

DC-LINK FILM CAPACITORS

▪ 700 VDC to 3300 VDC ▪ High Ripple ▪ Low Inductance



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ISO 9001-2015
Quality Standard



ISO 14001-2015
Environmental Standard



ISO 45001-2018
Health and Safety Standard

Alcon started manufacturing aluminium electrolytic capacitors for the Indian entertainment electronics industry in 1977. Over the years the focus has shifted and Alcon now manufactures a large range of high CV screw terminal type aluminium electrolytic capacitors and a large variety of film capacitors for power electronic applications. The range of film capacitors now includes 3 types namely, IGBT snubber capacitors (direct mounting with - different terminals styles to suit all types of power IGBT modules), DC Link capacitors for high frequency application in power electronic and Power film capacitors which are designed for application involving wide operating frequency range of 5 kHz to 1 MHz, high current ratings of 200 to 1250 Arms and voltage ratings of 400 to 1200 Vrms.

With this enlarged range of capacitors, Alcon caters to the increasing needs of the power electronics sector. To improve market share in India and abroad Alcon has now completed the expansion which has enabled it to create additional manufacturing capacity for all capacitor types mentioned above. With this expansion a new more modern, well equipped R & D Laboratory has been established. This will facilitate further product development at Alcon. This laboratory is equipped to collect application data related to all types of capacitors that will be manufactured. Alcon is now fully equipped to cater to the increasing requirements of the target industries and will therefore fall in line with the Governments plans of " Make in India ". Alcon will not only cater to the needs of the AC drives, UPS systems and the Inverter markets but will also cater to requirements of the industries involved in the manufacture of Wireless Electric Vehicle charging, High Frequency Induction Heating Equipment, Windmill and Solar Inverters, Telecom Equipment, besides a host of many special purpose industrial electronic equipment like Health Care (MRI, CT scan and X-ray) Equipment, Welding and Pulse Magnetizing Equipment, to name only a few.

Alcon has been able to meet the exacting quality criteria and standards of Indian as well discerning customers in USA, Germany, Italy, UK, Japan, Norway, Sweden, Denmark, South Korea, Turkey and even the very price conscious customers in China. Alcon believes that quality has to be built into the entire manufacturing process. The finest end products are assured by using the finest inputs, proven technology, modern production processes and equipment's and stringent quality control. Alcon is registered to ISO 9001, ISO 14001 and ISO 45001 signifying Alcon's commitment to quality, reliability and environment protection on the one hand and to safety as per international standards, on the other.

Designing capacitors for special applications requires an in-depth understanding of the application, knowledge of changing technologies, the ability to develop innovative technology concepts and finally, incorporate these concepts into the capacitors design & manufacturing processes. This would give the users high reliability and high performance products. Alcon's capability to make custom designed capacitors is well known. One of Alcon's significant advantage is that every stage of product development and innovation is evaluated in terms of changing technologies and user needs. Custom designed capacitors allow the users to select the right capacitor at the most viable price. Custom-designed capacitors account for almost 50% of Alcon's sales. It is also for this reason that Alcon today exports about 30% of its production and after the current planned expansion the company's target is to export 50% of its annual production. To enable the company to work effectively towards this objective Alcon's range of aluminium electrolytic capacitors now have CE marking and its range of DCL - 41 DC-Link Capacitors are UL approved.

At Alcon, responsiveness to customers needs is an integral part of our marketing strategy. We work with customers, to understand their production operations and application needs, analyse problems and offer optimum and cost effective solutions. We do what it takes to satisfy customer requirements. Alcon has a marketing team with component specific knowledge and experience. Our distributors who are located in all important cities in India and in many cities internationally, function as marketing nerve centres and provide timely deliveries to consumers in their region. Alcon has 23 distributors in India and 18 across the Globe. Alcon has received several awards as a recognition of the company's product quality, service, timely delivery and technology. Last fiscal the company received an award from Emerson Network Power India Pvt. Ltd., which was titled "Emerson Vendor appreciation Award." This year we have received an award titled "Supplier Technology Award" from GE Healthcare. This award is for innovative product designs and development of several new products for GE in India. "GE believes that this is the kind of partnership they look forward to in today's uncertain world."

Alcon's Customers are located in India and in many countries worldwide.



India : New Delhi, Jaipur, Ahmedabad, Baroda, Bhopal, Mumbai, Pune, **Nashik**, Hyderabad, Bangalore, Chennai, Cochin, Coimbatore Trivandram & Kolkata

International : Australia, China, Czech Republic, Denmark, Estonia, Finland, Germany, Italy, Ukraine, Japan, Latvia, Lithuania, Netherlands, Poland, Russia Federation, Romania, Slovakia, U.K, USA, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Turkey, France, Dubai, Singapore, Norway, Indonesia, Hongkong

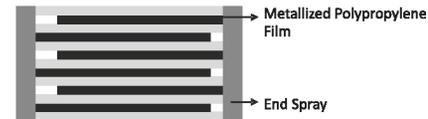
DCL-50



Highlights

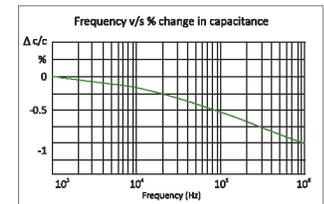
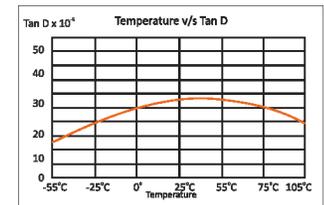
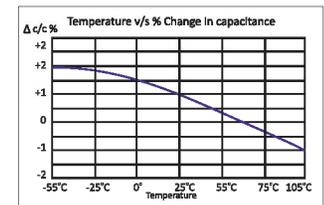
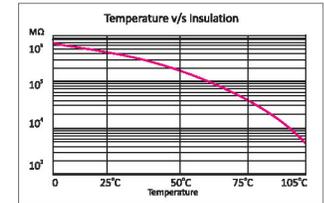
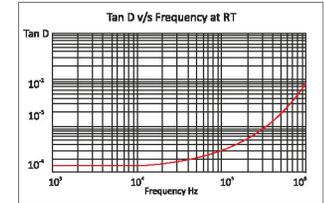
- Self-Inductance as low as 30nH
- ESR as low as 0.5 mΩ
- Low profile
- High thermal conductivity
- Life expectancy as high as 100 Khrs
- Axial stud terminals
- Flame retardant UL94 - V0, ROHS compliant

Construction



Applications

- DC filtering
- Wind power inverters
- Solar power inverters
- Induction heaters
- Electric vehicle inverters
- Motor drives



DCL-50

Technical Specifications

Physical Characteristics

- Electrode material: Metallised polypropylene film
- Winding construction: Polypropylene film, metallised polypropylene film
- Enclosure: UL 94-V0 Polyester tape wrap and epoxy filled
- Terminals: Nickel plated brass

Electrical Characteristics

- Capacitance range: 20 µF to 265µF
- Capacity tolerance: ±5%(J), ±10%(K)
- Rated voltage VDC: 700, 800, 900, 1000, 1200, 1400, 1600, 1800
- Test voltage between terminals: 1.3 x rated voltage VDC for 60 seconds (not to be repeated)
- Test voltage terminal to case: 3KVAC at 50Hz for 60 seconds
- Dissipation factor (Tan d): ≤0.0015 at 100Hz and 25°C
- Temperature range: -55°C to +105°C
- Insulation resistance MΩ x µF: ≥5,000 S at 25°C (S = MΩ x µF)
- Reference Standard: IEC 61071 and IEC 60068

Marking on Capacitors

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

- The Company's symbol followed by the words ALCON
- The capacitor grade viz DCL-50
- The capacitance value MFD
- The rated voltage VDC
- The max current Arms
- Capacity tolerance and manufacturing code
- Part number on non-standard capacitors

DCL-50

Standard Capacitors Values

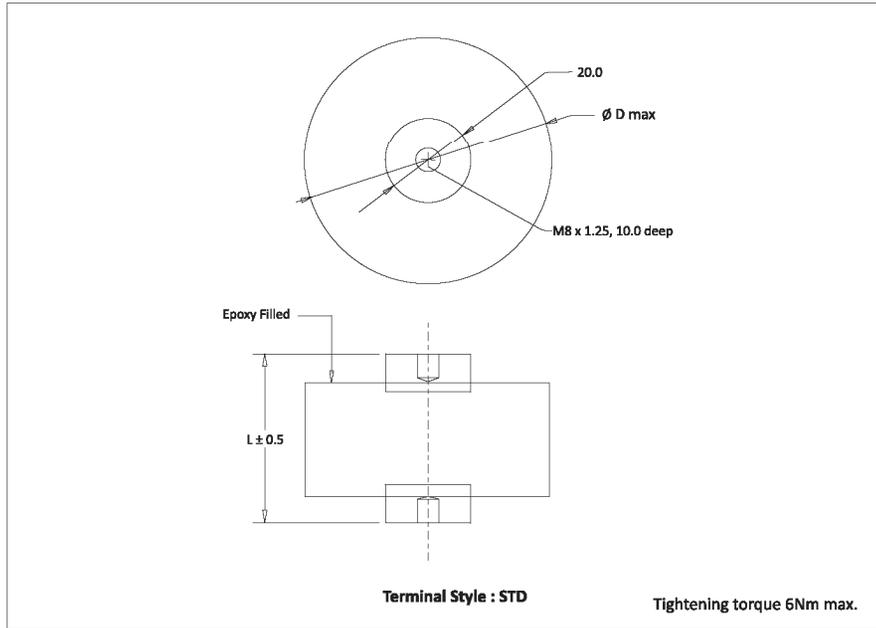
Rated voltage VDC	Nominal Capacitance MFD at 1 KHz	Case size φ x Lmm	Case Code	Typical ESR mΩ at Fr* KHz	Fr* KHz	Rise in core temperature per watt dissipated °C	Ripple current rating Arms at 10 KHz to 100KHz					Ordering Code
							25°C	45°C	65°C	85°C	105°C	
700	90	85 x 51	Y2	0.65	156	14.2	60	52	44	30	7	SD000900700APOY2___K01
	145	85 x 63	Y5	0.75	105	12.3	64	55	46	32	8	SD001450700APOY5___K01
	200	85 x 76	Y6	0.95	71	10.8	58	50	42	29	7	SD002000700APOY6___K01
	265	85 x 91	Y7	1.65	61	8.9	51	45	37	26	6	SD002650700APOY7___K01
900	85	85 x 51	Y2	0.58	168	14.2	56	48	39	27	5	SD000850900APOY2___K01
	120	85 x 63	Y5	0.78	98	12.3	62	54	47	34	8	SD001200900APOY5___K01
	160	85 x 76	Y6	0.97	73	10.8	57	51	43	30	9	SD001600900APOY6___K01
	200	85 x 91	Y7	1.70	69	8.9	50	43	35	25	5	SD002000900APOY7___K01
1000	55	85 x 51	Y2	0.80	176	14.2	57	49	41	25	7	SD000551000APOY2___K01
	70	85 x 51	Y2	1.00	182	14.2	58	50	42	29	7	SD000701000APOY2___K01
	100	85 x 63	Y5	0.80	136	12.3	59	51	43	30	7	SD001001000APOY5___K01
	130	85 x 76	Y6	1.18	91	10.8	52	45	37	27	6	SD001301000APOY6___K01
1200	150	85 x 91	Y7	2.21	75	8.9	46	40	33	23	5	SD001501000APOY7___K01
	60	85 x 51	Y2	1.05	254	14.2	48	41	35	25	6	SD000601200APOY2___K01
	80	85 x 63	Y5	1.19	179	12.3	49	43	35	25	6	SD000801200APOY5___K01
	110	85 x 76	Y6	1.46	116	10.8	46	40	33	23	5	SD001101200APOY6___K01
1400	122	85 x 91	Y7	2.80	96	8.9	38	33	27	19	5	SD001221200APOY7___K01
	30	85 x 51	Y2	1.28	294	14.2	42	37	30	21	5	SD000301400APOY2___K01
	45	85 x 63	Y5	1.47	218	12.3	43	37	31	22	5	SD000451400APOY5___K01
	60	85 x 76	Y6	1.87	143	10.8	41	35	29	21	5	SD000601400APOY6___K01
1600	75	85 x 91	Y7	3.81	124	8.9	35	30	25	18	4	SD000751400APOY7___K01
	28	85 x 51	Y2	1.48	352	14.2	41	36	30	21	5	SD000281600APOY2___K01
	40	85 x 63	Y5	1.71	260	12.3	41	36	30	21	5	SD000401600APOY5___K01
	50	85 x 76	Y6	2.18	171	10.8	39	34	28	20	5	SD000501600APOY6___K01
1800	60	85 x 91	Y7	4.56	151	8.9	32	28	23	16	4	SD000601600APOY7___K01
	20	85 x 51	Y2	1.69	460	14.2	38	33	27	19	5	SD000201800APOY2___K01
	28	85 x 63	Y5	1.86	336	12.3	39	33	28	20	5	SD000281800APOY5___K01
	40	85 x 76	Y6	2.81	226	10.8	33	29	24	17	4	SD000401800APOY6___K01
	46	85 x 91	Y7	5.63	185	8.9	29	25	21	15	3	SD000461800APOY7___K01

Custom designed capacitors are available on request

* Fr =Typical resonant frequency (Tol.±30%)

DCL-50

Capacitor Drawing and Terminal Styles



Dimensions in mm

DCL-50

Life Expectancy

Steps to calculate Hotspot Temperature

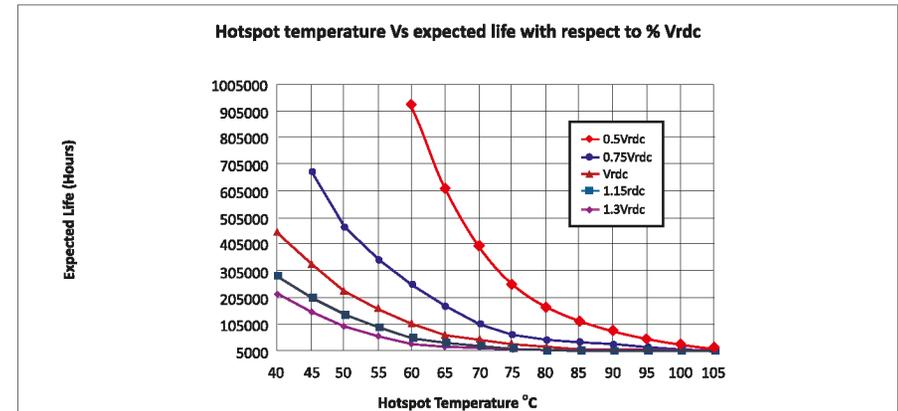
- Locate the capacitor and the ESR from the electrical specifications
- Dissipated heat = ($I_{rms}^2 \times ESR$)
- Get the value from table 1 for Rth (C/watt)
- Calculate internal temperature rise = ($I_{rms}^2 \times ESR$) x Rth (C/watt)
- Hotspot temperature of capacitor = T Ambient + ($I_{rms}^2 \times ESR$) x Rth (C/watt)
- From the graph given below expected life can be obtained
- Ensure that the voltage and current specification are not exceeded

Can size D x H	Rth °C/Watt
85 x 51	14.2°C
85 x 63	12.3°C
85 x 76	10.8°C
85 x 91	8.9°C

Example: If 120 MFD/900 VDC is being used at 50 Arms in a 45C Ambient; then ESR from the table (on page 4) = 0.00078Ω and the case size is Ø85 x 51mm
 The dissipated wattage = 50 x 50 x 0.00078Ω = 1.95 watts
 Temperature rise = 1.95 x 12.3C/Watt = 23.98C say 24

The hotspot core temperature inside the capacitor = 45C (Ambient) + 24 (Rise) = **69 say 70C**

From the graph below: If the capacitor is being used at 75% of Vrdc then the expected life will be approx 105,000 hours



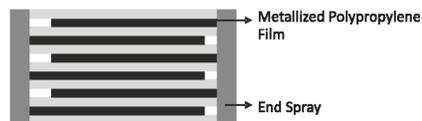
DCL-23



Highlights

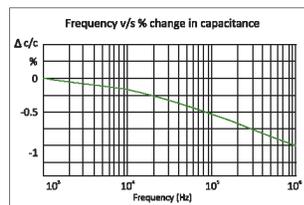
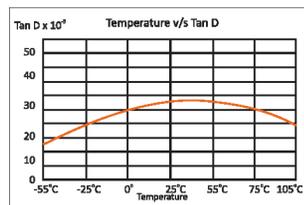
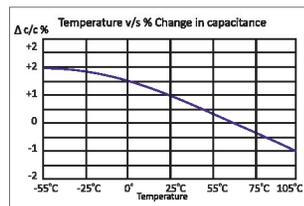
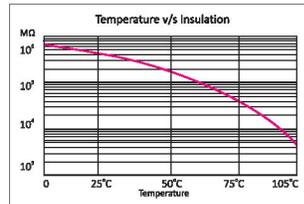
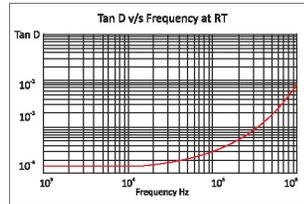
- Self-Inductance as low as 11nH
- ESR as low as 0.5 mΩ
- Low profile
- High thermal conductivity
- Life expectancy as high as 100 Khrs
- Integrated mounting flanges
- Flame retardant UL94 - V0, ROHS compliant

Construction



Applications

- DC filtering
- Wind power inverters
- Solar power inverters
- Induction heaters
- Electric vehicle inverters
- Motor drives



DCL-23

Technical Specifications

Physical Characteristics

- Electrode material
- Winding construction
- Enclosure
- Terminals

Metallised polypropylene film
Polypropylene film, metallised polypropylene film
Preformed UL 94-V0 plastic case with thermosetting resin-fill
Nickel plated brass

Electrical Characteristics

- Capacitance range
- Capacity tolerance
- Rated voltage VDC
- Test voltage between terminals
- Test voltage terminal to case
- Dissipation factor (Tan d)
- Temperature range
- Insulation resistance MΩ x μF
- Reference Standard

12 μF to 265μF
±5%(J), ±10%(K)
700, 800, 900, 1000, 1200, 1400, 1600, 1800
1.3 x rated voltage VDC for 60 seconds (not to be repeated)
3KVAC at 50Hz for 60 seconds
≤0.0015 at 100Hz and 25°C
-40°C to +105°C
≥5,000 S at 25°C (S = MΩ x μF)
IEC 61071 and IEC 60068

Marking on Capacitors

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

- The Company's symbol followed by the words ALCON
- The capacitor grade viz DCL-23
- The capacitance value MFD
- The rated voltage VDC
- The max current Arms
- Capacity tolerance and manufacturing code
- Part number on non-standard capacitors

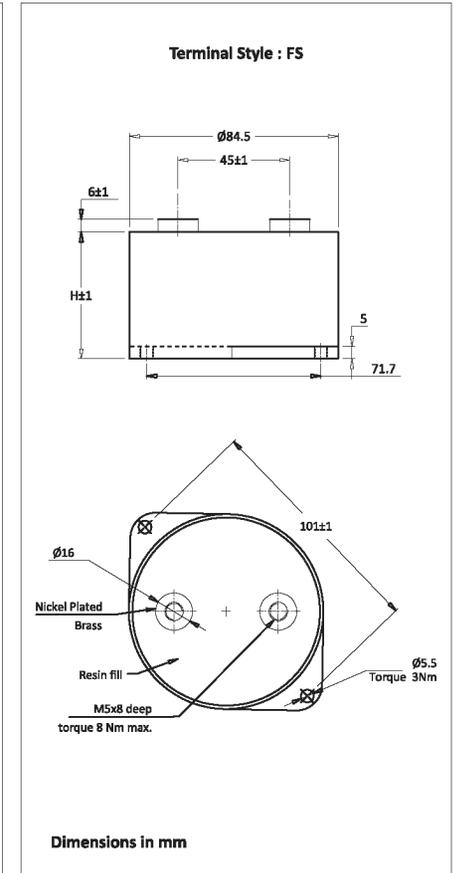
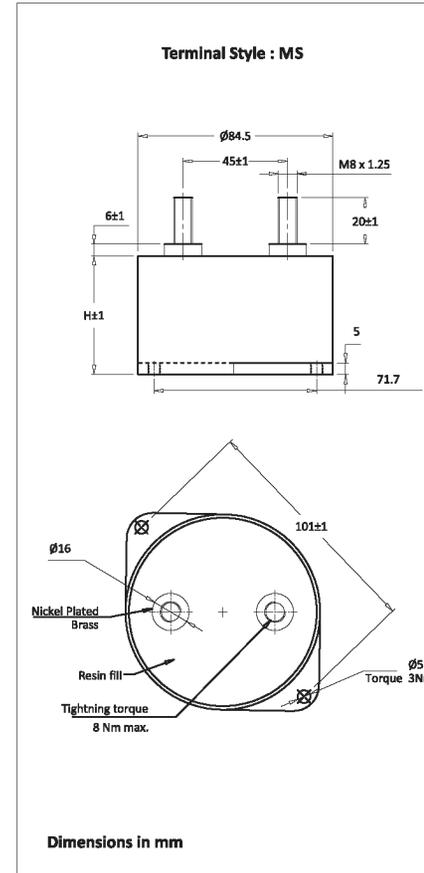
Standard Capacitors Values

Rated voltage VDC	Nominal Capacitance MFD at 1 KHz	Case size $\phi \times L$ mm	Case Code	Typical ESR m Ω at Fr* KHz	Fr** KHz	Rise in core temperature per watt dissipated $^{\circ}$ C	Ripple current rating I rms at 10 KHz to 100KHz					Ordering Code
							25 $^{\circ}$ C	45 $^{\circ}$ C	65 $^{\circ}$ C	85 $^{\circ}$ C	105 $^{\circ}$ C	
700	85	85 x 40	Y1	0.65	156	14.2	91	79	66	46	11	SD000850700AQ0Y1___K01
	100	85 x 51	Y2	0.75	105	12.3	96	83	69	49	12	SD001000700AQ0Y2___K01
	142	85 x 51	Y2	0.75	105	12.3	96	83	69	49	12	SD001420700AQ0Y2___K01
	205	85 x 64	Y3	0.95	71	10.8	87	75	63	44	10	SD002050700AQ0Y3___K01
	265	85 x 79	Y4	1.65	61	8.9	77	67	55	39	9	SD002650700AQ0Y4___K01
800	70	85 x 40	Y1	0.56	168	14.2	86	74	61	42	9	SD000700800AQ0Y1___K01
	88	85 x 40	Y1	0.65	156	14.2	91	79	66	46	11	SD000880800AQ0Y1___K01
	140	85 x 51	Y2	0.75	105	12.3	96	83	69	49	12	SD001400800AQ0Y2___K01
	200	85 x 64	Y3	0.95	71	10.8	87	75	63	44	10	SD002000800AQ0Y3___K01
	260	85 x 79	Y4	1.65	61	8.9	77	67	55	39	9	SD002600800AQ0Y4___K01
900	65	85 x 40	Y1	0.50	68	14.2	84	92	59	40	8	SD000650900AQ0Y1___K01
	100	85 x 51	Y2	0.78	98	12.3	93	81	71	51	12	SD001000900AQ0Y2___K01
	150	85 x 64	Y3	0.97	73	10.8	85	76	64	45	13	SD001500900AQ0Y3___K01
	200	85 x 79	Y4	1.70	69	8.9	75	65	53	37	8	SD002000900AQ0Y4___K01
1000	47	85 x 40	Y1	0.80	176	14.2	85	73	62	38	10	SD000471000AQ0Y1___K01
	52	85 x 40	Y1	1.00	182	14.2	87	75	63	44	10	SD000521000AQ0Y1___K01
	88	85 x 51	Y2	0.80	136	12.3	89	77	64	45	11	SD000881000AQ0Y2___K01
	120	85 x 64	Y3	1.18	91	10.8	78	68	56	40	9	SD001201000AQ0Y3___K01
	170	85 x 79	Y4	2.21	75	8.9	69	60	50	35	8	SD001701000AQ0Y4___K01
1200	38	85 x 40	Y1	1.05	254	14.2	72	62	52	37	9	SD000381200AQ0Y1___K01
	63	85 x 51	Y2	1.19	179	12.3	74	64	53	38	9	SD000631200AQ0Y2___K01
	88	85 x 64	Y3	1.46	116	10.8	69	60	50	35	8	SD000881200AQ0Y3___K01
	118	85 x 79	Y4	2.80	96	8.9	57	49	41	29	7	SD001181200AQ0Y4___K01
1400	20	85 x 40	Y1	1.28	294	14.2	63	55	45	32	8	SD000201400AQ0Y1___K01
	34	85 x 51	Y2	1.47	218	12.3	64	55	46	33	8	SD000341400AQ0Y2___K01
	48	85 x 64	Y3	1.87	143	10.8	61	53	44	31	7	SD000481400AQ0Y3___K01
	64	85 x 79	Y4	3.81	124	8.9	52	45	37	27	6	SD000641400AQ0Y4___K01
1600	18	85 x 40	Y1	1.48	352	14.2	62	54	45	32	7	SD000181600AQ0Y1___K01
	30	85 x 51	Y2	1.71	260	12.3	62	54	45	32	7	SD000301600AQ0Y2___K01
	42	85 x 64	Y3	2.18	171	10.8	59	51	42	30	7	SD000421600AQ0Y3___K01
	55	85 x 79	Y4	4.56	151	8.9	48	42	35	24	6	SD000551600AQ0Y4___K01
1800	12	85 x 40	Y1	1.69	460	14.2	57	49	41	29	7	SD000121800AQ0Y1___K01
	21	85 x 51	Y2	1.86	336	12.3	58	50	42	30	7	SD000211800AQ0Y2___K01
	30	85 x 64	Y3	2.81	226	10.8	50	43	36	26	6	SD000301800AQ0Y3___K01
	40	85 x 79	Y4	5.63	185	8.9	43	37	31	22	5	SD000401800AQ0Y4___K01

Custom designed capacitors are available on request

** Fr =Typical resonant frequency (Tol.±30%)

Capacitor Drawing and Terminal Styles



DCL-23

Life Expectancy

Steps to calculate Hotspot Temperature

- 1 Locate the capacitor and the ESR from the electrical specifications
- 2 Dissipated heat = (Irms² x ESR)
- 3 Get the value from table 1 for Rth (C/watt)
- 4 Calculate internal temperature rise = (Irms² x ESR) x Rth (C/watt)
- 5 Hotspot temperature of capacitor = T Ambient + (Irms² x ESR) x Rth (C/watt)
- 6 From the graph given below expected life can be obtained
- 7 Ensure that the voltage and current specification are not exceeded

Can size D x H	Rth °C/Watt
85 x 40	14.2°C
85 x 51	12.3°C
85 x 64	10.8°C
85 x 79	8.9°C

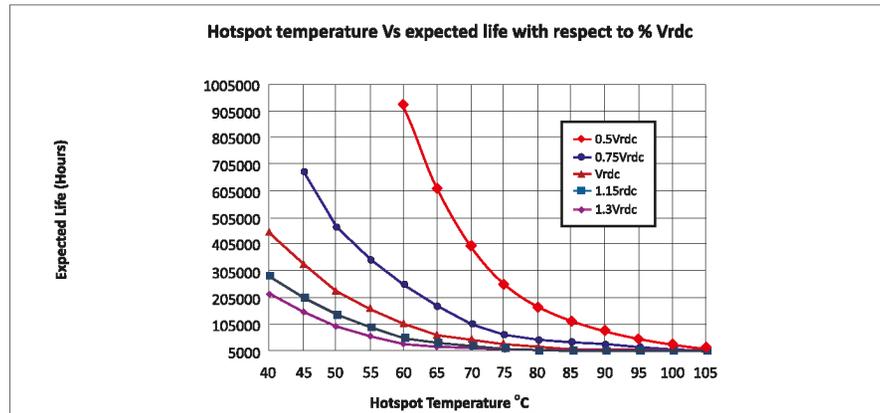
Example: If 88 MFD/800 VDC is being used at 40 Arms in a 40C Ambient; then ESR from the table (on page 4) = 0.00065Ω and the case size is Ø85 x 40mm

The dissipated wattage = 40 x 40 x 0.00065Ω = 1.04 watts

Temperature rise = 1.04 x 14.2C/Watt = 14.76C

The hotspot core temperature inside the capacitor = 40C (Ambient) + 14.76 (Rise) = **54.76 say 55C**

From the graph below: If the capacitor is being used at 75% of Vrdc then the expected life will be approx 480,000 hours



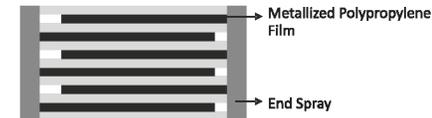
DCL-6



Highlights

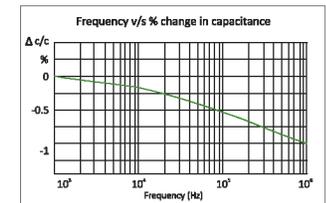
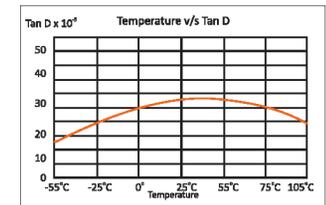
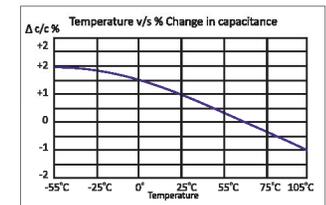
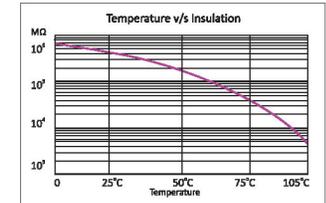
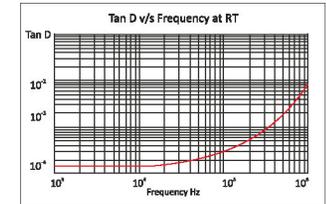
- Special metallized polypropylene film
- Low ESR
- High ripple
- High reliability
- Flame retardancy - UL94-V0

Construction



Applications

- DC filtering
- Wind power inverters
- Solar power inverters
- Induction heaters
- Electric vehicle inverters
- Motor drives



DCL-6

Technical Specifications

Physical Characteristics

- Dielectric material: Polypropylene film
- Electrode material: Metallised polypropylene film
- Winding construction: Polypropylene film, metallised polypropylene film
- Enclosure: Preformed UL 94-V0 plastic case with thermosetting resin-fill
- Terminals: Tinned Copper

Electrical Characteristics

- Capacitance range: 4.7µF to 120µF
- Capacity tolerance: ±10%(K)
- Rated voltage VDC: 400, 500, 600, 750, 800, 900, 1000, 1200, 1500
- Test voltage between terminals: 1.25 x rated voltage VDC for 60 seconds
- Test voltage terminal to case: 3KVAC at 50Hz for 60 seconds
- Dissipation factor (Tan d): ≤0.0010 at 1 KHz and 25°C
- Temperature range: -40°C to +85°C
- Insulation resistance MΩ x µF: ≥10,000 s at 25°C (s = MΩ x µF)
- Reference Standard: IEC 61071 and IEC 60068

Marking on Capacitors

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

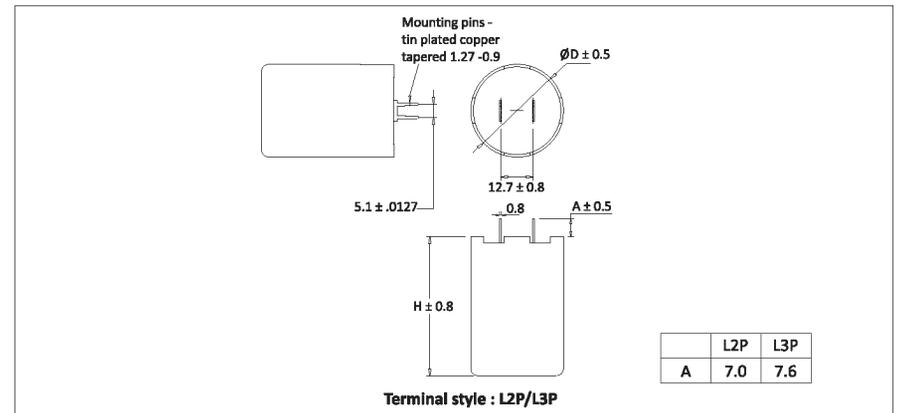
- The Company's name in words ALCON
- The capacitor grade viz DCL-6
- The capacitance value MFD
- The rated voltage VDC
- Capacity tolerance and manufacturing code
- Part number on non-standard capacitors

DCL-6

Standard Capacitor Values

Rated voltage VDC	Nominal Capacitance MFD at 1 KHz	Ripple current rating Irms at 10 KHz to 100KHz			Typical ESR at 100KHz mΩ	DV/DT	Dimensions mm		Terminal Style	Ordering Code
		25°C	50°C	75°C			ØD	L		
400	35.0	24.0	19.0	14.5	6.0	30	36.0	54.0	L2P	SD000350400A00J70L2PK01
	80.0	35.0	28.0	14.5	5.0	20	50.8	50.8	L3P	SD000800400A00J60L3PK01
	120.0	38.0	31.0	20.0	4.0	15	63.5	51.4	L3P	SD001200400A00J80L3PK01
500	35.0	22.0	18.0	13.0	8.0	26	36.0	54.0	L2P	SD000350500A00J70L2PK01
	75.0	34.0	27.0	14.0	5.1	16	50.8	50.8	L3P	SD000750500A00J60L3PK01
	110.0	37.0	30.0	19.0	4.2	11	63.5	51.4	L3P	SD001100500A00J80L3PK01
600	30.0	20.0	17.0	12.0	9.0	30	36.0	54.0	L2P	SD000300600A00J70L2PK01
	70.0	33.0	26.0	13.0	6.5	22	50.8	50.8	L3P	SD000700600A00J60L3PK01
	100.0	36.0	29.0	18.5	4.1	17	63.5	51.4	L3P	SD001000600A00J80L3PK01
750	20.0	19.0	16.0	10.0	10.0	38	36.0	54.0	L2P	SD000200750A00J70L2PK01
	60.0	30.0	26.0	15.0	4.0	26	50.8	50.8	L3P	SD000600750A00J60L3PK01
	90.0	35.0	28.0	20.0	3.0	23	63.5	51.4	L3P	SD000900750A00J80L3PK01
800	15.0	18.5	15.0	9.8	10.0	42	36.0	54.0	L2P	SD000150800A00J70L2PK01
	60.0	35.0	26.0	15.0	4.0	30	50.8	50.8	L3P	SD000600800A00J60L3PK01
	90.0	45.0	28.0	20.0	3.0	27	63.5	51.4	L3P	SD000900800A00J80L3PK01
900	13.50	18.0	14.5	9.6	10.5	43	36.0	54.0	L2P	SD013U50900A00J70L2PK01
	40.0	34.0	25.0	15.0	4.5	33	50.8	50.8	L3P	SD000400900A00J60L3PK01
	65.0	43.0	27.0	20.0	4.0	30	63.5	51.4	L3P	SD000650900A00J80L3PK01
1000	10.0	17.5	13.5	9.0	12.0	50	36.0	54.0	L2P	SD000101000A00J70L2PK01
	25.0	33.0	24.0	11.0	8.5	40	50.8	50.8	L3P	SD000251000A00J60L3PK01
	35.0	42.0	26.0	13.0	6.7	37	63.5	51.4	L3P	SD000351000A00J80L3PK01
1200	7.50	16.0	12.0	8.4	13.5	60	36.0	54.0	L2P	SD07U501200A00J70L2PK01
	18.0	26.0	20.0	10.0	9.0	50	50.8	50.8	L3P	SD000181200A00J60L3PK01
	27.0	30.0	25.0	18.0	7.8	47	63.5	51.4	L3P	SD000271200A00J80L3PK01
1500	4.70	15.0	11.5	7.8	15.0	72	36.0	54.0	L2P	SD04U701500A00J70L2PK01
	12.0	24.0	19.0	10.0	10.0	62	50.8	50.8	L3P	SD000121500A00J60L3PK01
	18.0	29.0	22.0	12.0	9.0	59	63.5	51.4	L3P	SD000181500A00J80L3PK01

Capacitor Drawing and Terminal Style



Dimensions in mm

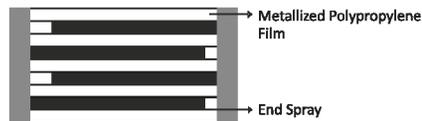
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Highlights

- High RMS current
- Low ESR
- Life Expectancy 100,000 Hours
- Fully encapsulated dry construction
- Flame retardant UL94 - V0, ROHS compliant
- Reference Standard: IEC 61071 and IEC 60068

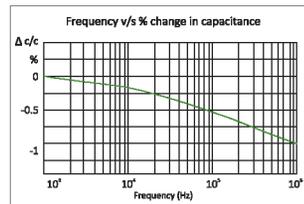
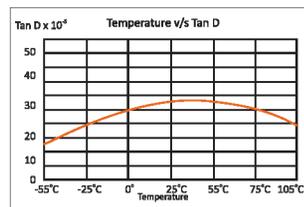
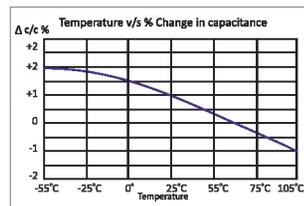
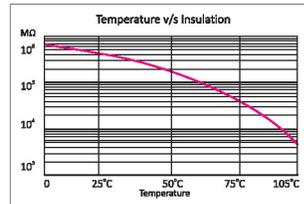
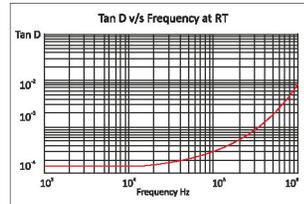
Construction



Applications

DC Link and DC Filter applications in Power converters for

- Uninterruptible power supplies
- Wind power inverters
- Solar power inverters
- Traction and industrial drives.
- Impulse discharge capacitors for magnetising and welding.



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Technical Specifications

Physical Characteristics

- Dielectric material
- Electrode material
- Winding construction
- Enclosure
- Terminals

Polypropylene film
Metallised polypropylene film
Polypropylene film, metallised polypropylene film
Aluminum can with preformed UL 94-V0 plastic top with thermosetting resin-fill
Nickel plated brass

Electrical Characteristics

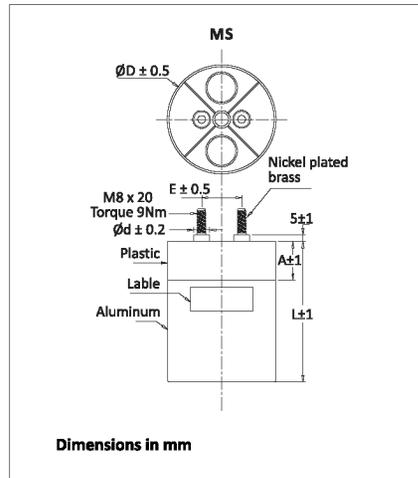
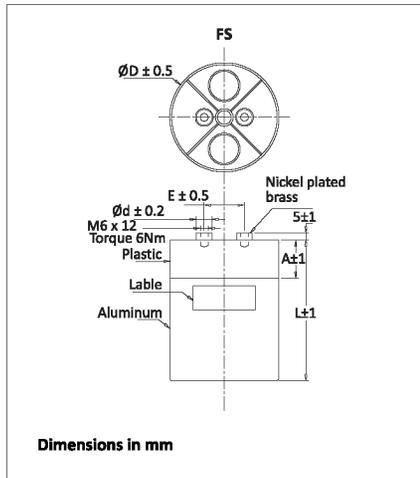
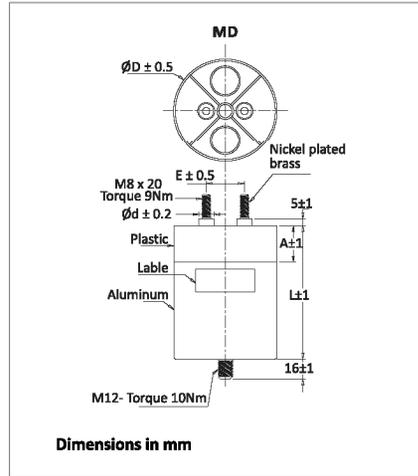
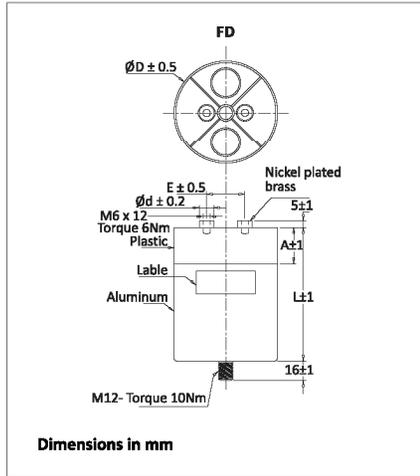
- Capacitance range: 50 μ F to 2350 μ F
- Rated Voltage: 700vdc to 2400vdc
- Capacitance Tolerance: $\pm 10\%$, $\pm 5\%$
- Dissipation factor (Tan d): 0.0002
- Insulation Resistance M Ω x μ F: 5,000S @ 25°C (S = M Ω x μ F)
- Dielectric strength between terminals (U_{T-T}): 1.5 x rated voltage for 60 secs
- Test Voltage Terminal to case (U_{T-c}): Upto 4800 Vac 50 Hz
- Operating Temperature (θ min to θ max): -40°C to +85°C
- Maximum Hotspot Temperature: ϕ 85 = +85°C, ϕ 100, = +80°C, ϕ 116, = +80°C

Marking on Capacitors

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

- The Company's name in words ALCON
- The capacitor grade viz DCL-41
- The capacitance value MFD
- The rated voltage VDC
- Capacity tolerance and manufacturing code
- Part number on non-standard capacitors

Capacitor Drawing and Terminal Styles



$\varnothing D$	$\varnothing d$	E	A
85	12	32	30
100	14	50	30
116	14	50	45

Standard Capacitor Values

$U_n=700\text{Vdc}$, $U_i=1050\text{V}$, $U_n=200\text{V}$, $U_{\text{cr}}=1050\text{Vdc}$, $U_{\text{tc}}=2200\text{Vac}$ for 2 s

C_n	Can size mm		Case Code	Pitch	** Typical ESR @ 1 KHz	R_{TH}	I_{max}	I_p	I_s	L_s	Weight	Ordering code*
(μF)	D	L		E mm	m Ω	($^{\circ}\text{C}/\text{W}$)	(A)	(kA)	(kA)	(nH)	(Kg)	
360	85	105	S1	32	1.6	5.6	40	2.80	8.4	40	0.65	SD003600700AR0S1_K01
450	85	125	S2	32	2.0	4.8	40	3.50	10.5	40	0.75	SD004500700AR0S2_K01
495	85	140	S3	32	2.1	4.5	40	3.90	11.6	40	0.71	SD004950700AR0S3_K01
520	100	105	X1	50	2.0	4.7	40	4.00	12.1	40	0.84	SD005200700AR0X1_K01
540	85	150	S4	32	1.0	4.1	60	4.20	12.6	40	0.90	SD005400700AR0S3_K01
630	85	160	S5	32	1.1	3.8	60	4.90	14.7	40	0.96	SD006300700AR0S5_K01
675	100	125	X2	50	2.4	3.9	40	5.30	15.8	40	1.00	SD006750700AR0X2_K01
675	116	105	R1	50	1.0	4.2	60	5.30	15.8	40	1.10	SD006750700AR0R1_K01
790	100	140	X3	50	1.2	3.5	60	6.10	18.4	40	1.20	SD007900700AR0X3_K01
855	100	150	X4	50	1.2	3.4	60	6.70	20.0	40	1.30	SD008550700AR0X4_K01
900	116	125	R2	50	1.2	3.5	60	7.00	21.0	40	1.40	SD009000700AR0S7_K01
900	85	225	S7	32	1.5	2.7	60	3.50	10.5	60	1.10	SD009000700AR0R2_K01
990	85	255	S7	32	1.0	2.4	80	3.50	10.5	60	1.20	SD009900700AR0S8_K01
1035	100	185	X6	50	1.6	2.5	60	4.10	12.3	40	1.40	SD010350700AR0X6_K01
1080	116	140	R3	50	1.3	3.2	60	8.40	25.2	40	1.64	SD010800700AR0S9_K01
1080	85	275	S9	32	1.9	2.2	60	4.20	12.6	70	1.50	SD010800700AR0R3_K01
1170	116	150	R4	50	1.0	3.1	70	9.10	27.3	50	1.60	SD011700700AR0R4_K01
1260	85	295	SA	32	1.9	1.9	60	4.90	14.7	70	1.90	SD012600700AR0SA_K01
1260	116	185	R6	50	1.0	2.4	80	4.90	14.7	60	2.10	SD012600700AR0R6_K01
1350	100	225	X7	50	1.9	2.2	60	5.50	16.5	70	2.20	SD013500700AR0X7_K01
1575	100	255	X8	50	1.1	2.2	80	6.00	18.0	70	2.50	SD015750700AR0X8_K01
1700	100	275	X9	50	1.2	1.9	80	6.50	19.5	70	2.80	SD017000700AR0X9_K01
1800	116	225	R7	50	1.0	1.8	90	7.00	21.0	60	2.60	SD018000700AR0R7_K01
2150	116	255	R8	50	1.0	1.5	100	8.50	25.5	60	2.80	SD021500700AR0R8_K01
2350	116	275	R9	50	1.2	1.3	100	9.00	27.0	70	3.10	SD023500700AR0R9_K01

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Standard Capacitor Values

$U_R=900\text{Vdc}$, $U_S=1350\text{V}$, $U_R=200\text{V}$, $U_{TR}=1350\text{Vdc}$, $U_{TC}=2500\text{Vac}/2\text{ s}$

C _N	Can size mm			Case Code	Pitch	** Typical ESR @ 1 KHz	R _{TH}	I _{MAX}	I _F	I _S	L _S	Weight	Ordering code*
(μF)	D	L		E mm	mΩ	(°C/W)	(A)	(kA)	(kA)	(nH)	(Kg)		
300	85	105	S1	32	1.7	5.6	40	2.81	8.4	40	0.65	SD003000900AR0S1___K01	
360	85	125	S2	32	2.0	4.8	40	3.40	10.0	40	0.75	SD003600900AR0S2___K01	
430	100	105	X1	50	2.0	4.7	40	4.04	12.0	40	0.84	SD004300900AR0S3___K01	
430	85	140	R3	32	2.1	4.5	40	4.08	12.0	40	0.71	SD004300900AR0X1___K01	
475	85	150	S4	32	1.0	4.1	60	4.46	13.0	40	0.90	SD004750900AR0S3___K01	
495	85	160	S5	32	1.1	3.8	60	4.68	14.0	60	0.96	SD004950900AR0S5___K01	
540	100	125	X2	50	1.9	3.9	40	5.10	15.0	40	1.00	SD005400900AR0X2___K01	
540	116	105	R1	50	1.0	4.2	60	5.10	15.0	40	1.10	SD005400900AR0R1___K01	
630	100	140	X3	50	1.2	3.5	60	5.95	18.0	50	1.20	SD006300900AR0X3___K01	
700	100	150	X4	50	1.2	3.4	60	6.59	20.0	50	1.30	SD007000900AR0X4___K01	
720	116	125	R2	50	1.3	3.3	60	6.80	20.0	40	1.40	SD007200900AR0S7___K01	
720	85	225	S7	32	1.5	2.7	60	3.40	10.0	60	1.10	SD007200900AR0R2___K01	
855	85	255	S8	32	1.0	2.4	80	4.04	12.0	60	1.20	SD008550900AR0S8___K01	
855	100	185	X6	50	1.7	2.5	60	4.04	12.0	50	1.40	SD008550900AR0X6___K01	
855	116	140	R3	50	1.3	3.2	60	8.08	24.0	40	1.65	SD008550900AR0R3___K01	
920	85	275	S9	32	1.9	2.2	60	4.34	13.0	70	1.50	SD009200900AR0S9___K01	
945	116	150	R4	50	1.3	3.1	60	8.93	27.0	50	1.60	SD009450900AR0R4___K01	
990	85	295	SA	32	2.2	1.9	60	4.68	14.0	70	1.90	SD009900900AR0SA___K01	
1080	100	225	X7	50	1.1	2.2	80	5.10	15.0	60	2.20	SD010800900AR0X7___K01	
1080	116	185	R6	50	1.7	2.4	60	5.10	15.0	60	2.10	SD010800900AR0R6___K01	
1260	100	255	X8	50	1.2	2.0	80	5.95	18.0	60	2.50	SD012600900AR0X8___K01	
1395	100	275	X9	50	1.2	1.9	80	6.59	20.0	60	2.80	SD013950900AR0X9___K01	
1440	116	225	R7	50	1.2	2.0	80	6.80	20.0	60	2.60	SD014400900AR0R7___K01	
1700	116	255	R8	50	1.0	1.5	100	8.08	24.0	70	2.80	SD017000900AR0R8___K01	
1850	116	275	R9	50	1.2	1.3	100	8.71	26.0	70	3.10	SD018500900AR0R9___K01	

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Standard Capacitor Values

$U_R=1000\text{Vdc}$, $U_S=1500\text{V}$, $U_R=200\text{V}$, $U_{TR}=1500\text{Vdc}$, $U_{TC}=2700\text{Vac}/2\text{ s}$

C _N	Can size mm			Case Code	Pitch	** Typical ESR @ 1 KHz	R _{TH}	I _{MAX}	I _F	I _S	L _S	Weight	Ordering code*
(μF)	D	L		E mm	mΩ	(°C/W)	(A)	(kA)	(kA)	(nH)	(Kg)		
275	85	105	S1	32	1.7	5.6	40	2.50	7.5	40	0.65	SD002751000AR0S1___K01	
300	85	125	S2	32	2.0	4.8	40	3.30	9.9	40	0.75	SD003001000AR0S2___K01	
335	100	105	X1	50	2.0	4.7	40	3.75	11.0	40	0.84	SD003351000AR0X1___K01	
350	85	140	S3	32	2.1	4.5	40	3.90	12.0	40	0.71	SD003501000AR0S3___K01	
375	85	150	S4	32	1.0	4.1	60	4.20	13.0	40	0.90	SD003751000AR0S3___K01	
400	85	160	S5	32	1.1	3.8	60	4.50	14.0	60	0.96	SD004001000AR0S5___K01	
425	100	125	X2	50	2.4	3.9	40	4.75	14.0	40	1.00	SD004251000AR0X2___K01	
450	116	105	R1	50	1.0	4.2	60	5.00	15.0	40	1.10	SD004501000AR0R1___K01	
500	100	140	X3	50	1.2	3.5	60	5.60	17.0	50	1.20	SD005001000AR0X3___K01	
560	100	150	X4	50	1.2	3.4	60	6.25	19.0	50	1.30	SD005601000AR0X4___K01	
585	116	125	R2	50	1.2	3.5	60	6.50	20.0	40	1.40	SD005851000AR0R2___K01	
595	85	225	S7	32	1.5	2.7	60	3.30	9.90	60	1.10	SD005951000AR0S7___K01	
675	85	255	S8	32	1.0	2.4	80	3.75	11.0	60	1.20	SD006751000AR0S8___K01	
675	100	185	X6	50	1.7	2.5	60	3.75	11.0	50	1.40	SD006751000AR0X6___K01	
700	116	140	R3	50	1.3	3.2	60	7.80	23.0	40	1.65	SD007001000AR0R3___K01	
735	85	275	S9	32	1.9	2.2	60	4.10	12.0	70	1.50	SD007351000AR0S9___K01	
765	116	150	R4	50	1.3	3.1	60	8.50	26.0	50	1.60	SD007651000AR0R4___K01	
800	85	295	SA	32	2.2	1.9	60	4.50	14.0	70	1.90	SD008001000AR0SA___K01	
855	100	225	X7	50	1.1	2.2	80	4.75	14.0	60	2.20	SD008551000AR0X7___K01	
900	116	185	R6	50	1.7	2.4	60	5.00	15.0	60	2.10	SD009001000AR0R6___K01	
1000	100	255	X8	50	1.2	2.0	80	5.60	17.0	60	2.50	SD010001000AR0X8___K01	
1125	100	275	X9	50	1.0	1.9	90	6.25	19.0	60	2.80	SD011251000AR0X9___K01	
1170	116	225	R7	50	1.2	2.0	80	6.50	20.0	60	2.60	SD011701000AR0R7___K01	
1350	116	255	R8	50	1.0	1.5	100	7.50	23.0	70	2.80	SD013501000AR0R8___K01	
1485	116	275	R9	50	1.2	1.3	100	8.25	25.0	70	3.10	SD014851000AR0R9___K01	

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Standard Capacitor Values

$U_n=1100\text{Vdc}$, $U_s=1650\text{V}$, $U_R=200\text{V}$, $U_{T1}=1650\text{Vdc}$, $U_{Tc}=2810\text{Vac}/2\text{ s}$

C _N	Can size mm			Case Code	Pitch	** Typical ESR @ 1 KHz	R _{TH}	I _{MAX}	I _F	I _S	L _S	Weight	Ordering code*
(μF)	D	L		E mm	mΩ	(°C/W)	(A)	(kA)	(kA)	(nH)	(Kg)		
19n	85	105	S1	32	1.7	5.6	40	2.31	6.9	40	0.65	SD001901100AR0S1	___K01
235	85	125	S2	32	2.0	4.8	40	2.86	8.6	40	0.75	SD002351100AR0S2	___K01
280	100	105	X1	50	2.0	4.7	40	3.41	10.0	40	0.84	SD002801100AR0X1	___K01
295	85	140	S3	32	2.1	4.5	40	3.58	11.0	40	0.71	SD002951100AR0S3	___K01
315	85	150	S4	32	1.0	4.1	60	3.85	12.0	40	0.90	SD003151100AR0S3	___K01
350	85	160	S5	32	1.1	3.8	60	4.13	12.0	60	0.96	SD003501100AR0S5	___K01
350	100	125	X2	50	2.4	3.9	40	4.40	13.0	40	1.00	SD003501100AR0X2	___K01
380	116	105	R1	50	1.0	4.2	60	4.62	14.0	40	1.10	SD003801100AR0R1	___K01
385	85	185	S6	32	1.3	3.3	60	2.34	7.0	60	1.20	SD003851100AR0S6	___K01
420	100	140	X3	50	1.2	3.5	60	5.06	15.0	40	1.30	SD004201100AR0X3	___K01
460	100	150	X4	50	1.2	3.4	60	5.61	17.0	40	1.40	SD004601100AR0X4	___K01
470	116	125	R2	50	1.2	3.5	60	5.72	17.0	40	1.10	SD004701100AR0R2	___K01
560	100	185	X6	50	1.7	2.5	60	3.41	10.0	60	1.20	SD005601100AR0X6	___K01
585	116	140	R3	50	1.3	3.2	60	7.15	21.0	60	1.40	SD005851100AR0R3	___K01
595	85	225	S7	32	1.7	2.4	60	3.63	11.0	60	1.65	SD005951100AR0S7	___K01
630	116	150	R4	50	1.3	3.1	60	7.70	23.0	40	1.50	SD006301100AR0S9	___K01
630	85	275	S9	32	1.1	2.2	80	3.85	12.0	70	1.60	SD006301100AR0R4	___K01
675	85	295	SA	50	1.2	1.9	80	4.13	12.0	70	1.80	SD006751100AR0SA	___K01
720	100	225	X7	50	1.1	2.2	80	4.40	13.0	60	2.20	SD007201100AR0X7	___K01
765	116	185	R6	50	1.7	2.4	60	4.68	14.0	60	2.10	SD007651100AR0R6	___K01
825	100	255	X8	50	1.2	2.0	80	5.06	15.0	70	2.50	SD008251100AR0X8	___K01
920	100	275	X9	50	1.2	1.9	80	5.61	17.0	70	2.80	SD009201100AR0X9	___K01
950	116	225	R7	32	1.2	2.0	80	5.72	17.0	70	2.60	SD009501100AR0R7	___K01
1170	116	255	R8	50	1.0	1.5	100	7.15	21.0	70	2.80	SD011701100AR0R8	___K01
1260	116	275	R9	50	1.2	1.3	100	7.70	23.0	70	3.10	SD012601100AR0R9	___K01

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Standard Capacitor Values

$U_n=1300\text{Vdc}$, $U_s=1950\text{V}$, $U_R=200\text{V}$, $U_{T1}=1950\text{Vdc}$, $U_{Tc}=3125\text{Vac}/2\text{ s}$

C _N	Can size mm			Case Code	Pitch	** Typical ESR @ 1 KHz	R _{TH}	I _{MAX}	I _F	I _S	L _S	Weight	Ordering code*
(μF)	D	L		E mm	mΩ	(°C/W)	(A)	(kA)	(kA)	(nH)	(Kg)		
16n	85	105	S1	32	1.7	5.6	40	2.28	6.8	40	0.65	SD001601300AR0S1	___K01
200	85	125	S2	32	2.0	4.8	40	2.86	8.6	40	0.75	SD002001300AR0S2	___K01
235	100	105	X1	50	2.0	4.7	40	3.38	10.0	40	0.84	SD002351300AR0X1	___K01
250	85	140	S3	32	2.1	4.5	40	3.58	11.0	40	0.71	SD002501300AR0S3	___K01
270	85	150	S4	32	1.0	4.1	60	3.90	12.0	40	0.90	SD002701300AR0S3	___K01
300	85	160	S5	32	1.1	3.8	60	4.23	13.0	60	0.96	SD003001300AR0S5	___K01
300	100	125	X2	50	2.4	3.9	40	4.36	13.0	40	1.00	SD003001300AR0X2	___K01
315	116	105	R1	50	1.0	4.2	60	4.55	14.0	40	1.10	SD003151300AR0R1	___K01
325	85	185	S6	32	1.3	3.3	60	2.34	7.0	60	0.90	SD003251300AR0S6	___K01
350	100	140	X3	50	1.2	3.5	60	5.07	15.0	40	1.20	SD003501300AR0X3	___K01
380	100	150	X4	50	1.2	3.4	60	5.53	17.0	40	1.30	SD003801300AR0X4	___K01
395	116	125	R2	50	1.2	3.5	60	5.72	17.0	40	1.40	SD003951300AR0S7	___K01
395	85	225	S7	32	1.5	2.7	60	2.86	8.6	60	1.10	SD003951300AR0R2	___K01
470	100	185	X6	50	1.7	2.5	60	3.38	10.0	60	1.40	SD004701300AR0X6	___K01
470	116	140	R3	32	1.3	3.2	60	6.83	20.0	60	1.65	SD004701300AR0R3	___K01
495	116	150	R4	50	1.3	3.1	60	7.15	21.0	40	1.60	SD004951300AR0S8	___K01
495	85	255	S8	32	1.0	2.4	80	3.58	11.0	70	1.20	SD004951300AR0R4	___K01
540	85	275	S9	50	1.1	2.1	80	3.90	12.0	50	1.50	SD005401300AR0S9	___K01
585	85	295	SA	32	1.2	1.9	80	4.23	13.0	70	1.90	SD005851300AR0SA	___K01
600	100	225	X7	50	1.9	2.2	60	4.36	13.0	60	2.20	SD006001300AR0X7	___K01
615	116	185	R6	50	1.0	2.4	80	4.45	13.0	60	2.10	SD006151300AR0R6	___K01
700	100	255	X8	50	1.2	2.0	80	5.07	15.0	70	2.50	SD007001300AR0X8	___K01
765	100	275	X9	50	1.0	1.9	90	5.53	17.0	70	2.80	SD007651300AR0X9	___K01
785	116	225	R7	50	1.2	2.0	80	5.69	17.0	60	2.60	SD007851300AR0R7	___K01
945	116	255	R8	50	1.0	1.5	100	6.83	20.0	70	2.80	SD009451300AR0R8	___K01
1000	116	275	R9	50	1.2	1.3	100	7.15	21.0	70	3.10	SD010001300AR0R9	___K01

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Standard Capacitor Values

$U_R=1500Vdc, U_S=2250V, U_R=200V, U_{TH}=2250Vdc, U_{TC}=3500Vac/2s$

C _N	Can size mm			Case Code	Pitch	** Typical ESR @ 1 KHz	R _{TH}	I _{MAX}	I _F	I _S	L _S	Weight	Ordering code*
(μF)	D	L		E mm	mΩ	(°C/W)	(A)	(kA)	(kA)	(nH)	(Kg)		
85	85	105	S1	32	1.5	5.6	40	1.43	4.3	40	0.65	SD000851500AR0S1	___K01
120	85	125	S2	32	2.0	4.8	40	1.95	5.9	40	0.75	SD001201500AR0S2	___K01
125	85	140	S3	32	2.1	4.5	40	2.10	6.3	40	0.71	SD001251500AR0S3	___K01
130	100	105	X1	50	2.0	4.7	40	2.18	6.5	40	0.84	SD001301500AR0X1	___K01
150	85	150	S4	32	1.0	4.1	60	2.40	7.2	40	0.90	SD001501500AR0S3	___K01
160	85	160	S5	32	1.1	3.8	60	2.63	7.9	60	0.96	SD001601500AR0S5	___K01
170	100	125	X2	50	2.4	3.9	40	2.85	8.6	40	1.00	SD001701500AR0X2	___K01
170	116	105	R1	50	1.0	4.2	60	2.85	8.6	40	1.10	SD001701500AR0R1	___K01
200	100	140	X3	50	1.2	3.5	60	3.30	9.9	40	1.20	SD002001500AR0X3	___K01
220	100	150	X4	50	1.2	3.4	60	3.60	11.0	40	1.30	SD002201500AR0X4	___K01
240	116	125	R2	50	1.2	3.5	60	3.90	12.0	40	1.40	SD002401500AR0R2	___K01
250	85	225	S7	32	1.5	2.7	60	2.06	6.2	60	1.10	SD002501500AR0S7	___K01
250	85	255	S8	32	1.3	3.1	60	2.10	6.3	60	1.53	SD002501500AR0S8	___K01
260	100	185	X6	50	1.7	2.5	60	2.18	6.5	60	1.40	SD002601500AR0X6	___K01
285	116	150	R4	50	1.3	3.1	60	4.73	14.0	40	1.60	SD002851500AR0R4	___K01
290	85	275	S9	32	1.9	2.2	60	2.40	7.2	70	1.50	SD002901500AR0S9	___K01
315	85	295	SA	32	1.2	1.9	80	2.63	7.9	70	1.90	SD003151500AR0SA	___K01
350	100	225	X7	50	1.9	2.2	60	2.85	8.6	70	2.20	SD003501500AR0X7	___K01
360	116	185	R6	50	1.0	2.4	80	3.00	9.0	60	2.10	SD003601500AR0R6	___K01
400	100	255	X8	50	1.2	2.0	80	3.30	9.9	70	2.50	SD004001500AR0X8	___K01
430	100	275	X9	50	1.2	1.9	80	3.60	11.0	70	2.80	SD004301500AR0X9	___K01
560	116	255	R8	50	1.0	1.5	100	4.69	14.0	70	2.80	SD005601500AR0R8	___K01
630	116	275	R9	50	1.2	1.3	100	5.25	16.0	70	3.10	SD006301500AR0R9	___K01

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Standard Capacitor Values

$U_R=1800Vdc, U_S=2700V, U_R=200V, U_{TH}=2700Vdc, U_{TC}=3900Vac/2s$

C _N	Can size mm			Case Code	Pitch	** Typical ESR @ 1 KHz	R _{TH}	I _{MAX}	I _F	I _S	L _S	Weight	Ordering code*
(μF)	D	L		E mm	mΩ	(°C/W)	(A)	(kA)	(kA)	(nH)	(Kg)		
70	85	105	S1	32	1.7	5.6	40	1.35	4.1	40	0.65	SD000701800AR0S1	___K01
90	85	125	S2	32	2.0	4.8	40	1.80	5.4	40	0.75	SD000901800AR0S2	___K01
100	85	140	S3	32	2.1	4.5	40	2.07	6.2	40	0.71	SD001001800AR0S3	___K01
100	100	105	X1	50	2.0	4.7	40	2.07	6.2	40	0.84	SD001001800AR0X1	___K01
110	85	150	S4	32	1.0	4.1	60	2.16	6.5	40	0.90	SD001101800AR0S3	___K01
130	85	160	S5	32	1.1	3.8	60	2.52	7.6	60	0.96	SD001301800AR0S5	___K01
135	100	125	X2	50	2.4	3.9	40	2.70	8.1	40	1.00	SD001351800AR0X2	___K01
135	116	105	R1	50	1.0	4.2	60	2.70	8.1	40	1.10	SD001351800AR0R1	___K01
160	100	140	X3	50	1.2	3.5	60	3.15	9.5	40	1.20	SD001601800AR0X3	___K01
170	100	150	X4	50	1.2	3.4	60	3.42	10.0	40	1.30	SD001701800AR0X4	___K01
180	116	125	R2	50	1.2	3.5	60	3.60	11.0	40	1.40	SD001801800AR0R2	___K01
200	85	225	S7	32	1.5	2.7	60	4.05	12.0	60	1.10	SD002001800AR0S7	___K01
210	85	255	S8	32	1.0	2.4	80	4.14	12.0	60	1.20	SD002101800AR0S8	___K01
210	100	185	X6	50	1.7	2.5	60	4.14	12.0	60	1.40	SD002101800AR0X6	___K01
220	116	140	R3	50	1.3	3.2	60	4.32	13.0	40	1.64	SD002201800AR0R3	___K01
225	85	275	S9	32	1.9	2.2	60	4.50	14.0	70	1.50	SD002251800AR0S9	___K01
250	116	150	R4	50	1.3	3.1	60	4.95	15.0	50	1.60	SD002501800AR0R4	___K01
270	85	295	SA	32	2.2	1.9	60	2.70	8.1	70	1.90	SD002701800AR0SA	___K01
270	100	225	X7	50	1.1	2.2	80	2.70	8.1	60	2.20	SD002701800AR0X7	___K01
270	116	185	R6	50	0.6	2.4	100	2.70	8.1	60	2.10	SD002701800AR0R6	___K01
315	100	255	X8	50	0.8	2.0	100	3.15	9.5	70	2.50	SD003151800AR0X8	___K01
350	100	275	X9	50	0.8	1.9	100	3.42	10.0	70	2.80	SD003501800AR0X9	___K01
360	116	255	R8	50	1.0	1.5	100	3.60	11.0	70	2.80	SD003601800AR0R8	___K01
430	116	275	R9	50	1.2	1.3	100	4.28	13.0	70	3.10	SD004301800AR0R9	___K01

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Standard Capacitor Values

$U_R=2000Vdc, U_S=3000V, U_R=200V, U_{TH}=3000Vdc, U_{TC}=4210Vac/2s$

C _N	Can size mm			Case Code	Pitch	** Typical ESR @ 1 KHz	R _{TH}	I _{MAX}	I _F	I _S	L _S	Weight	Ordering code*
(μF)	D	L		E mm	mΩ	(°C/W)	(A)	(kA)	(kA)	(nH)	(Kg)		
60	85	105	S1	32	1.5	5.6	40	1.30	3.9	40	0.65	SD000602000AR0S1	___K01
70	85	125	S2	32	2.0	4.8	40	1.60	4.8	40	0.75	SD000702000AR0S2	___K01
80	85	140	S3	32	2.1	4.5	40	1.80	5.4	40	0.71	SD000802000AR0S3	___K01
85	100	105	X1	50	2.0	4.7	40	1.90	5.7	40	0.84	SD000852000AR0X1	___K01
90	85	150	S4	32	1.0	4.1	60	2.00	6.0	40	0.90	SD000902000AR0S3	___K01
100	85	160	S5	32	1.1	3.8	60	2.20	6.6	60	0.96	SD001002000AR0S5	___K01
110	100	125	X2	50	2.4	3.9	40	2.40	7.2	40	1.00	SD001102000AR0X2	___K01
115	116	105	R1	50	1.0	4.2	60	2.50	7.5	40	1.10	SD001152000AR0R1	___K01
120	85	185	S6	50	1.3	3.3	60	1.30	3.9	60	0.90	SD001202000AR0S6	___K01
125	100	140	X3	50	1.2	3.5	60	2.80	8.4	40	1.20	SD001252000AR0X3	___K01
135	116	125	R2	32	1.2	3.5	60	3.00	9.0	40	1.40	SD001352000AR0R2	___K01
140	100	150	X4	50	1.2	3.4	60	3.10	9.3	60	1.30	SD001402000AR0X4	___K01
150	85	225	S7	32	1.5	2.7	60	3.20	9.6	60	1.10	SD001502000AR0S7	___K01
155	116	140	R3	32	1.3	3.2	60	3.50	11.0	40	1.65	SD001552000AR0R3	___K01
170	100	185	X6	50	1.7	2.5	60	1.90	5.7	60	1.40	SD001702000AR0X6	___K01
180	85	275	S9	32	1.9	2.2	60	2.00	6.0	40	1.50	SD001802000AR0S9	___K01
180	116	150	R4	50	1.3	3.1	60	4.00	12.0	60	1.60	SD001802000AR0R4	___K01
200	85	295	SA	32	2.2	1.9	60	2.25	6.8	70	1.90	SD002002000AR0SA	___K01
215	100	225	X7	50	1.1	2.2	80	2.40	7.2	70	2.20	SD002152000AR0X7	___K01
225	116	185	R6	50	1.0	2.4	80	2.50	7.5	60	2.10	SD002252000AR0R6	___K01
250	100	255	X8	50	1.2	2.0	80	2.80	8.4	70	2.50	SD002502000AR0X8	___K01
270	116	225	R8	50	1.2	2.0	80	3.00	9.0	70	2.60	SD002702000AR0R7	___K01
280	100	275	X9	50	1.2	1.9	80	3.10	9.3	70	2.80	SD002802000AR0X9	___K01
315	116	255	R8	50	1.0	1.5	100	3.50	11.0	70	2.80	SD003152000AR0R8	___K01
360	116	275	R9	50	1.2	1.3	100	4.00	12.0	70	3.10	SD003602000AR0R9	___K01

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Standard Capacitor Values

$U_R=2200Vdc, U_S=3300V, U_R=200V, U_{TH}=3300Vdc, U_{TC}=4530Vac/2s$

C _N	Can size mm			Case Code	Pitch	** Typical ESR @ 1 KHz	R _{TH}	I _{MAX}	I _F	I _S	L _S	Weight	Ordering code*
(μF)	D	L		E mm	mΩ	(°C/W)	(A)	(kA)	(kA)	(nH)	(Kg)		
45	85	105	S1	32	1.7	5.6	40	1.10	3.9	40	0.65	SD000452200AR0S1	___K01
60	85	125	S2	32	2.0	4.8	40	1.43	4.3	40	0.75	SD000602200AR0S2	___K01
65	85	140	S3	32	2.1	4.5	40	1.65	5.0	40	0.71	SD000652200AR0S3	___K01
65	100	105	X1	50	2.0	4.7	40	1.65	5.0	40	0.84	SD000652200AR0X1	___K01
75	85	150	S4	32	1.0	4.1	60	1.87	5.6	40	0.90	SD000752200AR0S3	___K01
85	85	160	R5	32	1.1	3.8	60	2.09	6.3	60	0.96	SD000852200AR0S5	___K01
90	85	185	R6	50	2.8	3.3	40	2.20	6.6	40	0.90	SD000902200AR0S6	___K01
90	116	105	R1	50	1.0	4.2	60	2.20	6.6	40	1.10	SD000902200AR0X2	___K01
90	100	125	X2	50	1.1	3.9	60	2.20	6.6	40	1.00	SD000902200AR0R1	___K01
105	100	140	X3	50	1.2	3.5	60	2.53	7.6	40	1.20	SD001052200AR0X3	___K01
110	100	150	X4	50	1.2	3.4	60	2.75	8.3	40	1.30	SD001102200AR0X4	___K01
115	85	225	S7	32	1.5	2.7	60	1.43	4.3	60	1.10	SD001152200AR0S7	___K01
115	116	125	R2	50	1.2	3.5	60	2.86	8.6	40	1.40	SD001152200AR0R2	___K01
135	85	255	S8	32	1.7	2.4	60	1.65	5.0	60	1.20	SD001352200AR0S8	___K01
135	100	185	X6	50	1.7	2.5	60	1.65	5.0	60	1.40	SD001352200AR0X6	___K01
135	116	140	R3	50	1.3	3.2	60	3.30	9.9	40	1.65	SD001352200AR0R3	___K01
145	85	275	S9	32	1.1	2.2	80	1.76	5.3	70	1.50	SD001452200AR0S9	___K01
150	116	150	R4	50	1.3	3.1	60	3.74	11.0	50	1.60	SD001502200AR0R4	___K01
170	85	295	SA	32	1.2	1.9	80	2.09	6.3	70	1.90	SD001702200AR0SA	___K01
180	100	225	X7	50	1.1	2.2	80	2.20	6.6	60	2.20	SD001802200AR0X7	___K01
180	116	185	R6	50	1.0	2.4	80	2.20	6.6	60	2.10	SD001802200AR0R6	___K01
205	100	255	X8	50	1.2	2.0	80	2.53	7.6	70	2.50	SD002052200AR0X8	___K01
225	100	275	X9	50	1.2	1.9	80	2.75	8.3	70	2.80	SD002252200AR0X9	___K01
235	116	225	R7	50	1.2	2.0	80	2.86	8.6	60	2.60	SD002352200AR0R7	___K01
270	116	255	R8	50	1.0	1.5	100	3.30	9.9	70	2.80	SD002702200AR0R8	___K01
280	116	275	R9	50	1.2	1.3	100	3.52	11.0	70	3.10	SD002802200AR0R9	___K01

Standard Capacitor Values

$U_R=2400Vdc$, $U_S=3600V$, $U_R=200V$, $U_{TH}=3600Vdc$, $U_{TC}=4840Vac/2s$

C _N	Can size mm		Case Code	Pitch	** Typical ESR @ 1 KHz	R _{TH}	I _{MAX}	I _P	I _S	L _S	Weight	Ordering code*
(μF)	D	L		E mm	mΩ	(°C/W)	(A)	(kA)	(kA)	(nH)	(Kg)	
45	85	105	S1	32	1.7	5.6	40	1.20	3.6	40	0.65	SD000452400AR0S1____K01
55	85	125	S2	32	2.0	4.8	40	1.44	4.3	40	0.75	SD000552400AR0S2____K01
60	100	105	X1	50	2.0	4.7	40	1.56	4.7	40	0.84	SD000602400AR0X1____K01
65	85	140	S3	32	2.1	4.5	40	1.68	5.0	40	0.71	SD000652400AR0S3____K01
70	85	150	S4	32	1.0	4.1	60	1.80	5.4	40	0.90	SD000702400AR0S3____K01
75	85	160	S5	32	1.1	3.8	60	1.92	5.8	60	0.96	SD000752400AR0S5____K01
75	100	125	X2	50	2.4	3.9	40	2.04	6.1	40	1.00	SD000752400AR0X2____K01
80	116	105	R1	50	1.0	4.2	60	2.16	6.5	40	1.10	SD000802400AR0R1____K01
90	100	140	X3	50	1.2	3.5	60	2.40	7.2	40	1.20	SD000902400AR0X3____K01
95	100	150	X4	50	1.2	3.4	60	2.52	7.6	40	1.30	SD000952400AR0X4____K01
100	116	125	R2	50	1.2	3.5	60	2.64	7.9	40	1.40	SD001002400AR0S6____K01
100	85	185	S6	32	1.3	3.3	60	1.32	4.0	60	0.90	SD001002400AR0R2____K01
110	85	225	S7	32	1.5	2.7	60	1.44	4.3	60	1.10	SD001102400AR0S7____K01
120	85	255	S8	32	1.7	2.4	60	1.56	4.7	60	1.20	SD001202400AR0S8____K01
120	100	185	X6	50	1.7	2.5	60	1.56	4.7	60	1.40	SD001202400AR0X6____K01
125	116	140	R3	50	1.3	3.2	60	3.36	10.0	40	1.65	SD001252400AR0S9____K01
125	85	275	S9	32	1.1	2.2	80	1.68	5.0	70	1.50	SD001252400AR0R3____K01
135	116	150	R4	50	1.3	3.1	60	3.60	11.0	50	1.60	SD001352400AR0R4____K01
145	85	295	SA	32	1.2	1.9	80	1.92	5.8	70	1.90	SD001452400AR0SA____K01
155	100	225	X7	50	1.1	2.2	80	2.04	6.1	60	2.20	SD001552400AR0X7____K01
155	116	185	R6	50	1.0	2.4	80	2.04	6.1	60	2.10	SD001552400AR0R6____K01
180	100	255	X8	50	1.2	2.0	80	2.40	7.2	70	2.50	SD001802400AR0X8____K01
190	100	275	X9	50	1.2	1.9	80	2.52	7.6	70	2.80	SD001902400AR0X9____K01
200	116	225	R7	50	0.9	2.0	90	2.64	7.9	60	2.60	SD002002400AR0R7____K01
235	116	255	R8	50	1.0	1.5	100	3.12	9.4	70	2.80	SD002352400AR0R8____K01
250	116	275	R9	50	1.2	1.3	100	3.36	10.0	70	3.10	SD002502400AR0R9____K01

**MAX. ESR = 2x typical ESR

Definitions of parameters

Rated d.c. voltage : U_R

Maximum operating peak voltage of either polarity but of a non-reversing type waveform, for which the capacitor has been designed, for continuous operation

Ripple voltage : U_R

Peak-to-peak alternating component of the unidirectional voltage

Non-recurrent surge voltage : U_S

Peak voltage induced by a switching or any other disturbance of the system which is allowed for a limited number of times and for durations shorter than the basic period

Insulation voltage : U_I

r.m.s. value of the sine wave voltage designed for the insulation between terminals of capacitors to case or earth

Maximum peak current : I_P

Maximum repetitive peak current that can occur during continuous operation

Maximum current : I_{MAX}

Maximum r.m.s. current for continuous operation

Maximum surge current : I_S

Peak non-repetitive current induced by switching or any other disturbance of the system which is allowed for a limited number of times, for durations shorter than the basic period

Highest operating temperature : Θ_{MAX}

Temperature of the hottest point on the case of the capacitor when in thermal equilibrium

Lowest operating temperature : Θ_{MIN}

Lowest temperature of the dielectric at which the capacitor may be energize

Container temperature rise : ΔΘ_{CASE}

Difference between the temperature of the hottest point of the container and the temperature of the cooling air

Cooling-air temperature : Θ_{AMB}

Temperature of the cooling air measured at the hottest position of the capacitor, under steady state conditions, midway between two units

NOTE : If only one unit is involved, it is the temperature measured at a point approximately 0.1 m away from the capacitor container and at two-thirds of the heights from its base.

Maximum operating temperature : Θ_{MAX}

Highest temperature of the case at which the capacitor may be operated

Steady-state conditions

Thermal equilibrium attained by the capacitor at constant output and at constant cooling-air temperature

Tangent of the loss angle of a capacitor : tan δ

Ratio between the equivalent series resistance and the capacitive reactance of a capacitor at a specified sinusoidal alternating voltage, frequency and temperature

$$\tan \delta = R_{esr} \omega C = \tan \delta + R_c \omega C$$

$$\tan \delta = \text{dielectric loss factor (0.0002)}$$

Equivalent series resistance of a capacitor : ESR

Effective resistance which if connected in series with an ideal capacitor of capacitor of capacitance value equal to that of the capacitor in question, would have a power loss equal to active power dissipated in that capacitor under specified operating conditions

Maximum power loss : P_{MAX}

Maximum power loss at which the capacitor may be operated at the maximum case temperature.

DCL- 41

Life Expectancy

The life expectancy of DCL-41 metallised polypropylene film capacitor is very closely linked with the operating temperature and operating voltage of the capacitor.

The life expectancy is related to the capacitor's rated voltage and the maximum hotspot temperature (85 °C).

The simultaneous operating of capacitor at highest permissible voltage and operating temperature should be avoided.

Please note there are no frequency or ripple current multiplying factors in case of metallised film DC link capacitors as compared to Aluminum electrolytic capacitors.

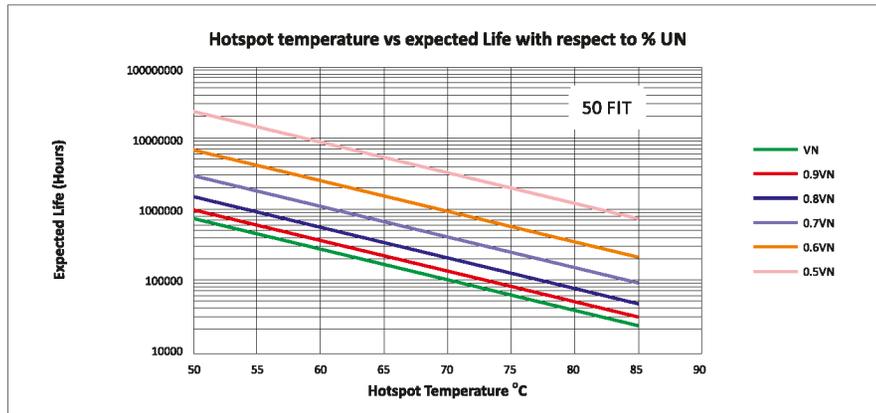
The life expectancy can be calculated from the formula and the look up graph given below:

Life Expectancy

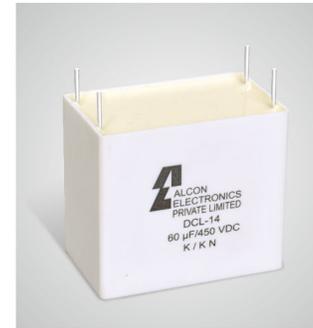
Steps to calculate Hotspot Temperature

1. locate the capacitor and the ESR from the Electrical specifications (Data sheet).
2. Heat dissipation = $(I_{rms}^2 \times ESR)$.
3. Get the value for R_{th} (°C/watt).....Data sheet.
4. Calculate internal temperature rise = $(I_{rms}^2 \times ESR) \times R_{th}$ (°C/watt).
5. Hotspot temperature of capacitor = $T_{Ambient} + (I_{rms}^2 \times ESR) \times R_{th}$ (°C/watt).

Look at the graph below to get the expected life. Ensure do not exceed the voltage and current specification.



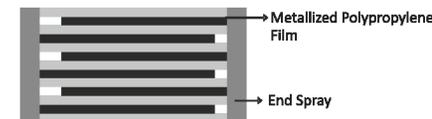
DCL- 14



Highlights

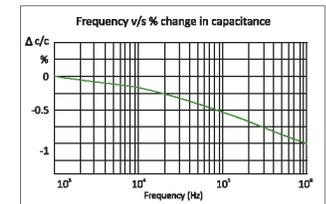
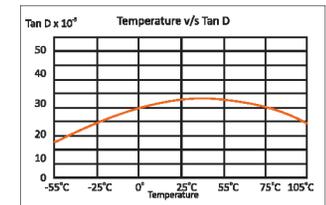
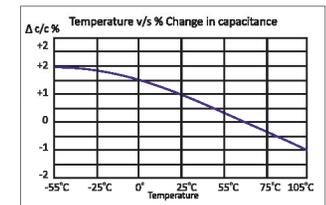
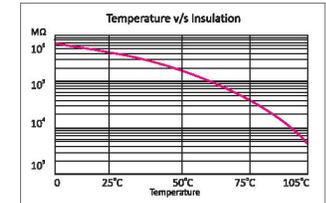
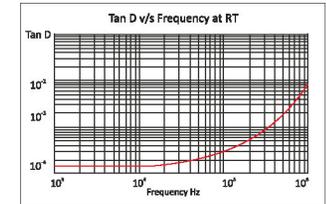
- Self-Inductance is low
- Low ESR
- High thermal conductivity
- Life expectancy as high as 100 Khrs
- Radial terminals
- Flame retardant UL94- V0, ROHS compliant

Construction



Applications

- Renewable energy inverters
- UPS
- Battery chargers
- Motor drives



DCL- 14

Technical Specifications

Physical Characteristics

- Electrode material: Metallised polypropylene film
- Winding construction: Polypropylene film, metallised polypropylene film
- Enclosure: Performed UL 94V-0 plastic case with thermosetting resin fill
- Terminals: Tinned copper wire
- Encapsulation: UL 94 VO plastic case with UL 94 O resign scaling

Electrical Characteristics

- Capacitance range: 1µF to 500µF
- Capacity tolerance: ± 5% (J), ± 10% (K)
- Rated voltage (at 85°C): 500, 600, 800, 900, 1000, 1200
- Test voltage between terminals: 1.5 x rated voltage VDC for 10 seconds
- Test voltage terminal to case: 3KVAC at 50Hz for 60 seconds
- Dissipation factor (Tan d): ≤0.05 at 10KHz and 25°C
- Temperature range: -55°C to +85°C, 105°C (with derating)
- Insulation resistance MΩ x µF: ≥10,000 S at 25°C (S= MΩ x µF), after 1 min of application of 500 Vdc between terminals for V_{NDC} > 500 Vdc; 100 Vdc for V_{NDC} = 500 Vdc.
- Reference Standard: IEC 61071 and IEC 60068
- Peak to peak ripple voltage: 0.2 x V_{NDC}
- Climatic testing class: 55/105/56
- Life expectancy: > 100, 000 hours at V_{NDC} and 70°C
- FIT: 100 at 0.5 x V_{NDC} and +40°C

Marking on Capacitors

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

- The Company's symbol followed by the words ALCON
- The capacitor grade viz DCL-14
- The capacitance value MFD
- The rated voltage VDC
- Capacity tolerance and manufacturing code
- Part number on non-standard capacitors

DCL- 14

Standard Capacitor Values

V _{NDC}	CAP (µF)	Dimension (mm)			Case Code	P1 (mm)	P2 (mm)	Typical ESR@ 10 KHz to 100 KHz (mΩ)		dV/dt (V/µs)	I _{peak} (A)	R _{th} (°C/mW)	L _w at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins	
V_{OPDC} AT 70 °C = 600 V, V_{OPDC} AT 105 °C = 350 V																	
500	1	9.0	19.0	32.0	Zc1	27.5	-	90.0	-	40.0	40	0.041	1.5	-	0.011	-	SD000010500ANZC1_K01
	2	9.0	19.0	32.0	ZC1	27.5	-	45.0	-	40.0	80	0.041	2.0	-	0.011	-	SD000020500ANZC1_K01
	3	9.0	19.0	32.0	ZC1	27.5	-	30.0	-	40.0	120	0.041	2.5	-	0.011	-	SD000030500ANZC1_K01
	4	11.0	21.0	32.0	ZC2	27.5	-	23.0	-	40.0	160	0.035	3.5	-	0.011	-	SD000040500ANZC2_K01
	5	11.0	21.0	32.0	ZC2	27.5	-	18.0	-	40.0	200	0.035	3.5	-	0.011	-	SD000050500ANZC2_K01
	6	15.0	25.0	32.0	ZA1	27.5	-	15.0	-	40.0	240	0.027	4.5	-	0.011	-	SD000060500ANZA1_K01
	7	15.0	25.0	32.0	ZA1	27.5	-	13.0	-	40.0	280	0.027	5.0	-	0.011	-	SD000070500ANZA1_K01
	8	15.0	25.0	32.0	ZA1	27.5	-	12.0	-	40.0	320	0.027	6.0	-	0.011	-	SD000080500ANZA1_K01
	9	18.0	28.0	32.0	ZA3	27.5	-	11.0	-	40.0	360	0.022	7.0	-	0.011	-	SD000090500ANZA3_K01
	10	18.0	28.0	32.0	ZA3	27.5	-	10.0	-	40.0	400	0.022	7.0	-	0.011	-	SD000100500ANZA3_K01
	12	18.0	28.0	32.0	ZA3	27.5	-	8.0	-	40.0	480	0.022	8.0	-	0.011	-	SD000110500ANZA3_K01
	15	21.0	31.0	32.0	ZA4	27.5	-	7.0	-	40.0	600	0.019	9.0	-	0.011	-	SD000150500ANZA4_K01
	18	20.0	35.0	32.0	ZAS	27.5	-	6.0	-	40.0	720	0.017	9.0	-	0.011	-	SD000180500ANZA5_K01
V _{NDC}	CAP (µF)	Dimension (mm)			Case Code	P1 (mm)	P2 (mm)	Typical ESR@ 10 KHz to 70 KHz (mΩ)		dV/dt (V/µs)	I _{peak} (A)	R _{th} (°C/mW)	L _w at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins	
500	20	18.5	35.5	43.0	ZA9	37.5	10.2	9.0	8.0	20.0	400	0.019	8.0	9.0	0.021	200	SD000200500ANZA9_K01
	22	21.5	38.5	43.0	ZB1	37.5	10.2	9.0	7.0	20.0	440	0.016	9.0	10.0	0.021	200	SD000220500ANZB1_K01
	25	21.5	38.5	43.0	ZB1	37.5	10.2	8.0	6.0	20.0	500	0.016	9.0	10.0	0.021	200	SD000250500ANZB1_K01
	30	24.0	44.0	42.0	ZA6	37.5	10.2	7.0	5.0	20.0	600	0.014	11.0	13.0	0.021	200	SD000300500ANZA6_K01
	35	24.0	44.0	42.0	ZA6	37.5	10.2	6.0	4.5	20.0	700	0.014	12.0	14.0	0.021	200	SD000350500ANZA6_K01
	40	30.0	45.0	42.0	ZA7	37.5	10.2/20.3	5.0	4.0	20.0	800	0.012	13.0	15.0	0.021	200	SD000400500ANZA7_K01
	45	30.0	45.0	42.0	ZA7	37.5	10.2/20.3	4.5	3.5	20.0	900	0.012	14.0	16.0	0.021	200	SD000450500ANZA7_K01
	50	30.0	45.0	42.0	ZA7	37.5	10.2/20.3	4.0	3.0	20.0	1000	0.012	15.0	17.0	0.021	200	SD000500500ANZA7_K01
	55	30.0	57.0	42.0	ZA8	37.5	20.3	3.5	3.0	20.0	1100	0.012	16.0	18.0	0.021	200	SD000550500ANZA8_K01
	60	30.0	57.0	42.0	ZA8	37.5	20.3	3.5	3.0	20.0	1200	0.012	16.0	18.0	0.021	200	SD000600500ANZA8_K01
	65	30.0	57.0	42.0	ZA8	37.5	20.3	2.5	2.0	20.0	1300	0.012	18.0	19.0	0.021	200	SD000650500ANZA8_K01
V _{NDC}	CAP (µF)	Dimension (mm)			Case Code	P1 (mm)	P2 (mm)	Typical ESR@ 10 KHz to 50 KHz (mΩ)		dV/dt (V/µs)	I _{peak} (A)	R _{th} (°C/mW)	L _w at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins	
500	50	25.0	45.0	57.5	ZB2	52.5	10.2	7.0	6.0	10.0	500	0.013	10.0	11.0	0.045	400	SD000500500ANZB2_K01
	55	25.0	45.0	57.5	ZB2	52.5	10.2	7.0	6.0	10.0	550	0.013	11.0	13.0	0.045	400	SD000550500ANZB2_K01
	60	30.0	45.0	57.5	ZB3	52.5	20.3	6.0	5.0	10.0	600	0.012	12.0	14.0	0.045	400	SD000600500ANZB3_K01
	65	30.0	45.0	57.5	ZB3	52.5	20.3	6.0	5.0	10.0	650	0.012	12.0	14.0	0.045	400	SD000650500ANZB3_K01
	70	30.0	45.0	57.5	ZB3	52.5	20.3	6.0	5.0	10.0	700	0.012	13.0	15.0	0.045	400	SD000700500ANZB3_K01
	75	35.0	50.0	57.5	ZB4	52.5	20.3	5.0	4.0	10.0	750	0.010	14.0	16.0	0.045	400	SD000750500ANZB4_K01
	80	35.0	50.0	57.5	ZB4	52.5	20.3	4.5	3.0	10.0	800	0.010	15.0	17.0	0.045	400	SD000800500ANZB4_K01
	90	35.0	50.0	57.5	ZB4	52.5	20.3	4.0	3.0	10.0	900	0.010	16.0	18.0	0.045	400	SD000900500ANZB4_K01
	100	35.0	50.0	57.5	ZB4	52.5	20.3	4.0	3.0	10.0	1000	0.010	17.0	19.0	0.045	400	SD001000500ANZB4_K01
	110	45.0	45.0	57.5	ZB5	52.5	20.3	-	2.5	10.0	1100	0.011	-	19.0	-	450	SD001100500ANZB5_K01
	120	45.0	45.0	57.5	ZB5	52.5	20.3	-	2.5	10.0	1200	0.011	-	19.0	-	450	SD001200500ANZB5_K01
	250*	70.0	65.0	57.5	ZB6	52.5	20.3	-	2.0	4.0	1000	0.006	-	25.0	-	450	SD002500500ANZB6_K01
	500**	130.0	65.0	57.5	ZB7	52.5	20.3	-	1.5	2.0	1000	0.004	-	45.0	-	500	SD005000500ANZB7_K01

Notes :

- * - 6 Pins & ** - 12 Pins (Custom Built)
- Δt ≤ 15 °C
- Custom designed capacitors are available on request.

Standard Capacitor Values

V _{DC}	CAP (µF)	Dimension (mm)			Case Code	P1 (mm)	P2 (mm)	Typical ESR@ 10 KHz to 100 KHz (mΩ)		dV/dt (V/µs)	I _{peak} (A)	R _{th} (°C/mW)	I _{WR} at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins	
V_{OPDC} AT 70 °C = 720 V, V_{OPDC} AT 105 °C = 420 V																	
600	1	9	19	32	Zc1	27.5	-	55	-	50	50	0.041	2.5	-	0.0085	-	SD000010600ANZC1_K01
	2	9	19	32	ZC1	27.5	-	35	-	50	100	0.041	3	-	0.0085	-	SD000020600ANZC1_K01
	3	11	21	32	ZC2	27.5	-	23	-	50	150	0.035	4	-	0.0085	-	SD000030600ANZC2_K01
	4	11	21	32	ZC2	27.5	-	21	-	50	200	0.035	4	-	0.0085	-	SD000040600ANZC2_K01
	5	13	23	32	ZA2	27.5	-	17	-	50	250	0.031	5	-	0.0085	-	SD000050600ANZA2_K01
	6	15	25	32	ZA1	27.5	-	14	-	50	300	0.027	6	-	0.0085	-	SD000060600ANZA1_K01
	7	15	25	32	ZA1	27.5	-	12	-	50	350	0.027	6	-	0.0085	-	SD000070600ANZA1_K01
	8	18	28	32	ZA3	27.5	-	9	-	50	400	0.022	8	-	0.0085	-	SD000080600ANZA3_K01
	9	18	28	32	ZA3	27.5	-	9	-	50	450	0.022	8	-	0.0085	-	SD000090600ANZA3_K01
	10	18	28	32	ZA3	27.5	-	8	-	50	500	0.022	9	-	0.0085	-	SD000100600ANZA3_K01
	12	21	31	32	ZA4	27.5	-	7	-	50	600	0.019	10	-	0.0085	-	SD000120600ANZA4_K01
	15	20	35	32	ZA5	27.5	-	6	-	50	750	0.017	10	-	0.0085	-	SD000150600ANZA5_K01

Notes :
 1. * - 6 Pins & ** - 12 Pins (Custom Built) 2. Δt ≤ 15 °C 3. Custom designed capacitors are available on request.

Standard Capacitor Values

V _{DC}	CAP (µF)	Dimension (mm)			Case Code	P1 (mm)	P2 (mm)	Typical ESR@ 10 KHz to 100 KHz (mΩ)		dV/dt (V/µs)	I _{peak} (A)	R _{th} (°C/mW)	I _{WR} at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins	
V_{OPDC} AT 70 °C = 960 V, V_{OPDC} AT 105 °C = 560 V																	
800	1	9	19	32	Zc1	27.5	-	55	-	60	60	0.041	2.5	-	0.007	-	SD000010800ANZC1_K01
	2	9	19	32	ZC1	27.5	-	35	-	60	120	0.041	3	-	0.007	-	SD000020800ANZC1_K01
	3	11	21	32	ZC2	27.5	-	23	-	60	180	0.035	4	-	0.007	-	SD000030800ANZC2_K01
	4	13	23	32	ZA2	27.5	-	17	-	60	240	0.031	5	-	0.007	-	SD000040800ANZA2_K01
	5	15	25	32	ZA1	27.5	-	14	-	60	300	0.027	6	-	0.007	-	SD000050800ANZA1_K01
	6	18	28	32	ZA3	27.5	-	12	-	60	360	0.022	7	-	0.007	-	SD000060800ANZA3_K01
	7	18	28	32	ZA3	27.5	-	10	-	60	420	0.022	8	-	0.007	-	SD000070800ANZA3_K01
	8	18	28	32	ZA3	27.5	-	9	-	60	480	0.022	8	-	0.007	-	SD000080800ANZA3_K01
	9	21	31	32	ZA4	27.5	-	7.5	-	60	540	0.019	10	-	0.007	-	SD000090800ANZA4_K01
	10	21	31	32	ZA4	27.5	-	7	-	60	600	0.019	10	-	0.007	-	SD000100800ANZA4_K01
	12	20	35	32	ZA5	27.5	-	6	-	60	720	0.017	11	-	0.007	-	SD000120800ANZA5_K01

Notes :
 1. * - 6 Pins & ** - 12 Pins (Custom Built) 2. Δt ≤ 15 °C 3. Custom designed capacitors are available on request.

Standard Capacitor Values

V _{DC}	CAP (µF)	Dimension (mm)			Case Code	P1 (mm)	P2 (mm)	Typical ESR@ 10 kHz to 100 kHz (mΩ)		dV/dt (V/µs)	I _{peak} (A)	R _{th} (°C/mW)	I _{max} at 10 kHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins	
		V _{OPDC} AT 70 °C = 1100 V, V _{OPDC} AT 105 °C = 650 V															
900	1	9	19	32	Zc1	27.5	-	65	-	65	65	0.041	2	-	0.006	-	SD000010900ANZC1_K01
	2	11	21	32	ZC2	27.5	-	30	-	65	130	0.035	3	-	0.006	-	SD000020900ANZC2_K01
	3	13	23	32	ZA2	27.5	-	20	-	65	195	0.031	4	-	0.006	-	SD000030900ANZA2_K01
	4	15	25	32	ZA1	27.5	-	16	-	65	260	0.027	5	-	0.006	-	SD000040900ANZA1_K01
	5	18	28	32	ZA3	27.5	-	13	-	65	325	0.022	7	-	0.006	-	SD000050900ANZA3_K01
	6	18	28	32	ZA3	27.5	-	11	-	65	390	0.022	7	-	0.006	-	SD000060900ANZA3_K01
	7	21	31	32	ZA4	27.5	-	9	-	65	455	0.019	9	-	0.006	-	SD000070900ANZA4_K01
	8	21	31	32	ZA4	27.5	-	8	-	65	520	0.019	9	-	0.006	-	SD000080900ANZA4_K01
	9	20	35	32	ZA5	27.5	-	7	-	65	585	0.017	9	-	0.006	-	SD000090900ANZA5_K01
	10	20	35	32	ZA5	27.5	-	7	-	65	650	0.017	9	-	0.006	-	SD000100900ANZA5_K01
V _{DC}	CAP (µF)	Dimension (mm)			Case Code	P1 (mm)	P2 (mm)	Typical ESR@ 10 kHz to 70 kHz (mΩ)		dV/dt (V/µs)	I _{peak} (A)	R _{th} (°C/mW)	I _{max} at 10 kHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins	
		V _{OPDC} AT 70 °C = 1100 V, V _{OPDC} AT 105 °C = 650 V															
900	9	18.5	35.5	43	ZA9	37.5	10.2	14	12	35	315	0.019	7.5	8	0.012	110	SD000090900ANZA9_K01
	10	18.5	35.5	43	ZA9	37.5	10.2	13	11	35	350	0.019	7.5	8	0.012	110	SD000100900ANZA9_K01
	12	18.5	35.5	43	ZA9	37.5	10.2	11	9	35	420	0.019	8	9	0.012	110	SD000120900ANZA9_K01
	15	21.5	38.5	43	ZB1	37.5	10.2	9	8	35	525	0.016	10	10.5	0.012	110	SD000150900ANZB1_K01
	20	24	44	42	ZA6	37.5	10.2	6	5	35	700	0.014	13	14	0.012	110	SD000200900ANZA6_K01
	22	30	45	42	ZA7	37.5	10.2 / 20.3	6	5	35	770	0.012	14	15	0.012	110	SD000220900ANZA7_K01
	25	30	45	42	ZA7	37.5	10.2 / 20.3	5	4.5	35	875	0.012	15	16	0.012	110	SD000250900ANZA7_K01
	30	30	57	42	ZA8	37.5	20.3	4.5	4	35	1050	0.012	16.5	17.5	0.012	110	SD000300900ANZA8_K01
	35	30	57	42	ZA8	37.5	20.3	3.5	3	35	1225	0.012	18	19	0.012	110	SD000350900ANZA8_K01
V _{DC}	CAP (µF)	Dimension (mm)			Case Code	P1 (mm)	P2 (mm)	Typical ESR@ 10 kHz to 50 kHz (mΩ)		dV/dt (V/µs)	I _{peak} (A)	R _{th} (°C/mW)	I _{max} at 10 kHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins	
		V _{OPDC} AT 70 °C = 1100 V, V _{OPDC} AT 105 °C = 650 V															
900	30	25	45	57.5	ZB2	52.5	10.2	8	7	18	540	0.013	12	12.5	0.024	220	SD000300900ANZB2_K01
	35	30	45	57.5	ZB3	52.5	20.3	7	6	18	630	0.012	13	14	0.024	220	SD000350900ANZB3_K01
	40	30	45	57.5	ZB3	52.5	20.3	6	5	18	720	0.012	14	15	0.024	220	SD000400900ANZB3_K01
	45	35	50	57.5	ZB4	52.5	20.3	6	5	18	810	0.01	15.5	17	0.024	220	SD000450900ANZB4_K01
	50	35	50	57.5	ZB4	52.5	20.3	5	4.5	18	900	0.01	17	18	0.024	220	SD000500900ANZB4_K01
	55	45	45	57.5	ZB5	52.5	20.3	-	4	18	990	0.011	-	18	-	220	SD000550900ANZB5_K01
	60	45	45	57.5	ZB5	52.5	20.3	-	3.5	18	1080	0.011	-	19.5	-	220	SD000600900ANZB5_K01
	120*	70	65	57.5	ZB6	52.5	20.3	-	3	13	1560	0.006	-	25	-	240	SD001200900ANZB6_K01
	240**	130	65	57.5	ZB7	52.5	20.3	-	1.5	6	1440	0.004	-	45	-	240	SD002400900ANZB7_K01

Notes :
 1. * - 6 Pins & ** - 12 Pins (Custom Built) 2. Δt ≤ 15 °C 3. Custom designed capacitors are available on request.

Standard Capacitor Values

V _{DC}	CAP (µF)	Dimension (mm)			Case Code	P1 (mm)	P2 (mm)	Typical ESR@ 10 kHz to 100 kHz (mΩ)		dV/dt (V/µs)	I _{peak} (A)	R _{th} (°C/mW)	I _{max} at 10 kHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins	
		V _{OPDC} AT 70 °C = 1200 V, V _{OPDC} AT 105 °C = 700 V															
1000	1	9	19	32	ZC1	27.5	-	65	-	70	70	0.041	2	-	0.005	-	SD000011000ANZC1_K01
	2	13	23	32	ZA2	27.5	-	30	-	70	140	0.031	3.5	-	0.005	-	SD000021000ANZA2_K01
	3	15	25	32	ZA1	27.5	-	21	-	70	210	0.027	5	-	0.005	-	SD000031000ANZA1_K01
	4	18	28	32	ZA3	27.5	-	16	-	70	280	0.022	6	-	0.005	-	SD000041000ANZA3_K01
	5	21	31	32	ZA4	27.5	-	13	-	70	350	0.019	7	-	0.005	-	SD000051000ANZA4_K01
	6	21	31	32	ZA4	27.5	-	10	-	70	420	0.019	8	-	0.005	-	SD000061000ANZA4_K01
	7	20	35	32	ZA5	27.5	-	9	-	70	490	0.017	9	-	0.005	-	SD000071000ANZA5_K01
V _{DC}	CAP (µF)	Dimension (mm)			Case Code	P1 (mm)	P2 (mm)	Typical ESR@ 10 kHz to 70 kHz (mΩ)		dV/dt (V/µs)	I _{peak} (A)	R _{th} (°C/mW)	I _{max} at 10 kHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins	
		V _{OPDC} AT 70 °C = 1200 V, V _{OPDC} AT 105 °C = 700 V															
1000	5	18.5	35.5	43	ZA9	37.5	10.2	21	19	35	175	0.019	6	6	0.01	90	SD000051000ANZA9_K01
	6	18.5	35.5	43	ZA9	37.5	10.2	18	16	35	210	0.019	6	7	0.01	90	SD000061000ANZA9_K01
	7	18.5	35.5	43	ZA9	37.5	10.2	18	16	35	245	0.019	6	7	0.01	90	SD000071000ANZA9_K01
	8	18.5	35.5	43	ZA9	37.5	10.2	16	14	35	280	0.019	7	7.5	0.01	90	SD000081000ANZA9_K01
	9	18.5	35.5	43	ZA9	37.5	10.2	14	12	35	315	0.019	7	8	0.01	90	SD000091000ANZA9_K01
	10	21.5	38.5	43	ZB1	37.5	10.2	12	11	35	350	0.016	8	9	0.01	90	SD000101000ANZB1_K01
	12	21.5	38.5	43	ZB1	37.5	10.2	10	9	35	420	0.016	9	10	0.01	90	SD000121000ANZB1_K01
	15	24	44	42	ZA6	37.5	10.2	8	7	35	525	0.014	11	12	0.01	90	SD000151000ANZA6_K01
	20	30	45	42	ZA7	37.5	10.2 / 20.3	6	5	35	700	0.012	14	15	0.01	90	SD000201000ANZA7_K01
	22	30	45	42	ZA7	37.5	10.2 / 20.3	6	5	35	770	0.012	14	15	0.01	90	SD000221000ANZA7_K01
	25	30	57	42	ZA8	37.5	20.3	6	5	35	875	0.012	16	17	0.01	90	SD000251000ANZA8_K01
	30	30	57	42	ZA8	37.5	20.3	4	3.5	35	1050	0.012	16	17	0.01	90	SD000301000ANZA8_K01
V _{DC}	CAP (µF)	Dimension (mm)			Case Code	P1 (mm)	P2 (mm)	Typical ESR@ 10 kHz to 50 kHz (mΩ)		dV/dt (V/µs)	I _{peak} (A)	R _{th} (°C/mW)	I _{max} at 10 kHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins	
		V _{OPDC} AT 70 °C = 1200 V, V _{OPDC} AT 105 °C = 700 V															
1000	15	25	45	57.5	ZB2	52.5	10.2	14	12	18	270	0.013	9	9.5	0.021	190	SD000151000ANZB2_K01
	20	25	45	57.5	ZB2	52.5	10.2	12	11	18	360	0.013	9	10	0.021	190	SD000201000ANZB2_K01
	22	25	45	57.5	ZB2	52.5	10.2	11	10	18	396	0.013	10	10.5	0.021	190	SD000221000ANZB2_K01
	25	30	45	57.5	ZB3	52.5	20.3	10	9	18	450	0.012	11	11.5	0.021	190	SD000251000ANZB3_K01
	30	30	45	57.5	ZB3	52.5	20.3	8	7	18	540	0.012	12	13	0.021	190	SD000301000ANZB3_K01
	35	35	50	57.5	ZB4	52.5	20.3	7	6	18	630	0.01	14	15	0.021	190	SD000351000ANZB4_K01
	40	35	50	57.5	ZB4	52.5	20.3	6	5	18	720	0.01	15	17	0.021	190	SD000401000ANZB4_K01
	45	45	45	57.5	ZB5	52.5	20.3	-	5	18	810	0.011	-	16.5	-	190	SD000451000ANZB5_K01
	50	45	45	57.5	ZB5	52.5	20.3	-	4	18	900	0.011	-	18	-	190	SD000501000ANZB5_K01
	100*	70	65	57.5	ZB6	52.5	20.3	-	3.5	15	1500	0.006	-	25	-	210	SD001001000ANZB6_K01
	200**	130	65	57.5	ZB7	52.5	20.3	-	1.5	7	1400	0.004	-	45	-	210	SD002001000ANZB7_K01

Notes :
 1. * - 6 Pins & ** - 12 Pins (Custom Built) 2. Δt ≤ 15 °C 3. Custom designed capacitors are available on request.

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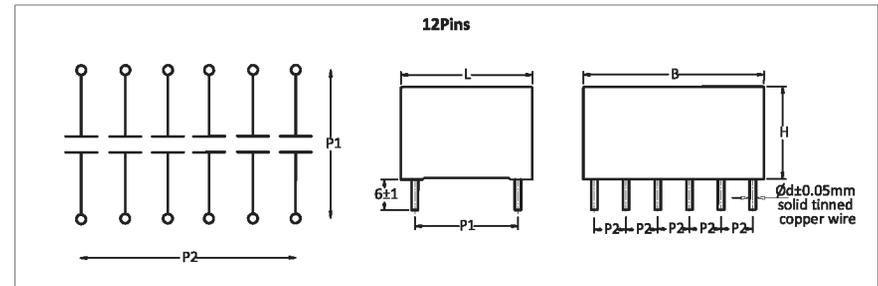
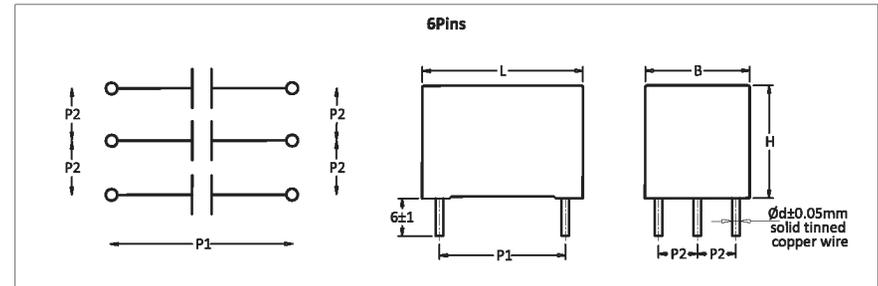
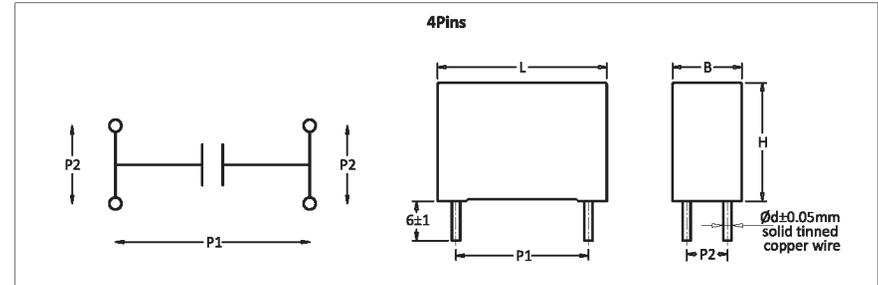
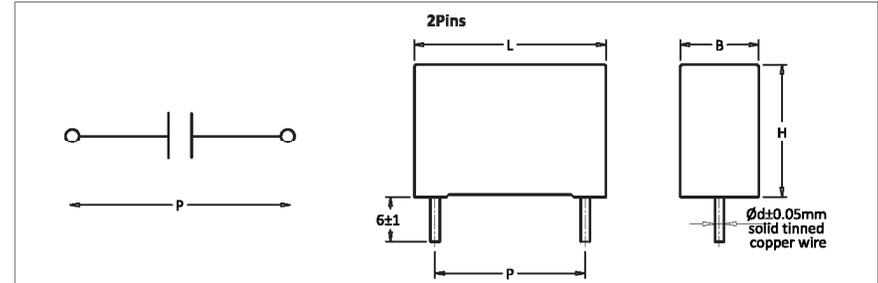
Standard Capacitor Values

V _{DC}	CAP (μF)	Dimension (mm)			Case Code	P1 (mm)	P2 (mm)	Typical ESR@		dV/dt (V/μs)	I _{peak} (A)	R _{th} (°C/mW)	I _{WR} at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code	
		B	H	L				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins		
V_{OPDC} AT 70 °C = 1440 V, V_{OPDC} AT 105 °C = 850 V																		
1200	1	11	21	32	ZC2	27.5	-	45	-	85	85	0.035	3	-	0.0045	-	SD000011200ANZC2___K01	
	2	15	25	32	ZA1	27.5	-	23	-	85	170	0.027	4	-	0.0045	-	SD000011200ANZA1___K01	
	3	18	28	32	ZA3	27.5	-	15	-	85	255	0.022	6	-	0.0045	-	SD000031200ANZA3___K01	
	4	21	31	32	ZA4	27.5	-	12	-	85	340	0.019	8	-	0.0045	-	SD000041200ANZA4___K01	
	5	20	35	32	ZA5	27.5	-	10	-	85	425	0.017	8	-	0.0045	-	SD000051200ANZA5___K01	
V _{DC}	CAP (μF)	Dimension (mm)			Case Code	P1 (mm)	P2 (mm)	Typical ESR@		dV/dt (V/μs)	I _{peak} (A)	R _{th} (°C/mW)	I _{WR} at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code	
		B	H	L				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins		
1200	5	18.5	35.5	43	ZA9	37.5	10.2	18	16	40	200	0.019	6	7	0.009	80	SD000051200ANZA9___K01	
	6	18.5	35.5	43	ZA9	37.5	10.2	15	14	40	240	0.019	7	7.5	0.009	80	SD000061200ANZA9___K01	
	7	21.5	38.5	43	ZB1	37.5	10.2	13	12	40	280	0.016	8	8.5	0.009	80	SD000071200ANZB1___K01	
	8	21.5	38.5	43	ZB1	37.5	10.2	11	10	40	320	0.016	9	9.5	0.009	80	SD000081200ANZB1___K01	
	9	24	44	42	ZA6	37.5	10.2	10	9	40	360	0.014	10	10.5	0.009	80	SD000091200ANZA6___K01	
	10	24	44	42	ZA6	37.5	10.2	9	8	40	400	0.014	10	11	0.009	80	SD000101200ANZA6___K01	
	12	30	45	42	ZA7	37.5	10.2 / 20.3	8	7	40	480	0.012	12	13	0.009	80	SD000121200ANZA7___K01	
	15	30	57	42	ZA8	37.5	20.3	6	5	40	600	0.012	14	14	0.009	80	SD000151200ANZA8___K01	
V _{DC}	CAP (μF)	Dimension (mm)			Case Code	P1 (mm)	P2 (mm)	Typical ESR@		dV/dt (V/μs)	I _{peak} (A)	R _{th} (°C/mW)	I _{WR} at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code	
		B	H	L				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins		
1200	10	25	45	57.5	ZB2	52.5	10.2	18	16	20	200	0.013	8	8	0.018	160	SD000101200ANZB2___K01	
	12	25	45	57.5	ZB2	52.5	10.2	15	13	20	240	0.013	8	9	0.018	160	SD000121200ANZB2___K01	
	15	25	45	57.5	ZB2	52.5	10.2	12	11	20	300	0.013	9	10	0.018	160	SD000151200ANZB2___K01	
	20	30	45	57.5	ZB3	52.5	20.3	9	8	20	400	0.012	11	12	0.018	160	SD000201200ANZB3___K01	
	22	35	50	57.5	ZB4	52.5	20.3	8	7	20	440	0.01	13	14	0.018	160	SD000221200ANZB4___K01	
	25	35	50	57.5	ZB4	52.5	20.3	7	6	20	500	0.01	14	15	0.018	160	SD000251200ANZB4___K01	
	30	45	45	57.5	ZB5	52.5	20.3	-	5	20	600	0.011	-	16	-	160	SD000301200ANZB5___K01	
	60*	70	65	57.5	ZB6	52.5	20.3	-	2.5	20	1200	0.006	-	31.5	-	180	SD000601200ANZB6___K01	
	65*	70	65	57.5	ZB6	52.5	20.3	-	2	18	1170	0.006	-	35	-	180	SD000651200ANZB6___K01	
	140**	130	65	57.5	ZB7	52.5	20.3	-	1.5	10	1400	0.004	-	45	-	180	SD001401200ANZB7___K01	

Notes :
 1. * - 6 Pins & ** - 12 Pins (Custom Built) 2. Δt ≤ 15 °C 3. Custom designed capacitors are available on request.

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Capacitor Drawing And Terminal Style



Power Dissipation and Maximum Component Temperature Rise

The power dissipation is limited, so that the maximum allowed component temperature rise is not exceed as a function of the free air ambient temperature.

Component Temperature Rise

Component temperature rise is denoted by ΔT , and is calculated by $\Delta T = P \times R_{th}$
 $\Delta T = T_{case} - T_{ambient} = \text{case temperature rise (}^\circ\text{C)}$ with a maximum of 15 $^\circ\text{C}$ at rated temperature.

Where,

P is power dissipation of the component (mW)

R_{th} is thermal conductivity ($^\circ\text{C}/\text{mW}$)

Method to measure the component temperature

The case temperature is measured in unloaded condition (T_{amb}) and loaded condition (T_c). Capacitor is tested under closed area, free from air circulation to avoid external thermal radiation.

Limiting conditions and application notes

These types of capacitors are not suitable for mains applications as across-the-line capacitors without additional protection. These mains applications are strictly regulated in safety standards and therefore electromagnetic interference suppression capacitors conforming the standards must be used.

Before we select capacitors for certain application, we must go through the following conditions:

- I. The continuous peak voltage should not exceed the rated DC voltage.
- II. The peak-to-peak ripple voltage should be less than $0.2 \times V_{NDC}$.
- III. When capacitors are connected in parallel, the proof voltage (high pot) and the rated voltage must be reduced.
- IV. The voltage peak slope should not exceed the pulse slope at the DC voltage rating.

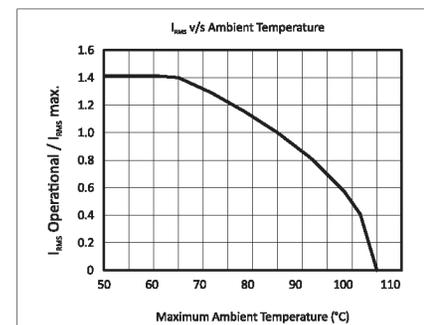
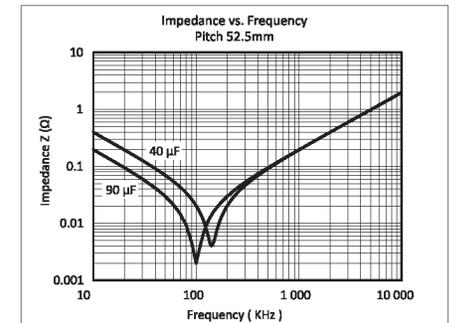
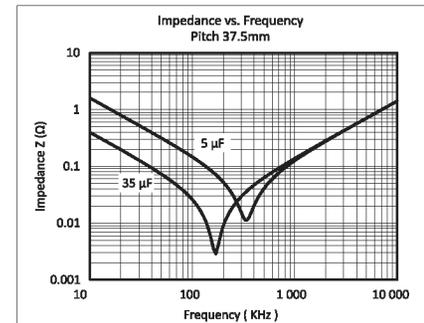
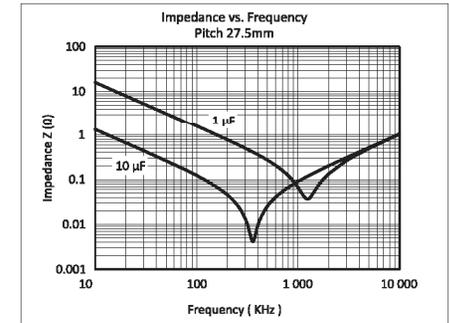
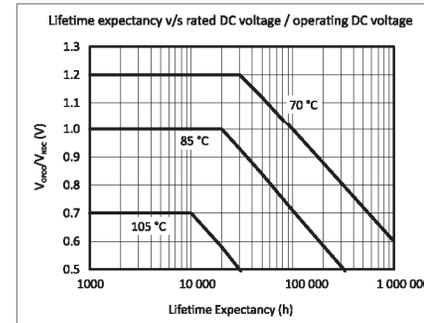
Maximum repetitive peak voltages

Repetitive surge voltage	Maximum duration per day
$1.1 \times V_{NDC}$	30% of on load duration
$1.15 \times V_{NDC}$	30 min
$1.2 \times V_{NDC}$	5 min
$1.3 \times V_{NDC}$	1 min
$1.5 \times V_{NDC}$	110 ms

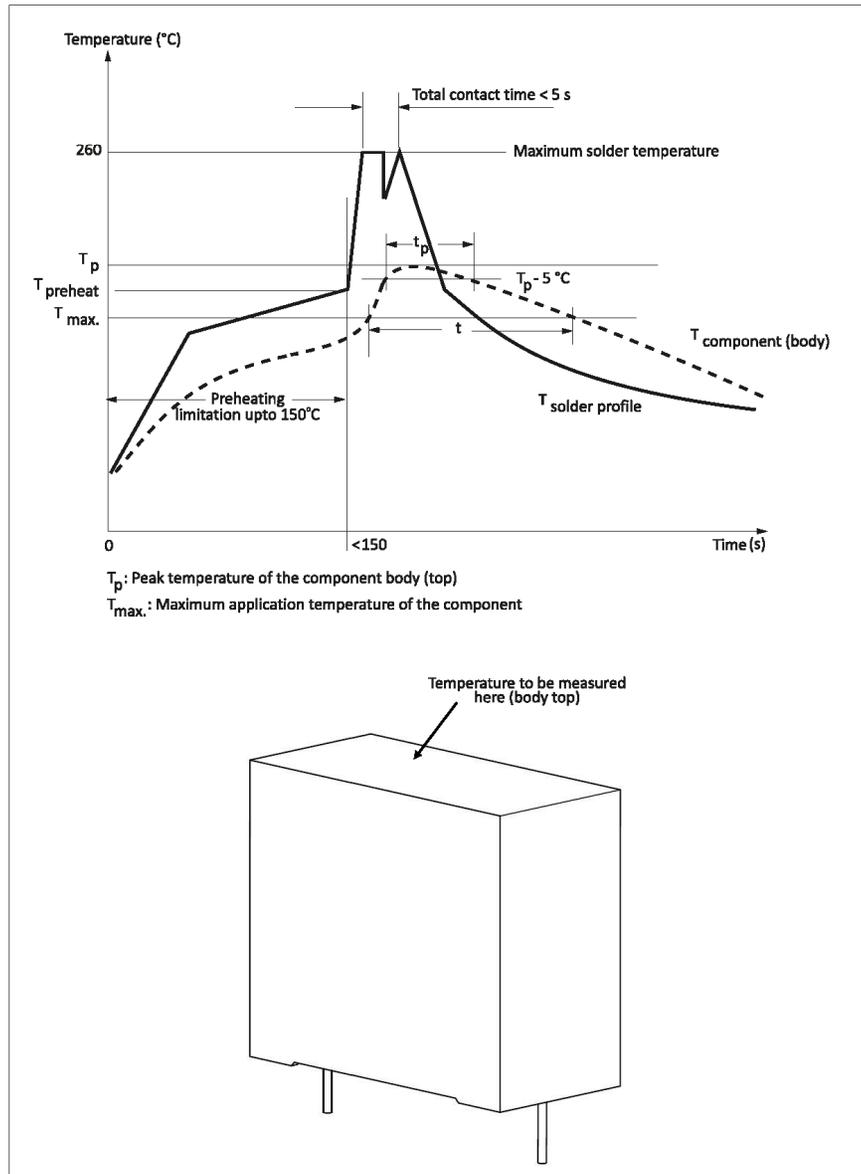
Abbreviation Used

1. V_{NDC} : Rated DC voltage
2. V_{OPDC} : Operating DC voltage
3. ESR : Equivalent series resistance
4. I_{peak} : Maximum peak current
5. $I_{RMS} (max)$: Maximum allowable current at 85 $^\circ\text{C}$ specified in standard capacitor value table
6. $I_{RMS} (operational)$: Operational RMS (Root Mean Square) current.
7. $\tan\delta$: tangent of the loss angle of a capacitor.

Dearating Graphs



Format of soldering conditions



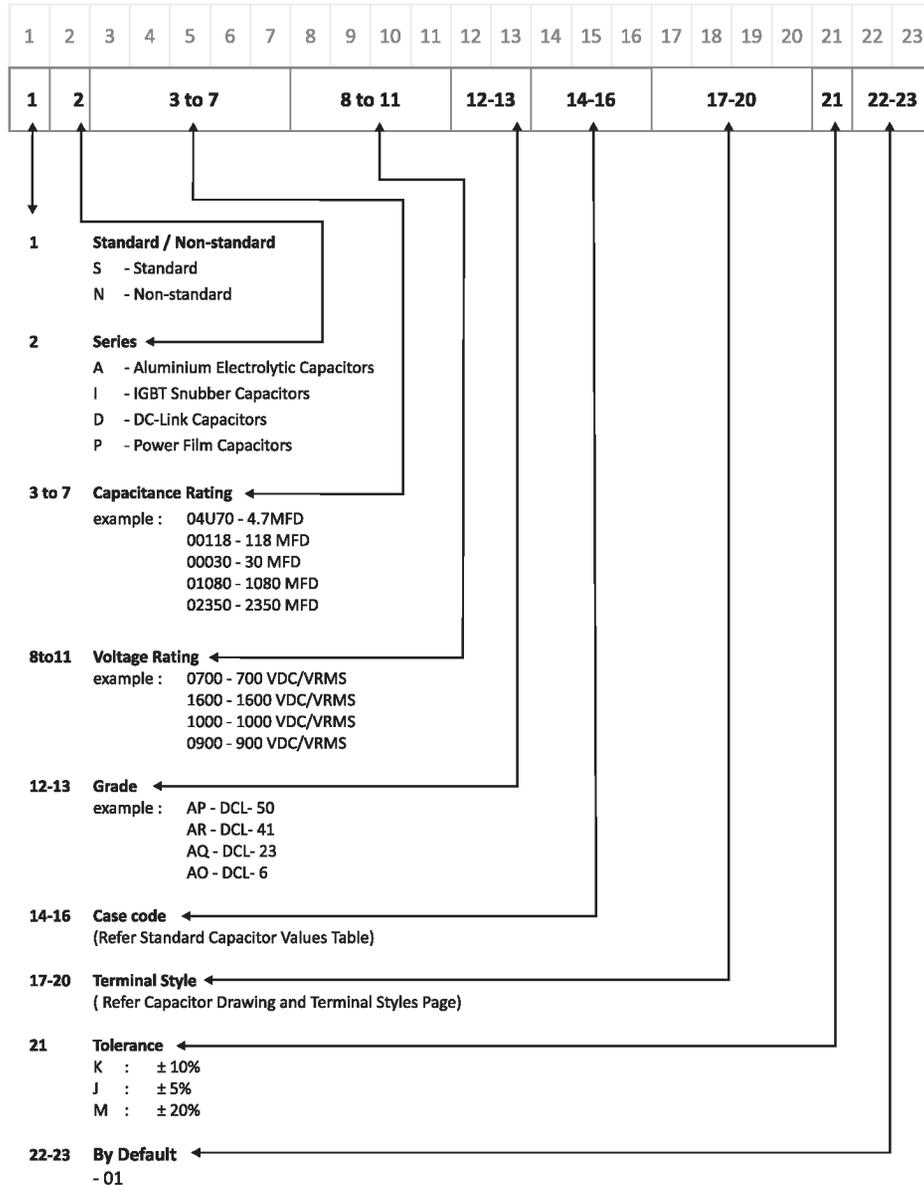
Warnings

If preheating or soldering is done above the recommended limits then it can result in product damage and malfunctioning, thus it should be strictly avoided. There is a huge possibility of change in products parameters like capacitance value, $\tan \delta$, insulation resistance, etc if preheating or soldering limits have been exceeded at any point in time during the soldering process. Exceeding preheating or soldering limits can even result in destruction of the product.

Soldering Conditions For Manual Soldering

- Using soldering iron with sufficient wattage and a regulated temperature is necessary. The quality of soldering iron is judged by the amount of time needed to reflow the solder. Adjust the temperature at beginning at 343°C, so that the solder re-flows within 1.5 s to 3s.
 - If the solder reflow occurs in less than 1 s to 1.5 s, then it indicated that the temperature at tip is excessive.
 - If solder reflow occurs in more than 3 s to 3.5 s, then it indicates either the tip temperature is insufficient or the tip is cooling down when applied to the circuit board.
- Small amount of flux should be applied to the component lead terminals and the pad layout.
- Once the iron is tinned, place the iron tip on the circuit pad at the edge far from the component. The soldering should be completed in between 1.5 s to 3 sec. But suppose we need to keep iron on longer than 3 s, replace the component with a fresh device.
- Add the small amount of solder at the solder tip so that we can ensure that it flows from the pad to the termination of the component.
- Don't touch the soldering iron to the component being worked on or any adjacent component.

Part Number System



Cautions For Proper Use Of Film Capacitor

SAFETY INSTRUCTION

- Do not exceed the upper category temperature (UCT).
- Do not apply any mechanical stress to the capacitor terminals.
- Avoid any compressive, tensile or flexural stress.
- Do not move the capacitor after it has been assembled
- Do not exceed the specified torque limits during assembly.
- Avoid external energy inputs, such as fire or electricity.
- Avoid overload of the capacitors.
- Consult us if application is with severe temperature and humidity condition.
- There are no serviceable or repairable parts inside the capacitor. Opening the capacitor or any attempts to open or repair the capacitor will void the warranty and liability of ALCON

DISPOSAL

For disposal do either of the followings.

1. Incineration (at high temperature over 800°C) after piercing or crushing capacitor body.
2. Consignment to specialists of industrial waste. As per the compliance prescribed by the law.

Other Products



Power Film Capacitors- High and Medium Frequency

- Capacitance Range - 0.010 MFD to 85 MFD
- Max Power - 100 KVAR to 1500 KVAR
- Frequency Range - 5.2 KHz to 1900 KHz
- Max Current - Up to 3000 Amps

Typical Applications

Induction Heating, Plasma Generators, Medical Equipment, Wireless EV Chargers, Magnetisers and Traction Equipment.



IGBT Snubber Capacitors- Direct Mounting & Axial

- Capacitance Range - 0.1 MFD to 3.30 MFD
- Rated Voltage Range - 600 VDC to 3000 VDC
- Mounting Pitch - 22, 23, 23.5, 24.5, 25, 26.50, 27, 27.5, 37, 37.5, 38, 38.5, 48.5, 55, 57.5, 78 mm (for direct mounting type)
- I_{RMS} max. - 2 Amps to 34.50 Amps

Typical Applications

Multi Level IGBT Snubber, IGBT Protection, Snubber Networks Protection Circuits, SMPS, Resonance Tank Circuits.



Aluminium Electrolytic Capacitors

- Capacitance Range - 330 MFD to 470000 MFD
- Rated Voltage Range (VDC) - 50 VDC to 550 VDC
- Can Sizes - 50 mm ϕ x 80 L mm to 120 mm ϕ x 240 L mm
- Temperature Rating - 40°C to + 70°C
40°C to + 85°C
40°C to + 105°C

Typical Applications

High ripple current applications like PWM Inverters, High KVA online UPS, Frequency converters, AC drives, High reliability power supplies, solar and wind inverters. HED range is designed for large instant energy discharge applications like Laser, X-ray equipment, welding machines, magnetisers & other pulse discharge applications



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