

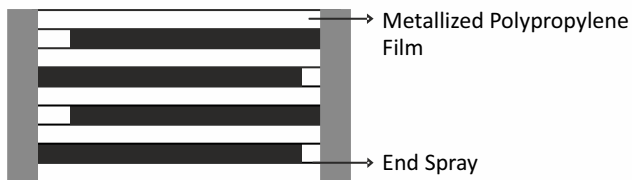
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Highlights

- 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



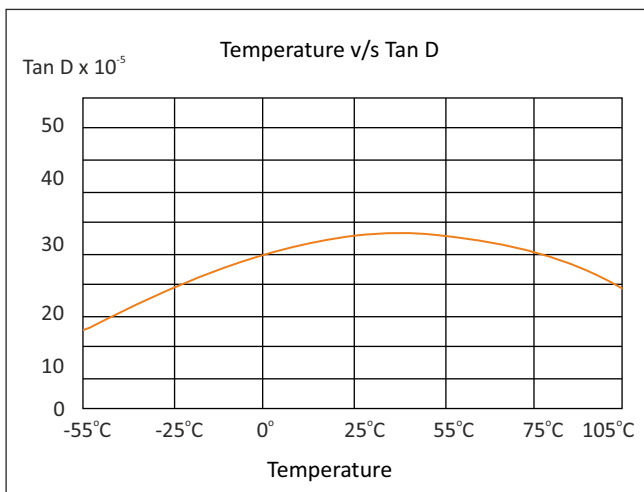
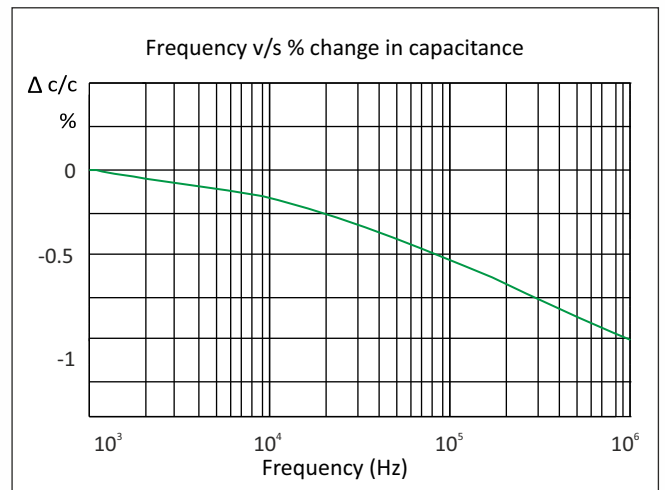
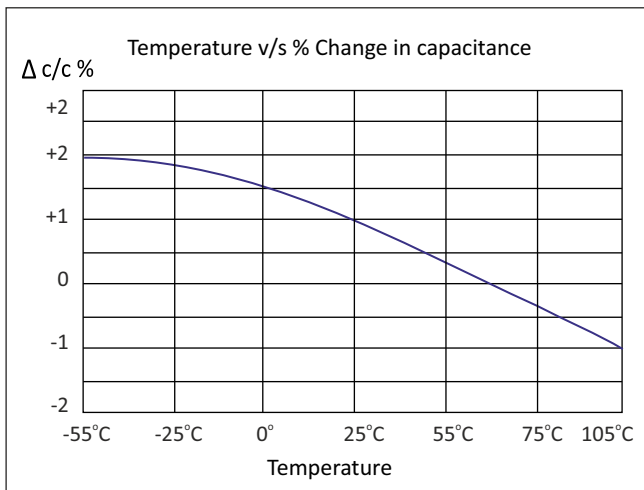
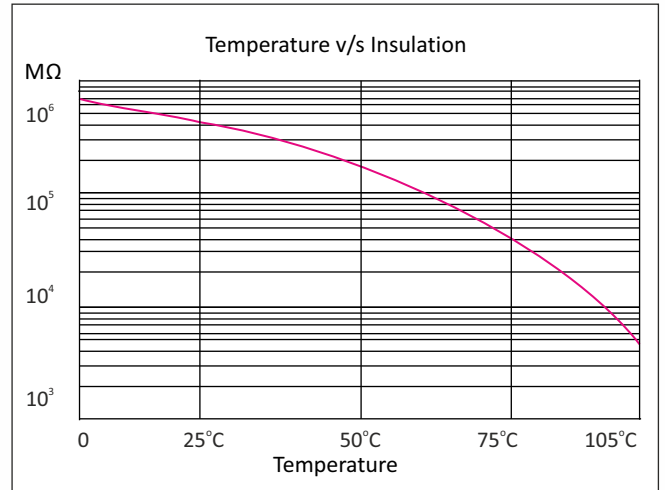
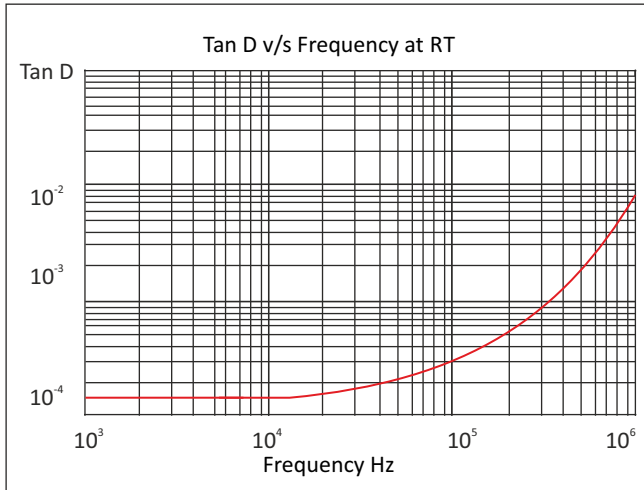
Applications

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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Typical Performance Graphs



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Technical Specifications

Physical Characteristics

- | | |
|------------------------|--|
| ▪ Dielectric material | Polypropylene film |
| ▪ Electrode material | Metallised polypropylene film |
| ▪ Winding construction | Polypropylene film, metallised polypropylene film |
| ▪ Enclosure | Aluminum can with preformed UL 94-V0 plastic top with thermosetting resin-fill |
| ▪ Terminals | 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 $M\Omega \times \mu$ F | 5,000S @ 25°C (S = $M\Omega \times \mu$ 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 | \varnothing 85 = +85°C
\varnothing 100, = +80°C
\varnothing 116, = +80°C |

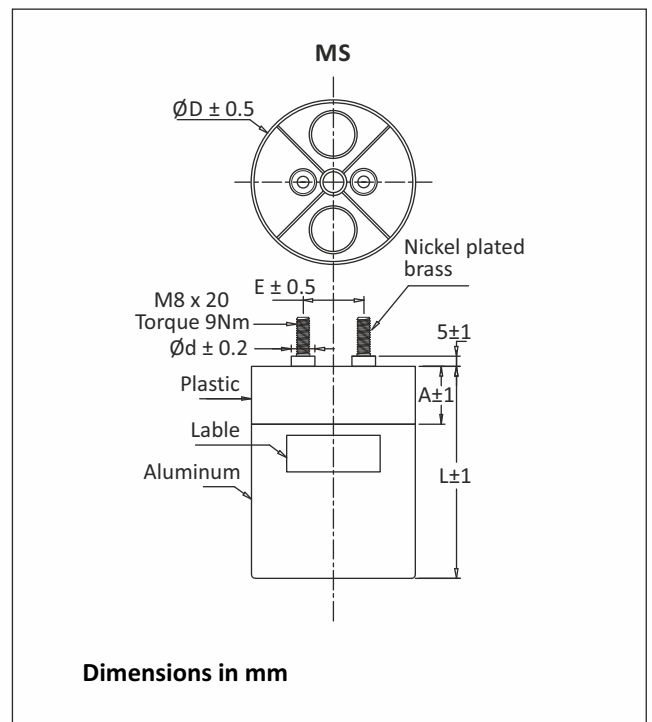
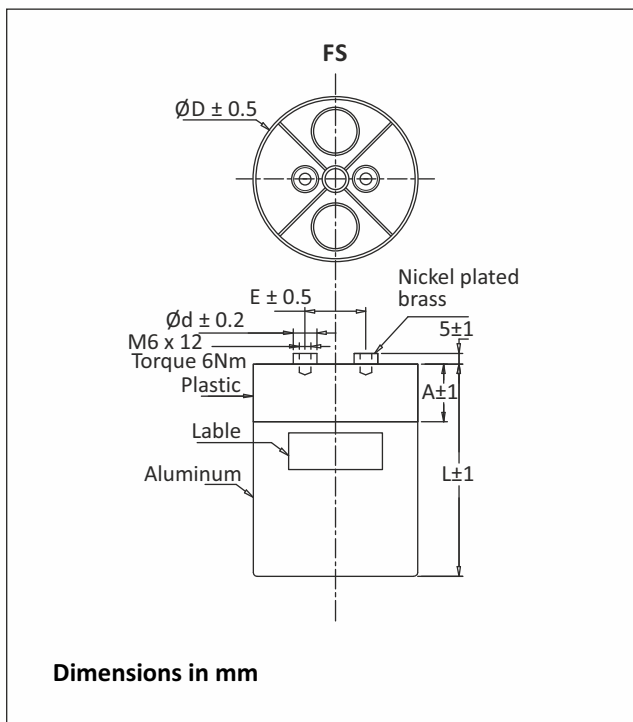
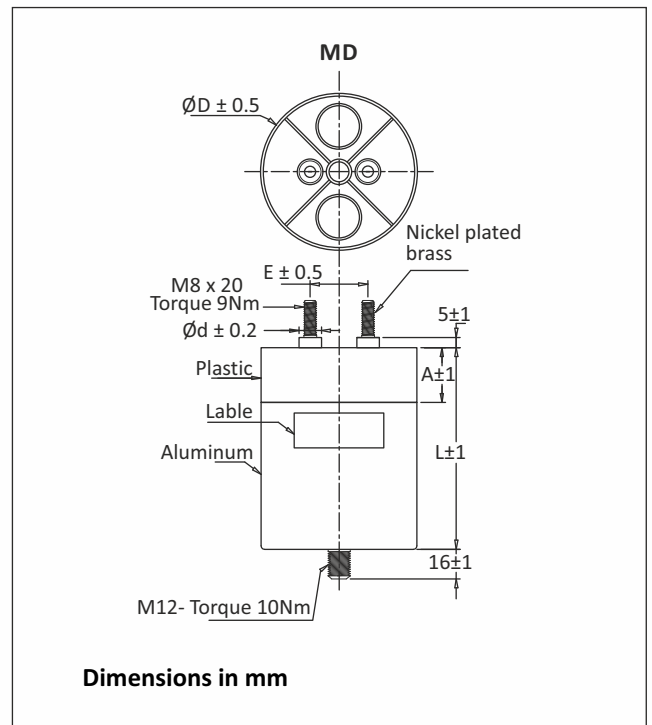
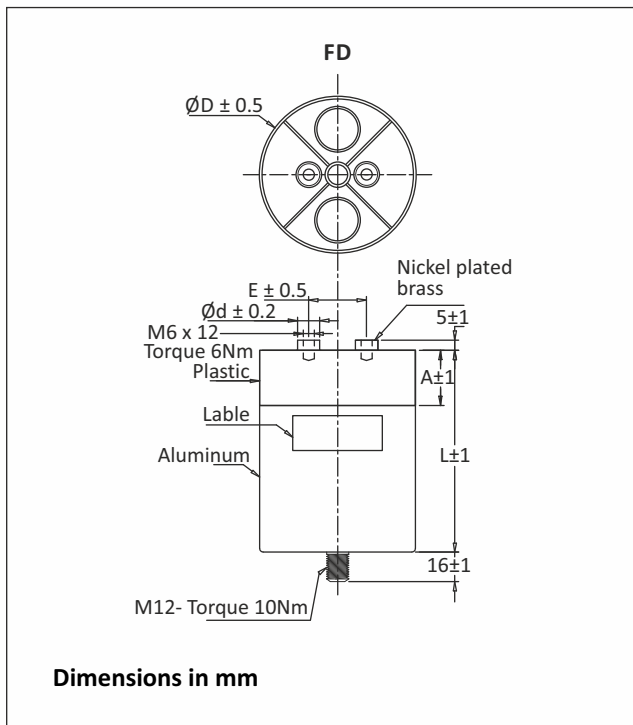
Marking on Capacitors

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

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Capacitor Drawing and Terminal Styles



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

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Standard Capacitor Values

$U_N=700\text{vdc}$, $U_s =1050\text{V}$, $U_R =200\text{V}$, $U_{T-T} =1050\text{Vdc}$, $U_{T-C}=2200\text{Vac}$ 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										
360	85	105	S1	32	1.6	5.6	40	2.80	8.4	40	0.65	SD03600700S1KO__0041
450	85	125	S2	32	2.0	4.8	40	3.50	10.5	40	0.75	SD04500700S2KO__0041
495	85	140	S3	32	2.1	4.5	40	3.90	11.6	40	0.71	SD04950700S3KO__0041
520	100	105	X1	50	2.0	4.7	40	4.00	12.1	40	0.84	SD05200700X1KO__0041
540	85	150	S4	32	1.0	4.1	60	4.20	12.6	40	0.90	SD05400700S4KO__0041
630	85	160	S5	32	1.1	3.8	60	4.90	14.7	40	0.96	SD06300700S5KO__0041
675	100	125	X2	50	2.4	3.9	40	5.30	15.8	40	1.00	SD06750700X2KO__0041
675	116	105	R1	50	1.0	4.2	60	5.30	15.8	40	1.10	SD06750700R1KO__0041
790	100	140	X3	50	1.2	3.5	60	6.10	18.4	40	1.20	SD07900700X3KO__0041
855	100	150	X4	50	1.2	3.4	60	6.70	20.0	40	1.30	SD08550700X4KO__0041
900	116	125	R2	50	1.2	3.5	60	7.00	21.0	40	1.40	SD09000700R2KO__0041
900	85	225	S7	32	1.5	2.7	60	3.50	10.5	60	1.10	SD09000700S7KO__0041
990	85	255	S7	32	1.0	2.4	80	3.50	10.5	60	1.20	SD09900700S7KO__0041
1035	100	185	X6	50	1.6	2.5	60	4.10	12.3	40	1.40	SD10350700X6KO__0041
1080	116	140	R3	50	1.3	3.2	60	8.40	25.2	40	1.64	SD10800700R3KO__0041
1080	85	275	S9	32	1.9	2.2	60	4.20	12.6	70	1.50	SD10800700S9KO__0041
1170	116	150	R4	50	1.0	3.1	70	9.10	27.3	50	1.60	SD11700700R4KO__0041
1260	85	295	SA	32	1.9	1.9	60	4.90	14.7	70	1.90	SD12600700SAKO__0041
1260	116	185	R6	50	1.0	2.4	80	4.90	14.7	60	2.10	SD12600700R6KO__0041
1350	100	225	X7	50	1.9	2.2	60	5.50	16.5	70	2.20	SD13500700X7KO__0041
1575	100	255	X8	50	1.1	2.2	80	6.00	18.0	70	2.50	SD15750700X8KO__0041
1700	100	275	X9	50	1.2	1.9	80	6.50	19.5	70	2.80	SD17000700X9KO__0041
1800	116	225	R7	50	1.0	1.8	90	7.00	21.0	60	2.60	SD18000700R7KO__0041
2150	116	255	R8	50	1.0	1.5	100	8.50	25.5	60	2.80	SD21500700R8KO__0041
2350	116	275	R9	50	1.2	1.3	100	9.00	27.0	70	3.10	SD23500700R9KO__0041

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Standard Capacitor Values

U _N =900vdc , U _S =1350V , U _R =200V , U _{T-T} =1350Vdc , U _{T-C} =2500Vac/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	1Khz	(°C/W)	(A)	(kA)	(kA)	(nH)	(Kg)	
300	85	105	S1	32	1.7	5.6	40	2.81	8.4	40	0.65	SD03000900S1KO__0041
360	85	125	S2	32	2.0	4.8	40	3.40	10.0	40	0.75	SD03600900S2KO__0041
430	100	105	X1	50	2.0	4.7	40	4.04	12.0	40	0.84	SD04300900X1KO__0041
430	85	140	R3	32	2.1	4.5	40	4.08	12.0	40	0.71	SD04300900R3KO__0041
475	85	150	S4	32	1.0	4.1	60	4.46	13.0	40	0.90	SD04750900S4KO__0041
495	85	160	S5	32	1.1	3.8	60	4.68	14.0	60	0.96	SD04950900S5KO__0041
540	100	125	X2	50	1.9	3.9	40	5.10	15.0	40	1.00	SD05400900X2KO__0041
540	116	105	R1	50	1.0	4.2	60	5.10	15.0	40	1.10	SD05400900R1KO__0041
630	100	140	X3	50	1.2	3.5	60	5.95	18.0	50	1.20	SD06300900X3KO__0041
700	100	150	X4	50	1.2	3.4	60	6.59	20.0	50	1.30	SD07000900X4KO__0041
720	116	125	R2	50	1.3	3.3	60	6.80	20.0	40	1.40	SD07200900R2KO__0041
720	85	225	S7	32	1.5	2.7	60	3.40	10.0	60	1.10	SD07200900S7KO__0041
855	85	255	S8	32	1.0	2.4	80	4.04	12.0	60	1.20	SD08550900S8KO__0041
855	100	185	X6	50	1.7	2.5	60	4.04	12.0	50	1.40	SD08550900X6KO__0041
855	116	140	R3	50	1.3	3.2	60	8.08	24.0	40	1.65	SD08550700R3KO__0041
920	85	275	S9	32	1.9	2.2	60	4.34	13.0	70	1.50	SD09200900S9KO__0041
945	116	150	R4	50	1.3	3.1	60	8.93	27.0	50	1.60	SD09450900R4KO__0041
990	85	295	SA	32	2.2	1.9	60	4.68	14.0	70	1.90	SD09900900SAKO__0041
1080	100	225	X7	50	1.1	2.2	80	5.10	15.0	60	2.20	SD10800900X7KO__0041
1080	116	185	R6	50	1.7	2.4	60	5.10	15.0	60	2.10	SD10800900R6KO__0041
1260	100	255	X8	50	1.2	2.0	80	5.95	18.0	60	2.50	SD12600900X8KO__0041
1395	100	275	X9	50	1.2	1.9	80	6.59	20.0	60	2.80	SD13950900X9KO__0041
1440	116	225	R7	50	1.2	2.0	80	6.80	20.0	60	2.60	SD14400900R7KO__0041
1700	116	255	R8	50	1.0	1.5	100	8.08	24.0	70	2.80	SD17000900R8KO__0041
1850	116	275	R9	50	1.2	1.3	100	8.71	26.0	70	3.10	SD18500900R9KO__0041

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Standard Capacitor Values

U _N =1000vdc ,U _s =1500V , U _R =200V , U _{T-T} =1500Vdc , U _{T-C} =2700Vac/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	1Khz	(°C/W)	(A)	(kA)	(kA)	(nH)	(Kg)	
225	85	105	S1	32	1.7	5.6	40	2.50	7.5	40	0.65	SD02251000S1KO__0041
300	85	125	S2	32	2.0	4.8	40	3.30	9.9	40	0.75	SD03001000S2KO__0041
335	100	105	X1	50	2.0	4.7	40	3.75	11.0	40	0.84	SD03351000X1KO__0041
350	85	140	S3	32	2.1	4.5	40	3.90	12.0	40	0.71	SD03501000S3KO__0041
375	85	150	S4	32	1.0	4.1	60	4.20	13.0	40	0.90	SD03751000S4KO__0041
400	85	160	S5	32	1.1	3.8	60	4.50	14.0	60	0.96	SD04001000S5KO__0041
425	100	125	X2	50	2.4	3.9	40	4.75	14.0	40	1.00	SD04251000X2KO__0041
450	116	105	R1	50	1.0	4.2	60	5.00	15.0	40	1.10	SD04501000R1KO__0041
500	100	140	X3	50	1.2	3.5	60	5.60	17.0	50	1.20	SD05001000X3KO__0041
560	100	150	X4	50	1.2	3.4	60	6.25	19.0	50	1.30	SD05601000X4KO__0041
585	116	125	R2	50	1.2	3.5	60	6.50	20.0	40	1.40	SD05851000R2KO__0041
595	85	225	S7	32	1.5	2.7	60	3.30	9.90	60	1.10	SD05951000S7KO__0041
675	85	255	S8	32	1.0	2.4	80	3.75	11.0	60	1.20	SD06751000S8KO__0041
675	100	185	X6	50	1.7	2.5	60	3.75	11.0	50	1.40	SD06751000X6KO__0041
700	116	140	R3	50	1.3	3.2	60	7.80	23.0	40	1.65	SD07001000R3KO__0041
735	85	275	S9	32	1.9	2.2	60	4.10	12.0	70	1.50	SD07351000S9KO__0041
765	116	150	R4	50	1.3	3.1	60	8.50	26.0	50	1.60	SD07651000R4KO__0041
800	85	295	SA	32	2.2	1.9	60	4.50	14.0	70	1.90	SD08001000SAKO__0041
855	100	225	X7	50	1.1	2.2	80	4.75	14.0	60	2.20	SD08551000X7KO__0041
900	116	185	R6	50	1.7	2.4	60	5.00	15.0	60	2.10	SD09001000R6KO__0041
1000	100	255	X8	50	1.2	2.0	80	5.60	17.0	60	2.50	SD10001000X8KO__0041
1125	100	275	X9	50	1.0	1.9	90	6.25	19.0	60	2.80	SD11251000X9KO__0041
1170	116	225	R7	50	1.2	2.0	80	6.50	20.0	60	2.60	SD11701000R7KO__0041
1350	116	255	R8	50	1.0	1.5	100	7.50	23.0	70	2.80	SD13501000R8KO__0041
1485	116	275	R9	50	1.2	1.3	100	8.25	25.0	70	3.10	SD14851000R9KO__0041

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Standard Capacitor Values

U _N =1100vdc ,U _S =1650V , U _R =200V , U _{T-T} =1650Vdc , U _{T-C} =2810Vac/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	1KHz	(°C/W)	(A)	(kA)	(kA)	(nH)	(Kg)	
190	85	105	S1	32	1.7	5.6	40	2.31	6.9	40	0.65	SD01901100S1KO__0041
235	85	125	S2	32	2.0	4.8	40	2.86	8.6	40	0.75	SD02351100S2KO__0041
280	100	105	X1	50	2.0	4.7	40	3.41	10.0	40	0.84	SD02801100X1KO__0041
295	85	140	S3	32	2.1	4.5	40	3.58	11.0	40	0.71	SD02951100S3KO__0041
315	85	150	S4	32	1.0	4.1	60	3.85	12.0	40	0.90	SD03151100S4KO__0041
350	85	160	S5	32	1.1	3.8	60	4.13	12.0	60	0.96	SD03501100S5KO__0041
350	100	125	X2	50	2.4	3.9	40	4.40	13.0	40	1.00	SD03501100X2KO__0041
380	116	105	R1	50	1.0	4.2	60	4.62	14.0	40	1.10	SD03801100R1KO__0041
385	85	185	S6	32	1.3	3.3	60	2.34	7.0	60	1.20	SD03851100S6KO__0041
420	100	140	X3	50	1.2	3.5	60	5.06	15.0	40	1.30	SD04201100X3KO__0041
460	100	150	X4	50	1.2	3.4	60	5.61	17.0	40	1.40	SD04601100X4KO__0041
470	116	125	R2	50	1.2	3.5	60	5.72	17.0	40	1.10	SD04701100R2KO__0041
560	100	185	X6	50	1.7	2.5	60	3.41	10.0	60	1.20	SD05601100X6KO__0041
585	116	140	R3	50	1.3	3.2	60	7.15	21.0	60	1.40	SD05851100R3KO__0041
595	85	225	S7	32	1.7	2.4	60	3.63	11.0	60	1.65	SD05951100S7KO__0041
630	116	150	R4	50	1.3	3.1	60	7.70	23.0	40	1.50	SD06301100R4KO__0041
630	85	275	S9	32	1.1	2.2	80	3.85	12.0	70	1.60	SD06301100S9KO__0041
675	85	295	SA	50	1.2	1.9	80	4.13	12.0	70	1.80	SD06751100SAKO__0041
720	100	225	X7	50	1.1	2.2	80	4.40	13.0	60	2.20	SD07201100X7KO__0041
765	116	185	R6	50	1.7	2.4	60	4.68	14.0	60	2.10	SD07651100R6KO__0041
825	100	255	X8	50	1.2	2.0	80	5.06	15.0	70	2.50	SD08251100X8KO__0041
920	100	275	X9	50	1.2	1.9	80	5.61	17.0	70	2.80	SD09201100X9KO__0041
950	116	225	R7	32	1.2	2.0	80	5.72	17.0	70	2.60	SD09501100R7KO__0041
1170	116	255	R8	50	1.0	1.5	100	7.15	21.0	70	2.80	SD11701100R8KO__0041
1260	116	275	R9	50	1.2	1.3	100	7.70	23.0	70	3.10	SD12601100R9KO__0041

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Standard Capacitor Values

U _N =1300vdc ,U _S =1950V , U _R =200V , U _{T-T} =1950Vdc , U _{T-C} =3125Vac/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	1Khz	(°C/W)	(A)	(kA)	(kA)	(nH)	(Kg)	
160	85	105	S1	32	1.7	5.6	40	2.28	6.8	40	0.65	SD01601300S1K0__0041
200	85	125	S2	32	2.0	4.8	40	2.86	8.6	40	0.75	SD02001300S2K0__0041
235	100	105	X1	50	2.0	4.7	40	3.38	10.0	40	0.84	SD02351300X1K0__0041
250	85	140	S3	32	2.1	4.5	40	3.58	11.0	40	0.71	SD02501300S3K0__0041
270	85	150	S4	32	1.0	4.1	60	3.90	12.0	40	0.90	SD02701300S4K0__0041
300	85	160	S5	32	1.1	3.8	60	4.23	13.0	60	0.96	SD03001300S5K0__0041
300	100	125	X2	50	2.4	3.9	40	4.36	13.0	40	1.00	SD03001300X2K0__0041
315	116	105	R1	50	1.0	4.2	60	4.55	14.0	40	1.10	SD03151300R1K0__0041
325	85	185	S6	32	1.3	3.3	60	2.34	7.0	60	0.90	SD03251300S6K0__0041
350	100	140	X3	50	1.2	3.5	60	5.07	15.0	40	1.20	SD03501300X3K0__0041
380	100	150	X4	50	1.2	3.4	60	5.53	17.0	40	1.30	SD03801300X4K0__0041
395	116	125	R2	50	1.2	3.5	60	5.72	17.0	40	1.40	SD03951300R2K0__0041
395	85	225	S7	32	1.5	2.7	60	2.86	8.6	60	1.10	SD03951300S7K0__0041
470	100	185	X6	50	1.7	2.5	60	3.38	10.0	60	1.40	SD04701300X6K0__0041
470	116	140	R3	32	1.3	3.2	60	6.83	20.0	60	1.65	SD04701300R3K0__0041
495	116	150	R4	50	1.3	3.1	60	7.15	21.0	40	1.60	SD04951300R4K0__0041
495	85	255	S8	32	1.0	2.4	80	3.58	11.0	70	1.20	SD04951300S8K0__0041
540	85	275	S9	50	1.1	2.1	80	3.90	12.0	50	1.50	SD05401300S9K0__0041
585	85	295	SA	32	1.2	1.9	80	4.23	13.0	70	1.90	SD05851300SAK0__0041
600	100	225	X7	50	1.9	2.2	60	4.36	13.0	60	2.20	SD06001300X7K0__0041
615	116	185	R6	50	1.0	2.4	80	4.45	13.0	60	2.10	SD06151300R6K0__0041
700	100	255	X8	50	1.2	2.0	80	5.07	15.0	70	2.50	SD07001300X8K0__0041
765	100	275	X9	50	1.0	1.9	90	5.53	17.0	70	2.80	SD07651300X9K0__0041
785	116	225	R7	50	1.2	2.0	80	5.69	17.0	60	2.60	SD07851300R7K0__0041
945	116	255	R8	50	1.0	1.5	100	6.83	20.0	70	2.80	SD09451300R8K0__0041
1000	116	275	R9	50	1.2	1.3	100	7.15	21.0	70	3.10	SD10001300R9K0__0041

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Standard Capacitor Values

U _N =1500vdc ,U _S =2250V , U _R =200V , U _{T-T} =2250Vdc , U _{T-C} =3500Vac/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	1Khz	(°C/W)	(A)	(kA)	(kA)	(nH)	(Kg)	
85	85	105	S1	32	1.5	5.6	40	1.43	4.3	40	0.65	SD00851500S1K0__0041
120	85	125	S2	32	2.0	4.8	40	1.95	5.9	40	0.75	SD01201500S2K0__0041
125	85	140	S3	32	2.1	4.5	40	2.10	6.3	40	0.71	SD01251500S3K0__0041
130	100	105	X1	50	2.0	4.7	40	2.18	6.5	40	0.84	SD01301500X1K0__0041
150	85	150	S4	32	1.0	4.1	60	2.40	7.2	40	0.90	SD01501500S4K0__0041
160	85	160	S5	32	1.1	3.8	60	2.63	7.9	60	0.96	SD01601500S5K0__0041
170	100	125	X2	50	2.4	3.9	40	2.85	8.6	40	1.00	SD01701500X2K0__0041
170	116	105	R1	50	1.0	4.2	60	2.85	8.6	40	1.10	SD01701500R1K0__0041
200	100	140	X3	50	1.2	3.5	60	3.30	9.9	40	1.20	SD02001500X3K0__0041
220	100	150	X4	50	1.2	3.4	60	3.60	11.0	40	1.30	SD02201500X4K0__0041
240	116	125	R2	50	1.2	3.5	60	3.90	12.0	40	1.40	SD02401500R2K0__0041
250	85	225	S7	32	1.5	2.7	60	2.06	6.2	60	1.10	SD02501500S7K0__0041
250	85	255	S8	32	1.3	3.1	60	2.10	6.3	60	1.53	SD02501500S8K0__0041
260	100	185	X6	50	1.7	2.5	60	2.18	6.5	60	1.40	SD02601500X6K0__0041
285	116	150	R4	50	1.3	3.1	60	4.73	14.0	40	1.60	SD02851500R4K0__0041
290	85	275	S9	32	1.9	2.2	60	2.40	7.2	70	1.50	SD02901500S9K0__0041
315	85	295	SA	32	1.2	1.9	80	2.63	7.9	70	1.90	SD03151500SAK0__0041
350	100	225	X7	50	1.9	2.2	60	2.85	8.6	70	2.20	SD03501500X7K0__0041
360	116	185	R6	50	1.0	2.4	80	3.00	9.0	60	2.10	SD03601500R6K0__0041
400	100	255	X8	50	1.2	2.0	80	3.30	9.9	70	2.50	SD04001500X8K0__0041
430	100	275	X9	50	1.2	1.9	80	3.60	11.0	70	2.80	SD04301500X9K0__0041
560	116	255	R8	50	1.0	1.5	100	4.69	14.0	70	2.80	SD05601500R8K0__0041
630	116	275	R9	50	1.2	1.3	100	5.25	16.0	70	3.10	SD06301500R9K0__0041

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Standard Capacitor Values

U _N =1800vdc ,U _S =2700V , U _R =200V , U _{T-T} =2700Vdc , U _{T-C} =3900Vac/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	1Khz	(°C/W)	(A)	(kA)	(kA)	(nH)	(Kg)	
70	85	105	S1	32	1.7	5.6	40	1.35	4.1	40	0.65	SD00701800S1KO__0041
90	85	125	S2	32	2.0	4.8	40	1.80	5.4	40	0.75	SD00901800S2KO__0041
100	85	140	S3	32	2.1	4.5	40	2.07	6.2	40	0.71	SD01001800S3KO__0041
100	100	105	X1	50	2.0	4.7	40	2.07	6.2	40	0.84	SD01001800X1KO__0041
110	85	150	S4	32	1.0	4.1	60	2.16	6.5	40	0.90	SD01101800S4KO__0041
130	85	160	S5	32	1.1	3.8	60	2.52	7.6	60	0.96	SD01301800S5KO__0041
135	100	125	X2	50	2.4	3.9	40	2.70	8.1	40	1.00	SD01351800X2KO__0041
135	116	105	R1	50	1.0	4.2	60	2.70	8.1	40	1.10	SD01351800R1KO__0041
160	100	140	X3	50	1.2	3.5	60	3.15	9.5	40	1.20	SD01601800X3KO__0041
170	100	150	X4	50	1.2	3.4	60	3.42	10.0	40	1.30	SD01701800X4KO__0041
180	116	125	R2	50	1.2	3.5	60	3.60	11.0	40	1.40	SD01801800R2KO__0041
200	85	225	S7	32	1.5	2.7	60	4.05	12.0	60	1.10	SD02001800S7KO__0041
210	85	255	S8	32	1.0	2.4	80	4.14	12.0	60	1.20	SD02101800S8KO__0041
210	100	185	X6	50	1.7	2.5	60	4.14	12.0	60	1.40	SD02101800X6KO__0041
220	116	140	R3	50	1.3	3.2	60	4.32	13.0	40	1.64	SD02201800R3KO__0041
225	85	275	S9	32	1.9	2.2	60	4.50	14.0	70	1.50	SD02251800S9KO__0041
250	116	150	R4	50	1.3	3.1	60	4.95	15.0	50	1.60	SD02501800R4KO__0041
270	85	295	SA	32	2.2	1.9	60	2.70	8.1	70	1.90	SD02701800SAKO__0041
270	100	225	X7	50	1.1	2.2	80	2.70	8.1	60	2.20	SD02701800X7KO__0041
270	116	185	R6	50	0.6	2.4	100	2.70	8.1	60	2.10	SD02701800R6KO__0041
315	100	255	X8	50	0.8	2.0	100	3.15	9.5	70	2.50	SD03151800X8KO__0041
350	100	275	X9	50	0.8	1.9	100	3.42	10.0	70	2.80	SD03501800X9KO__0041
360	116	255	R8	50	1.0	1.5	100	3.60	11.0	70	2.80	SD03601800R8KO__0041
430	116	275	R9	50	1.2	1.3	100	4.28	13.0	70	3.10	SD04301800R9KO__0041

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Standard Capacitor Values

U _N =2000vdc ,U _S =3000V , U _R =200V , U _{T-T} =3000Vdc , U _{T-C} =4210Vac/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	1Khz	(°C/W)	(A)	(kA)	(kA)	(nH)	(Kg)	
60	85	105	S1	32	1.5	5.6	40	1.30	3.9	40	0.65	SD00602000S1KO__0041
70	85	125	S2	32	2.0	4.8	40	1.60	4.8	40	0.75	SD00702000S2KO__0041
80	85	140	S3	32	2.1	4.5	40	1.80	5.4	40	0.71	SD00802000S3KO__0041
85	100	105	X1	50	2.0	4.7	40	1.90	5.7	40	0.84	SD00852000X1KO__0041
90	85	150	S4	32	1.0	4.1	60	2.00	6.0	40	0.90	SD00902000S4KO__0041
100	85	160	S5	32	1.1	3.8	60	2.20	6.6	60	0.96	SD01002000S5KO__0041
110	100	125	X2	50	2.4	3.9	40	2.40	7.2	40	1.00	SD01102000X2KO__0041
115	116	105	R1	50	1.0	4.2	60	2.50	7.5	40	1.10	SD01152000R1KO__0041
120	85	185	S6	50	1.3	3.3	60	1.30	3.9	60	0.90	SD01202000S6KO__0041
125	100	140	X3	50	1.2	3.5	60	2.80	8.4	40	1.20	SD01252000X3KO__0041
135	116	125	R2	32	1.2	3.5	60	3.00	9.0	40	1.40	SD01352000R2KO__0041
140	100	150	X4	50	1.2	3.4	60	3.10	9.3	60	1.30	SD01402000X4KO__0041
150	85	225	S7	32	1.5	2.7	60	3.20	9.6	60	1.10	SD01502000S7KO__0041
155	116	140	R3	32	1.3	3.2	60	3.50	11.0	40	1.65	SD01552000R3KO__0041
170	100	185	X6	50	1.7	2.5	60	1.90	5.7	60	1.40	SD01702000X6KO__0041
180	85	275	S9	32	1.9	2.2	60	2.00	6.0	40	1.50	SD01802000S9KO__0041
180	116	150	R4	50	1.3	3.1	60	4.00	12.0	60	1.60	SD01802000R4KO__0041
200	85	295	SA	32	2.2	1.9	60	2.25	6.8	70	1.90	SD02002000SAKO__0041
215	100	225	X7	50	1.1	2.2	80	2.40	7.2	70	2.20	SD02152000X7KO__0041
225	116	185	R6	50	1.0	2.4	80	2.50	7.5	60	2.10	SD02252000R6KO__0041
250	100	255	X8	50	1.2	2.0	80	2.80	8.4	70	2.50	SD02502000X8KO__0041
270	116	225	R8	50	1.2	2.0	80	3.00	9.0	70	2.60	SD02702000R8KO__0041
280	100	275	X9	50	1.2	1.9	80	3.10	9.3	70	2.80	SD02802000X9KO__0041
315	116	255	R8	50	1.0	1.5	100	3.50	11.0	70	2.80	SD03152000R8KO__0041
360	116	275	R9	50	1.2	1.3	100	4.00	12.0	70	3.10	SD03602000R9KO__0041

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Standard Capacitor Values

U _N =2200vdc ,U _S =3300V , U _R =200V , U _{T-T} =3300Vdc , U _{T-C} =4530Vac/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	1Khz	(°C/W)	(A)	(kA)	(kA)	(nH)	(Kg)	
45	85	105	S1	32	1.7	5.6	40	1.10	3.3	40	0.65	SD00452200S1K0__0041
60	85	125	S2	32	2.0	4.8	40	1.43	4.3	40	0.75	SD00602200S2K0__0041
65	85	140	S3	32	2.1	4.5	40	1.65	5.0	40	0.71	SD00652200S3K0__0041
65	100	105	X1	50	2.0	4.7	40	1.65	5.0	40	0.84	SD00652200X1K0__0041
75	85	150	S4	32	1.0	4.1	60	1.87	5.6	40	0.90	SD00752200S4K0__0041
85	85	160	R5	32	1.1	3.8	60	2.09	6.3	60	0.96	SD00852200R5K0__0041
90	85	185	R6	50	2.8	3.3	40	2.20	6.6	40	0.90	SD00902200R6K0__0041
90	116	105	R1	50	1.0	4.2	60	2.20	6.6	40	1.10	SD00902200R1K0__0041
90	100	125	X2	50	1.1	3.9	60	2.20	6.6	40	1.00	SD00902200X2K0__0041
105	100	140	X3	50	1.2	3.5	60	2.53	7.6	40	1.20	SD01052200X3K0__0041
110	100	150	X4	50	1.2	3.4	60	2.75	8.3	40	1.30	SD01102200X4K0__0041
115	85	225	S7	32	1.5	2.7	60	1.43	4.3	60	1.10	SD01152200S7K0__0041
115	116	125	R2	50	1.2	3.5	60	2.86	8.6	40	1.40	SD01152200R2K0__0041
135	85	255	S8	32	1.7	2.4	60	1.65	5.0	60	1.20	SD01352200S8K0__0041
135	100	185	X6	50	1.7	2.5	60	1.65	5.0	60	1.40	SD01352200X6K0__0041
135	116	140	R3	50	1.3	3.2	60	3.30	9.9	40	1.65	SD01352200R3K0__0041
145	85	275	S9	32	1.1	2.2	80	1.76	5.3	70	1.50	SD01452200S9K0__0041
150	116	150	R4	50	1.3	3.1	60	3.74	11.0	50	1.60	SD01502200R4K0__0041
170	85	295	SA	32	1.2	1.9	80	2.09	6.3	70	1.90	SD01702200SAK0__0041
180	100	225	X7	50	1.1	2.2	80	2.20	6.6	60	2.20	SD01802200X7K0__0041
180	116	185	R6	50	1.0	2.4	80	2.20	6.6	60	2.10	SD01802200R6K0__0041
205	100	255	X8	50	1.2	2.0	80	2.53	7.6	70	2.50	SD02052200X8K0__0041
225	100	275	X9	50	1.2	1.9	80	2.75	8.3	70	2.80	SD02252200X9K0__0041
235	116	225	R7	50	1.2	2.0	80	2.86	8.6	60	2.60	SD02352200R7K0__0041
270	116	255	R8	50	1.0	1.5	100	3.30	9.9	70	2.80	SD02702200R8K0__0041
280	116	275	R9	50	1.2	1.3	100	3.52	11.0	70	3.10	SD02802200R9K0__0041

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Standard Capacitor Values

$U_N=2400\text{vdc}$, $U_S=3600\text{V}$, $U_R=200\text{V}$, $U_{T-T}=3600\text{Vdc}$, $U_{T-C}=4840\text{Vac}/2\text{ s}$

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										
45	85	105	S1	32	1.7	5.6	40	1.20	3.6	40	0.65	SD00452400S1K0__0041
55	85	125	S2	32	2.0	4.8	40	1.44	4.3	40	0.75	SD00552400S2K0__0041
60	100	105	X1	50	2.0	4.7	40	1.56	4.7	40	0.84	SD00602400X1K0__0041
65	85	140	S3	32	2.1	4.5	40	1.68	5.0	40	0.71	SD00652400S3K0__0041
70	85	150	S4	32	1.0	4.1	60	1.80	5.4	40	0.90	SD00702400S4K0__0041
75	85	160	S5	32	1.1	3.8	60	1.92	5.8	60	0.96	SD00752400S5K0__0041
75	100	125	X2	50	2.4	3.9	40	2.04	6.1	40	1.00	SD00752400X2K0__0041
80	116	105	R1	50	1.0	4.2	60	2.16	6.5	40	1.10	SD00802400R1K0__0041
90	100	140	X3	50	1.2	3.5	60	2.40	7.2	40	1.20	SD00902400X3K0__0041
95	100	150	X4	50	1.2	3.4	60	2.52	7.6	40	1.30	SD00952400X4K0__0041
100	116	125	R2	50	1.2	3.5	60	2.64	7.9	40	1.40	SD01002400R2K0__0041
100	85	185	S6	32	1.3	3.3	60	1.32	4.0	60	0.90	SD01002400S6K0__0041
110	85	225	S7	32	1.5	2.7	60	1.44	4.3	60	1.10	SD01102400S7K0__0041
120	85	255	S8	32	1.7	2.4	60	1.56	4.7	60	1.20	SD01202400S8K0__0041
120	100	185	X6	50	1.7	2.5	60	1.56	4.7	60	1.40	SD01202400X6K0__0041
125	116	140	R3	50	1.3	3.2	60	3.36	10.0	40	1.65	SD01252400R3K0__0041
125	85	275	S9	32	1.1	2.2	80	1.68	5.0	70	1.50	SD01252400S9K0__0041
135	116	150	R4	50	1.3	3.1	60	3.60	11.0	50	1.60	SD01352400R4K0__0041
145	85	295	SA	32	1.2	1.9	80	1.92	5.8	70	1.90	SD01452400SAK0__0041
155	100	225	X7	50	1.1	2.2	80	2.04	6.1	60	2.20	SD01552400X7K0__0041
155	116	185	R6	50	1.0	2.4	80	2.04	6.1	60	2.10	SD01552400R6K0__0041
180	100	255	X8	50	1.2	2.0	80	2.40	7.2	70	2.50	SD01802400X8K0__0041
190	100	275	X9	50	1.2	1.9	80	2.52	7.6	70	2.80	SD01902400X9K0__0041
200	116	225	R7	50	0.9	2.0	90	2.64	7.9	60	2.60	SD02002400R7K0__0041
235	116	255	R8	50	1.0	1.5	100	3.12	9.4	70	2.80	SD02352400R8K0__0041
250	116	275	R9	50	1.2	1.3	100	3.36	10.0	70	3.10	SD02502400R9K0__0041

**MAX. ESR = 2x typical ESR

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Definitions of parameters

Rated d.c. voltage : U_N

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 : $\Delta\Theta_{case}$

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 : $\tan \delta$

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

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

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

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.

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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 capacitors 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.

