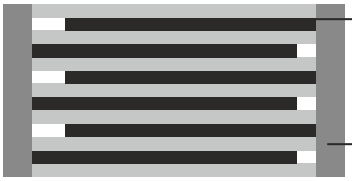
DCL- 14

Highlights

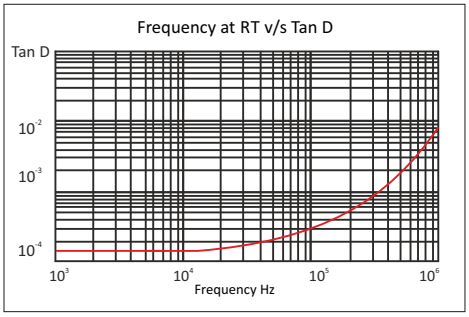
- Self-Inductance is low
- Low ESR
- High thermal conductivity
- Life expectancy as high as 100 Khrs
- Radial terminals
- Flame retardant UL94- V0, ROHS compliant

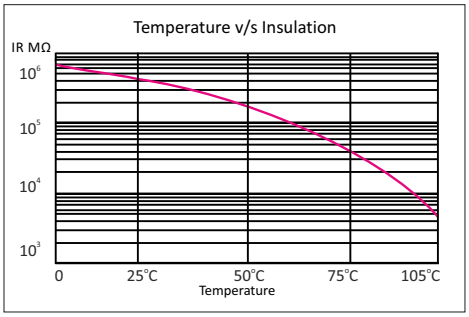
Construction

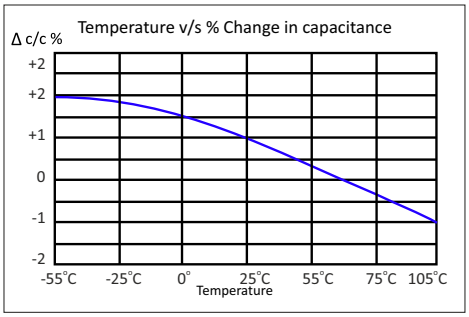


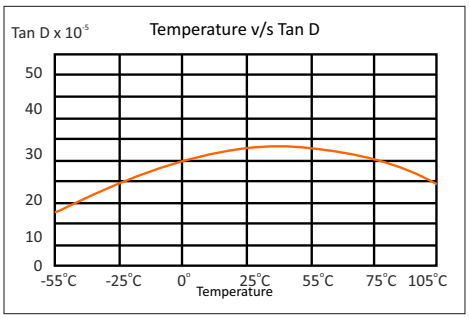
Applications

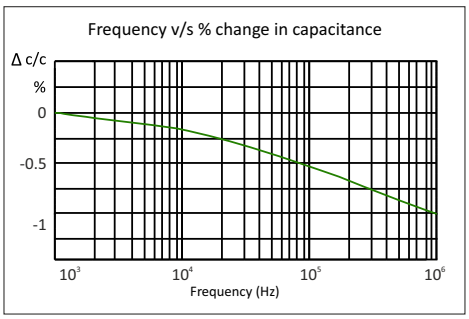
- Renewable energy inverters
- UPS
- Battery chargers
- Motor drives











DCL- 14

Technical Specifications

Physical Characteristics

▪ Electrode material	Metallized polypropylene film
▪ Winding construction	Polypropylene film, metallized polypropylene film
▪ Enclosure	Performed UL 94V-0 plastic case with thermosetting resin fill
▪ Terminals	Tinned copper wire
▪ Encapsulation	UL 94-V0 plastic case with UL 94-V0 resign sealing

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
- Design reference 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)	Ipeak (A)	Rth (°C/mW)	I_{RMS} at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L	Ød				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	0.8	ZC1	27.5	-	90.0	-	40.0	40	0.041	1.5	-	0.011	-	SD000010500ANZC1____K01
	2	9.0	19.0	32.0	0.8	ZC1	27.5	-	45.0	-	40.0	80	0.041	2.0	-	0.011	-	SD000020500ANZC1____K01
	3	9.0	19.0	32.0	0.8	ZC1	27.5	-	30.0	-	40.0	120	0.041	2.5	-	0.011	-	SD000030500ANZC1____K01
	4	11.0	21.0	32.0	0.8	ZC2	27.5	-	23.0	-	40.0	160	0.035	3.5	-	0.011	-	SD000040500ANZC2____K01
	5	11.0	21.0	32.0	0.8	ZC2	27.5	-	18.0	-	40.0	200	0.035	3.5	-	0.011	-	SD000050500ANZC2____K01
	6	15.0	25.0	32.0	0.8	ZA1	27.5	-	15.0	-	40.0	240	0.027	4.5	-	0.011	-	SD000060500ANZA1____K01
	7	15.0	25.0	32.0	0.8	ZA1	27.5	-	13.0	-	40.0	280	0.027	5.0	-	0.011	-	SD000070500ANZA1____K01
	8	15.0	25.0	32.0	0.8	ZA1	27.5	-	12.0	-	40.0	320	0.027	6.0	-	0.011	-	SD000080500ANZA1____K01
	9	18.0	28.0	32.0	0.8	ZA3	27.5	-	11.0	-	40.0	360	0.022	7.0	-	0.011	-	SD000090500ANZA3____K01
	10	18.0	28.0	32.0	0.8	ZA3	27.5	-	10.0	-	40.0	400	0.022	7.0	-	0.011	-	SD000100500ANZA3____K01
	12	18.0	28.0	32.0	0.8	ZA3	27.5	-	8.0	-	40.0	480	0.022	8.0	-	0.011	-	SD000180500ANZA3____K01
	15	21.0	31.0	32.0	0.8	ZA4	27.5	-	7.0	-	40.0	600	0.019	9.0	-	0.011	-	SD000150500ANZA4____K01
	18	20.0	35.0	32.0	0.8	ZA5	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)	Ipeak (A)	Rth (°C/mW)	I_{RMS} at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L	Ød				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins	
500	20	18.5	35.5	43.0	1.0	ZA9	37.5	10.2	9.0	8.0	20.0	400	0.019	8.0	9.0	0.021	0.020	SD000200500ANZA9____K01
	22	21.5	38.5	43.0	1.0	ZB1	37.5	10.2	9.0	7.0	20.0	440	0.016	9.0	10.0	0.021	0.020	SD000220500ANZB1____K01
	25	21.5	38.5	43.0	1.0	ZB1	37.5	10.2	8.0	6.0	20.0	500	0.016	9.0	10.0	0.021	0.020	SD000250500ANZB1____K01
	30	24.0	44.0	42.0	1.0	ZA6	37.5	10.2	7.0	5.0	20.0	600	0.014	11.0	13.0	0.021	0.020	SD000300500ANZA6____K01
	35	24.0	44.0	42.0	1.0	ZA6	37.5	10.2	6.0	4.5	20.0	700	0.014	12.0	14.0	0.021	0.020	SD000350500ANZA6____K01
	40	30.0	45.0	42.0	1.0	ZA7	37.5	10.2/20.3	5.0	4.0	20.0	800	0.012	13.0	15.0	0.021	0.020	SD000400500ANZA7____K01
	45	30.0	45.0	42.0	1.0	ZA7	37.5	10.2/20.3	4.5	3.5	20.0	900	0.012	14.0	16.0	0.021	0.020	SD000450500ANZA7____K01
	50	30.0	45.0	42.0	1.0	ZA7	37.5	10.2/20.3	4.0	3.0	20.0	1000	0.012	15.0	17.0	0.021	0.020	SD000500500ANZA7____K01
	55	30.0	57.0	42.0	1.0	ZA8	37.5	20.3	3.5	3.0	20.0	1100	0.012	16.0	18.0	0.021	0.020	SD000550500ANZA8____K01
	60	30.0	57.0	42.0	1.0	ZA8	37.5	20.3	3.5	3.0	20.0	1200	0.012	16.0	18.0	0.021	0.020	SD000600500ANZA8____K01
	65	30.0	57.0	42.0	1.0	ZA8	37.5	20.3	2.5	2.0	20.0	1300	0.012	18.0	19.0	0.021	0.020	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)	Ipeak (A)	Rth (°C/mW)	I_{RMS} at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L	Ød				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins	
500	50	25.0	45.0	57.5	1.2	ZB2	52.5	10.2	7.0	6.0	10.0	500	0.013	10.0	11.0	0.045	0.04	SD000500500ANZB2____K01
	55	25.0	45.0	57.5	1.2	ZB2	52.5	10.2	7.0	6.0	10.0	550	0.013	11.0	13.0	0.045	0.04	SD000550500ANZB2____K01
	60	30.0	45.0	57.5	1.2	ZB3	52.5	20.3	6.0	5.0	10.0	600	0.012	12.0	14.0	0.045	0.04	SD000600500ANZB3____K01
	65	30.0	45.0	57.5	1.2	ZB3	52.5	20.3	6.0	5.0	10.0	650	0.012	12.0	14.0	0.045	0.04	SD000650500ANZB3____K01
	70	30.0	45.0	57.5	1.2	ZB3	52.5	20.3	6.0	5.0	10.0	700	0.012	13.0	15.0	0.045	0.04	SD000700500ANZB3____K01
	75	35.0	50.0	57.5	1.2	ZB4	52.5	20.3	5.0	4.0	10.0	750	0.010	14.0	16.0	0.045	0.04	SD000750500ANZB4____K01
	80	35.0	50.0	57.5	1.2	ZB4	52.5	20.3	4.5	3.0	10.0	800	0.010	15.0	17.0	0.045	0.04	SD000800500ANZB4____K01
	90	35.0	50.0	57.5	1.2	ZB4	52.5	20.3	4.0	3.0	10.0	900	0.010	16.0	18.0	0.045	0.04	SD000900500ANZB4____K01
	100	35.0	50.0	57.5	1.2	ZB4	52.5	20.3	4.0	3.0	10.0	1000	0.010	17.0	19.0	0.045	0.04	SD001000500ANZB4____K01
	110	45.0	45.0	57.5	1.2	ZB5	52.5	20.3	-	2.5	10.0	1100	0.011	-	19.0	-	0.045	SD001100500ANZB5____K01
	120	45.0	45.0	57.5	1.2	ZB5	52.5	20.3	-	2.5	10.0	1200	0.011	-	19.0	-	0.045	SD001200500ANZB5____K01
	250*	70.0	65.0	57.5	1.2	ZB6	52.5	20.3	-	-	4.0	1000	0.006	-	-	-	-	SD002500500ANZB6**006L**K01
	500**	130.0	65.0	57.5	1.2	ZB7	52.5	20.3	-	-	2.0	1000	0.004	-	-	-	-	SD005000500ANZB7**012L**K01

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

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)	Ipeak (A)	Rth (°C/mW)	I_{RMS} at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L	Ød				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	0.8	ZC1	27.5	-	55	-	50	50	0.041	2.5	-	0.0085	-	SD000010600ANZC1____K01
	2	9	19	32	0.8	ZC1	27.5	-	35	-	50	100	0.041	3	-	0.0085	-	SD000020600ANZC1____K01
	3	11	21	32	0.8	ZC2	27.5	-	23	-	50	150	0.035	4	-	0.0085	-	SD000030600ANZC2____K01
	4	11	21	32	0.8	ZC2	27.5	-	21	-	50	200	0.035	4	-	0.0085	-	SD000040600ANZC2____K01
	5	13	23	32	0.8	ZA2	27.5	-	17	-	50	250	0.031	5	-	0.0085	-	SD000050600ANZA2____K01
	6	15	25	32	0.8	ZA1	27.5	-	14	-	50	300	0.027	6	-	0.0085	-	SD000060600ANZA1____K01
	7	15	25	32	0.8	ZA1	27.5	-	12	-	50	350	0.027	6	-	0.0085	-	SD000070600ANZA1____K01
	8	18	28	32	0.8	ZA3	27.5	-	9	-	50	400	0.022	8	-	0.0085	-	SD000080600ANZA3____K01
	9	18	28	32	0.8	ZA3	27.5	-	9	-	50	450	0.022	8	-	0.0085	-	SD000090600ANZA3____K01
	10	18	28	32	0.8	ZA3	27.5	-	8	-	50	500	0.022	9	-	0.0085	-	SD000100600ANZA3____K01
	12	21	31	32	0.8	ZA4	27.5	-	7	-	50	600	0.019	10	-	0.0085	-	SD000120600ANZA4____K01
	15	20	35	32	0.8	ZA5	27.5	-	6	-	50	750	0.017	10	-	0.0085	-	SD000150600ANZA5____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)	Ipeak (A)	Rth (°C/mW)	I_{RMS} at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L	Ød				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins	
600	10	18.5	35.5	43	1.0	ZA9	37.5	10.2	14	12	25	250	0.019	7	8	0.016	0.014	SD000100600ANZA9____K01
	12	18.5	35.5	43	1.0	ZA9	37.5	10.2	12	10	25	300	0.019	8	8.5	0.016	0.014	SD000120600ANZA9____K01
	15	18.5	35.5	43	1.0	ZA9	37.5	10.2	9	8	25	375	0.019	9	9.5	0.016	0.014	SD000150600ANZA9____K01
	20	21.5	38.5	43	1.0	ZB1	37.5	10.2	7	6	25	500	0.016	11	12	0.016	0.014	SD000200600ANZB1____K01
	22	21.5	38.5	43	1.0	ZB1	37.5	10.2	8	7	25	550	0.016	10	11.5	0.016	0.014	SD000220600ANZB1____K01
	25	21.5	38.5	43	1.0	ZB1	37.5	10.2	7	6	25	625	0.016	11	12	0.016	0.014	SD000250600ANZB1____K01
	30	24	44	42	1.0	ZA6	37.5	10.2	6	5	25	750	0.014	13	13.5	0.016	0.014	SD000300600ANZA6____K01
	35	30	45	42	1.0	ZA7	37.5	10.2/20.3	4	3.5	25	875	0.012	17	18	0.016	0.014	SD000350600ANZA7____K01
	40	30	45	42	1.0	ZA7	37.5	10.2/20.3	4	3.5	25	1000	0.012	17	18	0.016	0.014	SD000400600ANZA7____K01
	45	30	45	42	1.0	ZA7	37.5	10.2/20.3	4	3.5	25	1125	0.012	17	18	0.016	0.014	SD000450600ANZA7____K01
	50	30	57	42	1.0	ZA8	37.5	20.3	3	2.5	25	1250	0.012	18	19	0.016	0.014	SD000500600ANZA8____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)	Ipeak (A)	Rth (°C/mW)	I_{RMS} at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L	Ød				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins	
600	40	25.0	45.0	57.5	1.2	ZB2	52.5	10.2	7.0	6.0	14.0	560	0.013	12.5	13.5	0.035	0.03	SD000400600ANZB2____K01
	45	25.0	45.0	57.5	1.2	ZB2	52.5	10.2	7.0	6.0	14.0	630	0.013	12.0	13.0	0.035	0.03	SD000450600ANZB2____K01
	50	30.0	45.0	57.5	1.2	ZB3	52.5	20.3	6.0	5.0	14.0	700	0.012	14.0	15.5	0.035	0.03	SD000500600ANZB3____K01
	55	30.0	45.0	57.5	1.2	ZB3	52.5	20.3	6.0	5.0	14.0	770	0.012	14.0	15.5	0.035	0.03	SD000550600ANZB3____K01
	60	30.0	45.0	57.5	1.2	ZB3	52.5	20.3	5.0	4.0	14.0	840	0.012	15.0	17.0	0.035	0.03	SD000600600ANZB3____K01
	65	35.0	50.0	57.5	1.2	ZB4	52.5	20.3	4.0	3.5	14.0	910	0.010	18.0	20.0	0.035	0.03	SD000650600ANZB4____K01
	70	35.0	50.0	57.5	1.2	ZB4	52.5	20.3	4.5	4.0	14.0	980	0.010	18.0	19.0	0.035	0.03	SD000700600ANZB4____K01
	75	35.0	50.0	57.5	1.2	ZB4	52.5	20.3	4.0	3.5	14.0	1050	0.010	18.0	20.0	0.035	0.03	SD000750600ANZB4____K01
	80	35.0	50.0	57.5	1.2	ZB4	52.5	20.3	4.0	3.5	14.0	1120	0.010	18.0	20.0	0.035	0.03	SD000800600ANZB4____K01
	90	45.0	45.0	57.5	1.2	ZB5	52.5	20.3	-	3.0	14.0	1260	0.011	-	21.0	-	0.03	SD000900600ANZB5____K01
	100	45.0	45.0	57.5	1.2	ZB5	52.5	20.3	-	2.5	14.0	1400	0.011	-	23.0	-	0.03	SD001000600ANZB5____K01
	200*	70.0	65.0	57.5	1.2	ZB6	52.5	20.3	-	-	5.0	1000	0.006	-	-	-	-	SD002000600ANZB6**006L**K01
	400**	130.0	65.0	57.5	1.2	ZB7	52.5	20.3	-	-	2.5	1000	0.004	-	-	-	-	SD004000600ANZB7**012L**K01

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

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)	Ipeak (A)	Rth (°C/mW)	I_{RMS} at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L	Ød				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	0.8	ZC1	27.5	-	55	-	60	60	0.041	2.5	-	0.007	-	SD000010800ANZC1____K01
	2	9	19	32	0.8	ZC1	27.5	-	35	-	60	12	0.041	3	-	0.007	-	SD000020800ANZC1____K01
	3	11	21	32	0.8	ZC2	27.5	-	23	-	60	180	0.035	4	-	0.007	-	SD000030800ANZC2____K01
	4	13	23	32	0.8	ZA2	27.5	-	17	-	60	240	0.031	5	-	0.007	-	SD000040800ANZA2____K01
	5	15	25	32	0.8	ZA1	27.5	-	14	-	60	300	0.027	6	-	0.007	-	SD000050800ANZA1____K01
	6	18	28	32	0.8	ZA3	27.5	-	12	-	60	360	0.022	7	-	0.007	-	SD000060800ANZA3____K01
	7	18	28	32	0.8	ZA3	27.5	-	10	-	60	420	0.022	8	-	0.007	-	SD000070800ANZA3____K01
	8	18	28	32	0.8	ZA3	27.5	-	9	-	60	480	0.022	8	-	0.007	-	SD000080800ANZA3____K01
	9	21	31	32	0.8	ZA4	27.5	-	7.5	-	60	540	0.019	10	-	0.007	-	SD000090800ANZA4____K01
	10	21	31	32	0.8	ZA4	27.5	-	7	-	60	600	0.019	10	-	0.007	-	SD000100800ANZA4____K01
	12	20	35	32	0.8	ZA5	27.5	-	6	-	60	720	0.017	11	-	0.007	-	SD000120800ANZA5____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)	Ipeak (A)	Rth (°C/mW)	I_{RMS} at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L	Ød				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins	
800	10	18.5	35.5	43	1.0	ZA9	37.5	10.2	14	12	35	350	0.019	7	8	0.014	0.012	SD000100800ANZA9____K01
	12	18.5	35.5	43	1.0	ZA9	37.5	10.2	12	10	35	420	0.019	8	8	0.014	0.012	SD000120800ANZA9____K01
	15	18.5	35.5	43	1.0	ZA9	37.5	10.2	9	8	35	525	0.019	9	9.5	0.014	0.012	SD000150800ANZA9____K01
	20	21.5	38.5	43	1.0	ZB1	37.5	10.2	7	6	35	700	0.016	11	12	0.014	0.012	SD000200800ANZB1____K01
	22	24	44	42	1.0	ZA6	37.5	10.2	6	5	35	770	0.014	13	14	0.014	0.012	SD000220800ANZA6____K01
	25	24	44	42	1.0	ZA6	37.5	10.2	6	5	35	875	0.014	13	14	0.014	0.012	SD000250800ANZA6____K01
	30	30	45	42	1.0	ZA7	37.5	10.2 / 20.3	5	4	35	1050	0.012	15.5	17	0.014	0.012	SD000300800ANZA7____K01
	35	30	45	42	1.0	ZA7	37.5	10.2 / 20.3	4	3.5	35	1225	0.012	17	18	0.014	0.012	SD000350800ANZA7____K01
	40	30	57	42	1.0	ZA8	37.5	20.3	3	2.5	35	1400	0.012	18	19	0.014	0.012	SD000400800ANZA8____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)	Ipeak (A)	Rth (°C/mW)	I_{RMS} at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L	Ød				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins	
800	30	25	45	57.5	1.2	ZB2	52.5	10.2	9	8	18	540	0.013	11	12	0.028	0.024	SD000300800ANZB2____K01
	35	25	45	57.5	1.2	ZB2	52.5	10.2	8	7	18	630	0.013	12	12.5	0.028	0.024	SD000350800ANZB2____K01
	40	25	45	57.5	1.2	ZB2	52.5	10.2	7	6	18	720	0.013	12.5	13.5	0.028	0.024	SD000400800ANZB2____K01
	45	30	45	57.5	1.2	ZB3	52.5	20.3	6	5	18	810	0.012	14	15	0.028	0.024	SD000450800ANZB3____K01
	50	30	45	57.5	1.2	ZB3	52.5	20.3	6	5	18	900	0.012	14	15.5	0.028	0.024	SD000500800ANZB3____K01
	55	35	50	57.5	1.2	ZB4	52.5	20.3	5	4	18	990	0.01	17	18	0.028	0.024	SD000550800ANZB4____K01
	60	35	50	57.5	1.2	ZB4	52.5	20.3	5	4	18	1080	0.01	17	19	0.028	0.024	SD000600800ANZB4____K01
	65	35	50	57.5	1.2	ZB4	52.5	20.3	4	3.5	18	1170	0.01	19	20	0.028	0.024	SD000650800ANZB4____K01
	70	45	45	57.5	1.2	ZB5	52.5	20.3	-	3.5	18	1260	0.011	-	19.5	-	0.024	SD000700800ANZB5____K01
	75	45	45	57.5	1.2	ZB5	52.5	20.3	-	3.5	18	1350	0.011	-	19.5	-	0.024	SD000750800ANZB5____K01
	80	45	45	57.5	1.2	ZB5	52.5	20.3	-	3	18	1440	0.011	-	21	-	0.024	SD000800800ANZB5____K01
	160*	70	65	57.5	1.2	ZB6	52.5	20.3	-	-	8	1280	0.006	-	-	-	-	SD001600800ANZB6**006L**K01
	320**	130	65	57.5	1.2	ZB7	52.5	20.3	-	-	4	1280	0.004	-	-	-	-	SD003200800ANZB7**012L**K01

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

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)	Ipeak (A)	Rth (°C/mW)	I_{RMS} at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L	Ød				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	0.8	ZC1	27.5	-	65	-	65	65	0.041	2	-	0.006	-	SD000010900ANZC1____K01
	2	11	21	32	0.8	ZC2	27.5	-	30	-	65	130	0.035	3	-	0.006	-	SD000020900ANZC2____K01
	3	13	23	32	0.8	ZA2	27.5	-	20	-	65	195	0.031	4	-	0.006	-	SD000030900ANZA2____K01
	4	15	25	32	0.8	ZA1	27.5	-	16	-	65	260	0.027	5	-	0.006	-	SD000040900ANZA1____K01
	5	18	28	32	0.8	ZA3	27.5	-	13	-	65	325	0.022	7	-	0.006	-	SD000050900ANZA3____K01
	6	18	28	32	0.8	ZA3	27.5	-	11	-	65	390	0.022	7	-	0.006	-	SD000060900ANZA3____K01
	7	21	31	32	0.8	ZA4	27.5	-	9	-	65	455	0.019	9	-	0.006	-	SD000070900ANZA4____K01
	8	21	31	32	0.8	ZA4	27.5	-	8	-	65	520	0.019	9	-	0.006	-	SD000080900ANZA4____K01
	9	20	35	32	0.8	ZA5	27.5	-	7	-	65	585	0.017	9	-	0.006	-	SD000090900ANZA5____K01
	10	20	35	32	0.8	ZA5	27.5	-	7	-	65	650	0.017	9	-	0.006	-	SD000100900ANZA5____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)	Ipeak (A)	Rth (°C/mW)	I_{RMS} at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L	Ød				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins	
900	9	18.5	35.5	43	1.0	ZA9	37.5	10.2	14	12	35	315	0.019	7.5	8	0.012	0.011	SD000090900ANZA9____K01
	10	18.5	35.5	43	1.0	ZA9	37.5	10.2	13	11	35	350	0.019	7.5	8	0.012	0.011	SD000100900ANZA9____K01
	12	18.5	35.5	43	1.0	ZA9	37.5	10.2	11	9	35	420	0.019	8	9	0.012	0.011	SD000120900ANZA9____K01
	15	21.5	38.5	43	1.0	ZB1	37.5	10.2	9	8	35	525	0.016	10	10.5	0.012	0.011	SD000150900ANZB1____K01
	20	24	44	42	1.0	ZA6	37.5	10.2	6	5	35	700	0.014	13	14	0.012	0.011	SD000200900ANZA6____K01
	22	30	45	42	1.0	ZA7	37.5	10.2 / 20.3	6	5	35	770	0.012	14	15	0.012	0.011	SD000220900ANZA7____K01
	25	30	45	42	1.0	ZA7	37.5	10.2 / 20.3	5	4.5	35	875	0.012	15	16	0.012	0.011	SD000250900ANZA7____K01
	30	30	57	42	1.0	ZA8	37.5	20.3	4.5	4	35	1050	0.012	16.5	17.5	0.012	0.011	SD000300900ANZA8____K01
	35	30	57	42	1.0	ZA8	37.5	20.3	3.5	3	35	1225	0.012	18	19	0.012	0.011	SD000350900ANZA8____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)	Ipeak (A)	Rth (°C/mW)	I_{RMS} at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L	Ød				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins	
900	30	25	45	57.5	1.2	ZB2	52.5	10.2	8	7	18	540	0.013	12	12.5	0.024	0.022	SD000300900ANZB2____K01
	35	30	45	57.5	1.2	ZB3	52.5	20.3	7	6	18	630	0.012	13	14	0.024	0.022	SD000350900ANZB3____K01
	40	30	45	57.5	1.2	ZB3	52.5	20.3	6	5	18	720	0.012	14	15	0.024	0.022	SD000400900ANZB3____K01
	45	35	50	57.5	1.2	ZB4	52.5	20.3	6	5	18	810	0.01	15.5	17	0.024	0.022	SD000450900ANZB4____K01
	50	35	50	57.5	1.2	ZB4	52.5	20.3	5	4.5	18	900	0.01	17	18	0.024	0.022	SD000500900ANZB4____K01
	55	45	45	57.5	1.2	ZB5	52.5	20.3	-	4	18	990	0.011	-	18	-	0.022	SD000550900ANZB5____K01
	60	45	45	57.5	1.2	ZB5	52.5	20.3	-	3.5	18	1080	0.011	-	19.5	-	0.022	SD000600900ANZB5____K01
	120*	70	65	57.5	1.2	ZB6	52.5	20.3	-	-	13	1560	0.006	-	-	-	-	SD001200900ANZB6**006L**K01
	240**	130	65	57.5	1.2	ZB7	52.5	20.3	-	-	6	1440	0.004	-	-	-	-	SD002400900ANZB7**012L**K01

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

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)	Ipeak (A)	Rth (°C/mW)	I_{RMS} at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L	Ød				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	0.8	ZC1	27.5	-	65	-	70	70	0.041	2	-	0.005	-	SD000011000ANZC1____K01
	2	13	23	32	0.8	ZA2	27.5	-	30	-	70	140	0.031	3.5	-	0.005	-	SD000021000ANZA2____K01
	3	15	25	32	0.8	ZA1	27.5	-	21	-	70	210	0.027	5	-	0.005	-	SD000031000ANZA1____K01
	4	18	28	32	0.8	ZA3	27.5	-	16	-	70	280	0.022	6	-	0.005	-	SD000041000ANZA3____K01
	5	21	31	32	0.8	ZA4	27.5	-	13	-	70	350	0.019	7	-	0.005	-	SD000051000ANZA4____K01
	6	21	31	32	0.8	ZA4	27.5	-	10	-	70	420	0.019	8	-	0.005	-	SD000061000ANZA4____K01
	7	20	35	32	0.8	ZA5	27.5	-	9	-	70	490	0.017	9	-	0.005	-	SD000071000ANZA5____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)	Ipeak (A)	Rth (°C/mW)	I_{RMS} at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L	Ød				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins	
1000	5	18.5	35.5	43	1.0	ZA9	37.5	10.2	21	19	35	175	0.019	6	6	0.01	0.009	SD000051000ANZA9____K01
	6	18.5	35.5	43	1.0	ZA9	37.5	10.2	18	16	35	210	0.019	6	7	0.01	0.009	SD000061000ANZA9____K01
	7	18.5	35.5	43	1.0	ZA9	37.5	10.2	18	16	35	245	0.019	6	7	0.01	0.009	SD000071000ANZA9____K01
	8	18.5	35.5	43	1.0	ZA9	37.5	10.2	16	14	35	280	0.019	7	7.5	0.01	0.009	SD000081000ANZA9____K01
	9	18.5	35.5	43	1.0	ZA9	37.5	10.2	14	12	35	315	0.019	7	8	0.01	0.009	SD000091000ANZA9____K01
	10	21.5	38.5	43	1.0	ZB1	37.5	10.2	12	11	35	350	0.016	8	9	0.01	0.009	SD000101000ANZB1____K01
	12	21.5	38.5	43	1.0	ZB1	37.5	10.2	10	9	35	420	0.016	9	10	0.01	0.009	SD000121000ANZB1____K01
	15	24	44	42	1.0	ZA6	37.5	10.2	8	7	35	525	0.014	11	12	0.01	0.009	SD000151000ANZA6____K01
	20	30	45	42	1.0	ZA7	37.5	10.2 / 20.3	6	5	35	700	0.012	14	15	0.01	0.009	SD000201000ANZA7____K01
	22	30	57	42	1.0	ZA8	37.5	20.3	6	5	35	770	0.012	14	15	0.01	0.009	SD000221000ANZA8____K01
	25	30	57	42	1.0	ZA8	37.5	20.3	4	3.5	35	875	0.012	16	17	0.01	0.009	SD000251000ANZA8____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)	Ipeak (A)	Rth (°C/mW)	I_{RMS} at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L	Ød				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins	
1000	15	25	45	57.5	1.2	ZB2	52.5	10.2	14	12	18	270	0.013	9	9.5	0.021	0.019	SD000151000ANZB2____K01
	20	25	45	57.5	1.2	ZB2	52.5	10.2	12	11	18	360	0.013	9	10	0.021	0.019	SD000201000ANZB2____K01
	22	25	45	57.5	1.2	ZB2	52.5	10.2	11	10	18	396	0.013	10	10.5	0.021	0.019	SD000221000ANZB2____K01
	25	30	45	57.5	1.2	ZB3	52.5	20.3	10	9	18	450	0.012	11	11.5	0.021	0.019	SD000251000ANZB3____K01
	30	30	45	57.5	1.2	ZB3	52.5	20.3	8	7	18	540	0.012	12	13	0.021	0.019	SD000301000ANZB3____K01
	35	35	50	57.5	1.2	ZB4	52.5	20.3	7	6	18	630	0.01	14	15	0.021	0.019	SD000351000ANZB4____K01
	40	35	50	57.5	1.2	ZB4	52.5	20.3	6	5	18	720	0.01	15	17	0.021	0.019	SD000401000ANZB4____K01
	45	45	45	57.5	1.2	ZB5	52.5	20.3	-	5	18	810	0.011	-	16.5	-	0.019	SD000451000ANZB5____K01
	50	45	45	57.5	1.2	ZB5	52.5	20.3	-	4	18	900	0.011	-	18	-	0.019	SD000501000ANZB5____K01
	100*	70	65	57.5	1.2	ZB6	52.5	20.3	-	-	15	1500	0.006	-	-	-	-	SD001001000ANZB6**006L**K01
	200**	130	65	57.5	1.2	ZB7	52.5	20.3	-	-	7	1400	0.004	-	-	-	-	SD002001000ANZB7**012L**K01

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

DCL- 14

Standard Capacitor Values

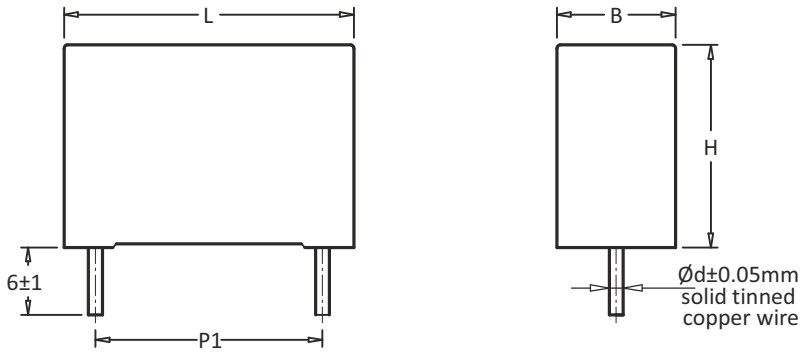
V_{NDC}	CAP (µF)	Dimension (mm)				Case Code	P1 (mm)	P2 (mm)	Typical ESR@ 10 KHz to 100 KHz (mΩ)		dV/dt (V/µs)	Ipeak (A)	Rth (°C/mW)	I_{RMS} at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L	Ød				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins	
V_{OPDC} AT 70 °C = 1440 V, V_{OPDC} AT 105 °C = 850 V																		
1200	1	11	21	32	0.8	ZC2	27.5	-	45	-	85	85	0.035	3	-	0.0045	-	SD000011200ANZC2____K01
	2	15	25	32	0.8	ZA1	27.5	-	23	-	85	170	0.027	4	-	0.0045	-	SD000021200ANZA1____K01
	3	18	28	32	0.8	ZA3	27.5	-	15	-	85	255	0.022	6	-	0.0045	-	SD000031200ANZA3____K01
	4	21	31	32	0.8	ZA4	27.5	-	12	-	85	340	0.019	8	-	0.0045	-	SD000041200ANZA4____K01
	5	20	35	32	0.8	ZA5	27.5	-	10	-	85	425	0.017	8	-	0.0045	-	SD000051200ANZA5____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)	Ipeak (A)	Rth (°C/mW)	I_{RMS} at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L	Ød				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins	
1200	5	18.5	35.5	43	1.0	ZA9	37.5	10.2	18	16	40	200	0.019	6	7	0.009	0.008	SD000051200ANZA9____K01
	6	18.5	35.5	43	1.0	ZA9	37.5	10.2	15	14	40	240	0.019	7	7.5	0.009	0.008	SD000061200ANZA9____K01
	7	21.5	38.5	43	1.0	ZB1	37.5	10.2	13	12	40	280	0.016	8	8.5	0.009	0.008	SD000071200ANZB1____K01
	8	21.5	38.5	43	1.0	ZB1	37.5	10.2	11	10	40	320	0.016	9	9.5	0.009	0.008	SD000081200ANZB1____K01
	9	24	44	42	1.0	ZA6	37.5	10.2	10	9	40	360	0.014	10	10.5	0.009	0.008	SD000091200ANZA6____K01
	10	24	44	42	1.0	ZA6	37.5	10.2	9	8	40	400	0.014	10	11	0.009	0.008	SD000101200ANZA6____K01
	12	30	45	42	1.0	ZA7	37.5	10.2 / 20.3	8	7	40	480	0.012	12	13	0.009	0.008	SD000121200ANZA7____K01
	15	30	57	42	1.0	ZA8	37.5	20.3	6	5	40	600	0.012	14	14	0.009	0.008	SD000151200ANZA8____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)	Ipeak (A)	Rth (°C/mW)	I_{RMS} at 10 KHz, 85°C (A)		tanδ 10KHz		Ordering Code
		B	H	L	Ød				2 Pins	4 Pins				2 Pins	4 Pins	2 Pins	4 Pins	
1200	10	25	45	57.5	1.2	ZB2	52.5	10.2	18	16	20	200	0.013	8	8	0.018	0.016	SD000101200ANZB2____K01
	12	25	45	57.5	1.2	ZB2	52.5	10.2	15	13	20	240	0.013	8	9	0.018	0.016	SD000121200ANZB2____K01
	15	25	45	57.5	1.2	ZB2	52.5	10.2	12	11	20	300	0.013	9	10	0.018	0.016	SD000151200ANZB2____K01
	20	30	45	57.5	1.2	ZB3	52.5	20.3	9	8	20	400	0.012	11	12	0.018	0.016	SD000201200ANZB3____K01
	22	35	50	57.5	1.2	ZB4	52.5	20.3	8	7	20	440	0.01	13	14	0.018	0.016	SD000221200ANZB4____K01
	25	35	50	57.5	1.2	ZB4	52.5	20.3	7	6	20	500	0.01	14	15	0.018	0.016	SD000251200ANZB4____K01
	30	45	45	57.5	1.2	ZB5	52.5	20.3	-	5	20	600	0.011	-	16	-	0.016	SD000301200ANZB5____K01
	60	70	65	57.5	1.2	ZB6	52.5	20.3	-	-	20	1200	0.006	-	-	-	-	SD000601200ANZB6**006L**K01
	65*	70	65	57.5	1.2	ZB6	52.5	20.3	-	-	18	1170	0.006	-	-	-	-	SD000651200ANZB6**006L**K01
	140**	130	65	57.5	1.2	ZB7	52.5	20.3	-	-	10	1400	0.004	-	-	-	-	SD001401200ANZB7**012L**K01

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

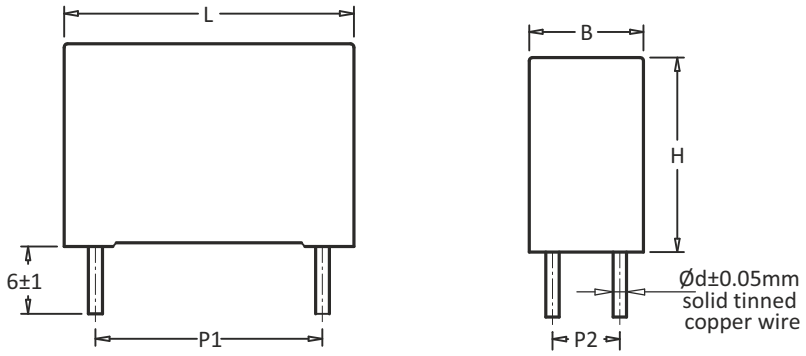
DCL- 14

Capacitor Drawing And Terminal Style

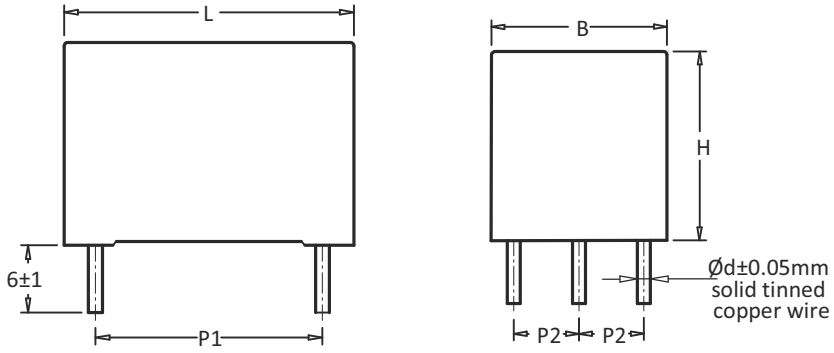
2L



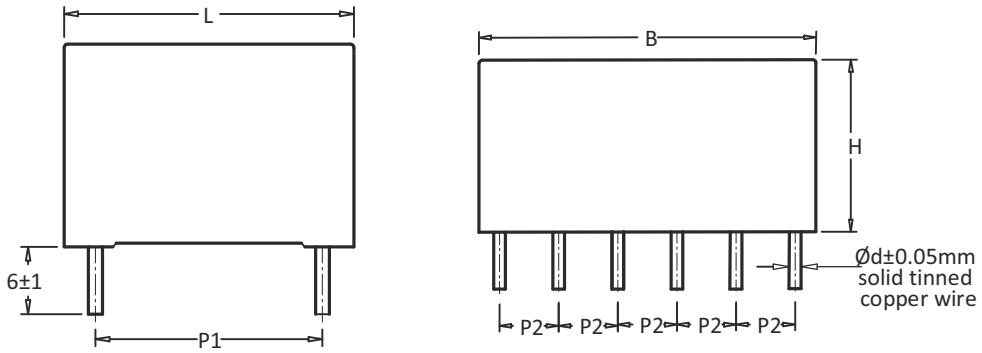
4L



6L



12L



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 ΔT = P x Rth
ΔT = Tcase - Tambient = case temperature rise (°C) with a maximum of 15 °C at rated temperature.

Where,

P is power dissipation of the component (mW)

Rth is thermal conductivity (°C/mW)

Method to measure the component temperature

The case temperature is measured in unloaded condition (Tamb) and loaded condition (Tc). 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 X 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

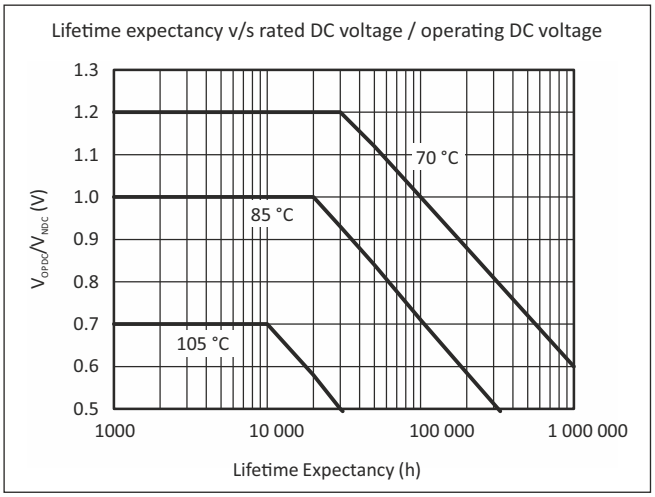
Repetitive surge voltage	Maximum duration per day
1.1 x V_{NDC}	30 % of on load duration
1.15 x V_{NDC}	30 min
1.2 x V_{NDC}	5 min
1.3 x V_{NDC}	1 min
1.5 x V_{NDC}	110 ms

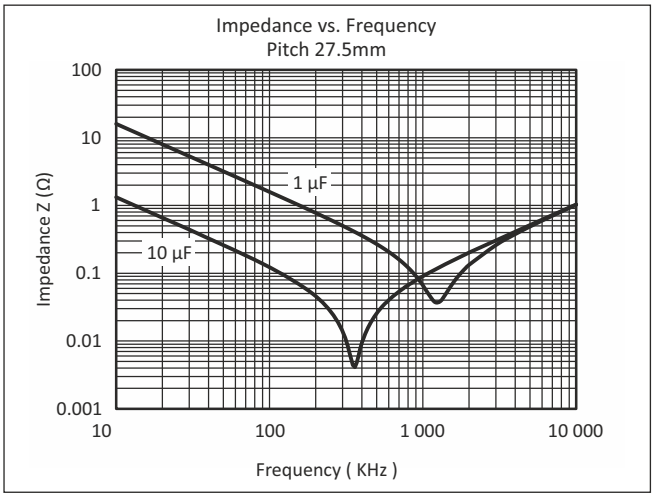
Abbreviation Used

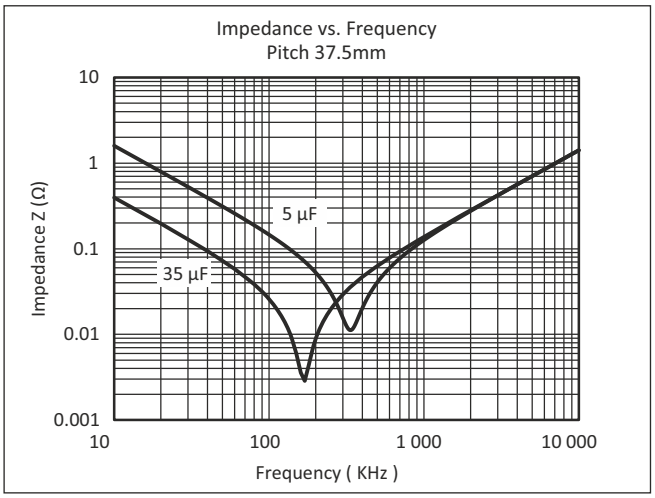
1. V_{NDC} : Rated DC voltage
2. V_{OPDC} : Operating DC voltage
3. ESR : Equivalent series resistance
4. I_{peak} : Maximum peak current
5. I_{RMS} (max) : Maximum allowable current at 85^{O}C specified in standard capacitor value table
6. I_{RMS} (operational) : Operational RMS (Root Mean Square) current.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

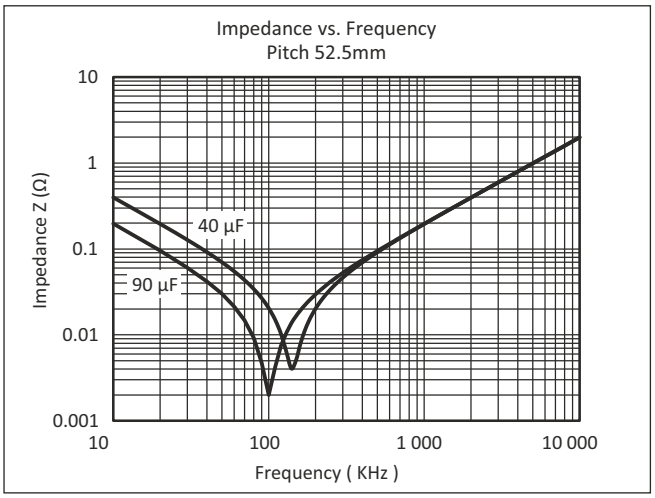
DCL- 14

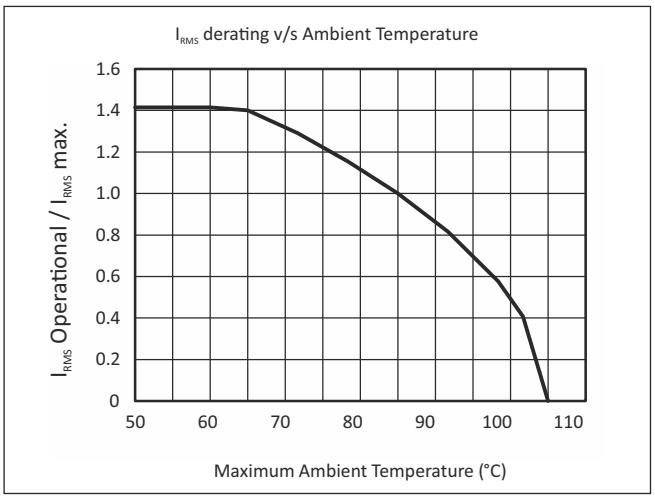
Dearating Graphs





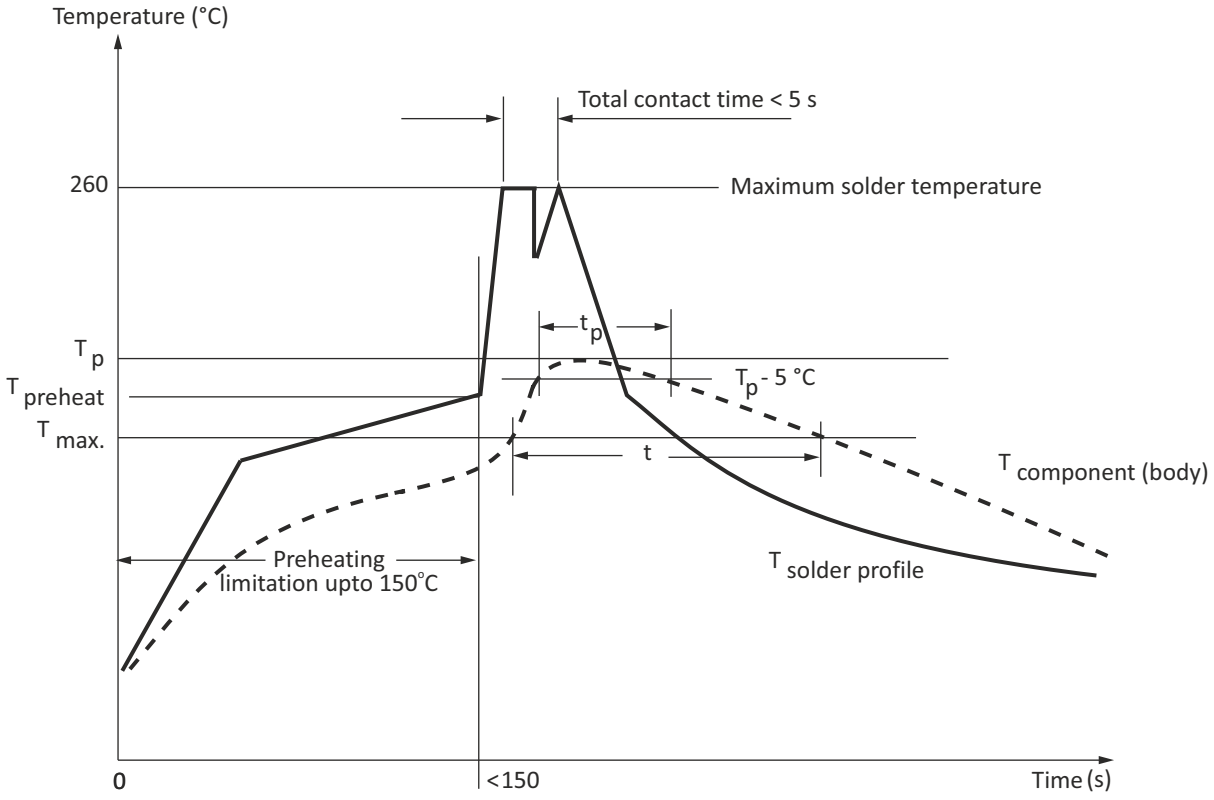






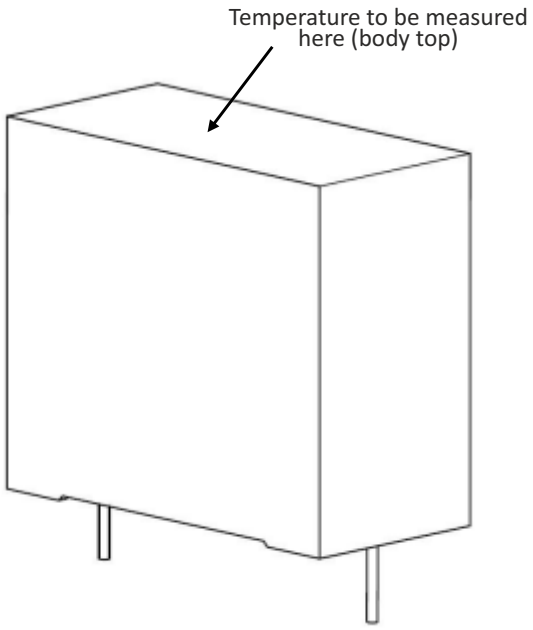
Soldering Guidelines

Recommended wave soldering profile



T_p: Peak temperature of the component body (top)

$T_{max.}$: Maximum application temperature of the component



Soldering Guidelines

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 δ, 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

1. 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.
2. Small amount of flux should be applied to the component lead terminals and the pad layout.
3. 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.
4. 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.
5. Don't touch the soldering iron to the component being worked on or any adjacent component.

Part Number System

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	**2**	**3 to 7**					**8 to 11**				**12-13**		**14-16**			**17-20**				**21**	**22-23**	

1 **Standard / Non-standard**

S - Standard

N - Non-standard

2 **Series**

A - Aluminium Electrolytic Capacitors

I - IGBT Snubber Capacitors

D - DC-Link Capacitors

P - Power Film Capacitors

3 to 7 **Capacitance Rating**

example : 04U70 - 4.7MFD
00118 - 118 MFD
00030 - 30 MFD
01080 - 1080 MFD
02350 - 2350 MFD

8to11 **Voltage Rating**

example : 0700 - 700 VDC/VRMS
1600 - 1600 VDC/VRMS
1000 - 1000 VDC/VRMS
0900 - 900 VDC/VRMS

12-13 **Grade**

example : AP - DCL- 50
AR - DCL- 41
AQ - DCL- 23
AO - DCL- 6
DC - DCL - 14

14-16 **Case code**

(Refer Standard Capacitor Values Table)

17-20 **Terminal Style**

(Refer Capacitor Drawing and Terminal Styles Page)

21 **Tolerance**

K : ± 10%
J : ± 5%
M : ± 20%

22-23 **By Default**

- 01

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.

Notes