31.0	46.0	1.2	BR	950	313.00	11.20	8.00	SI00U332000AK0BROAXLK01
0.470	26.0	35.5	46.0	1.2	CN	950	446.00	14.50	6.00	SI00U472000AK0CNOAXLK01
0.560	23.9	36.5	54.0	1.2	CO	750	420.00	13.80	7.00	SI00U562000AK0CO0AXLK01
0.680	26.6	39.2	54.0	1.2	CP	750	510.00	15.80	6.00	SI00U682000AK0CPOAXLK01
1.000	33.0	45.5	54.0	1.2	CQ	750	750.00	19.50	5.00	SI000012000AK0CCQ0AXLK01

Custom-designed capacitors are available on request

* Refer to "Capacitor Drawing" on page 6

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Standard Capacitor Values

Working Voltage 2500 VDC (700 VAC)

Rated Capacitance MFD	Dimensions in mm *				Case Code	DV/DT V/ μ Sec	I peak Amps	I rms Max at 70°C Amps	Typical ESR at 100Khz m Ω	Ordering Code
	Tmax	Wmax	Lmax	d						
0.022	8.0	14.0	34.0	1.0	PO	2000	44.00	2.00	30.00	SI0U0222500AK0P00AXLK01
0.033	10.0	16.0	34.0	1.0	P1	2000	66.00	3.50	16.00	SI0U0332500AK0P10AXLK01
0.047	11.5	17.5	34.0	1.0	BV	2000	94.00	5.00	16.00	SI0U0472500AK0BV0AXLK01
0.068	14.0	20.2	34.0	1.0	BN	2000	136.00	5.90	14.00	SI0U0682500AK0BN0AXLK01
0.100	17.0	23.5	34.0	1.0	BO	2000	200.00	6.30	12.00	SI000U12500AK0BO0AXLK01
0.150	14.0	23.5	46.0	1.0	CL	1550	232.00	7.20	10.00	SI00U152500AK0CLOAXLK01
0.220	17.5	26.5	46.0	1.0	CM	1550	341.00	8.50	9.00	SI00U222500AK0CM0AXLK01
0.330	21.5	31.0	46.0	1.2	BR	1550	511.00	10.00	7.00	SI00U332500AK0BR0AXLK01
0.470	26.0	35.5	46.0	1.2	CN	1550	728.00	11.60	6.00	SI00U472500AK0CN0AXLK01
0.680	27.0	39.5	54.0	1.2	CR	900	612.00	12.90	5.00	SI00U682500AK0CROAXLK01
1.000	33.0	46.5	54.0	1.2	CS	900	900.00	13.90	4.00	SI000012500AK0CS0AXLK01

Working voltage 3000 VDC (750 VAC)

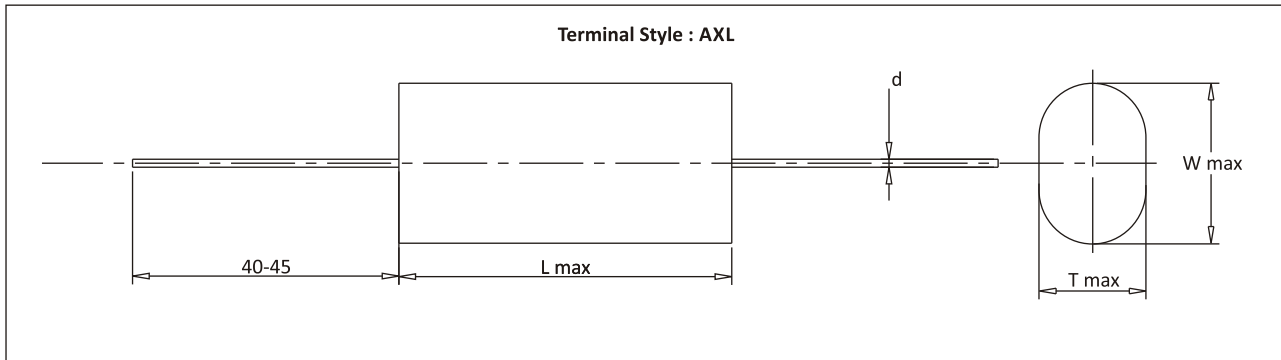
Rated Capacitance MFD	Dimensions in mm *				Case Code	DV/DT V/ μ Sec	I peak Amps	I rms Max at 70°C Amps	Typical ESR at 100Khz m Ω	Ordering Code
	Tmax	Wmax	Lmax	d						
0.022	11.5	17.5	34.0	1.0	BV	2500	55.00	2.90	27.00	SI0U0223000AK0BV0AXLK01
0.033	14.0	20.5	34.0	1.0	CT	2500	82.00	4.00	14.00	SI0U0333000AK0CT0AXLK01
0.047	11.5	20.5	46.0	1.0	CU	1450	68.00	5.70	14.00	SI0U0473000AK0CU0AXLK01
0.068	14.0	24.0	46.0	1.0	CV	1450	98.00	6.30	12.00	SI0U0683000AK0CV0AXLK01
0.100	17.0	26.5	46.0	1.2	CW	1450	145.00	7.40	10.00	SI000U13000AK0CW0AXLK01
0.150	21.5	31.0	46.0	1.2	BR	1450	217.00	8.00	8.00	SI00U153000AK0BR0AXLK01
0.220	27.5	40.0	46.0	1.2	CX	1450	319.00	9.00	7.00	SI00U223000AK0CX0AXLK01
0.330	25.5	37.0	54.0	1.2	CY	1000	330.00	11.20	6.00	SI00U333000AK0CY0AXLK01
0.470	28.5	41.0	54.0	1.2	CZ	1000	470.00	12.60	5.00	SI00U473000AK0CZ0AXLK01
0.680	35.5	49.0	54.0	1.2	DA	1000	680.00	13.80	4.00	SI00U683000AK0DA0AXLK01

Custom-designed capacitors are available on request

* Refer to "Capacitor Drawing" on page 6

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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
4. MAX ESR = Typical ESR +30%