DCN Super Capacitors

APPLICATIONS

- Battery backup
- Battery alternative
- Audio systems
- Pulse power
- DC-DC converters
- Mechanical actuators
- Energy Harvesting
- LED Displays

FEATURES

- High Capacitance
- Long Life
- Low ESR
- Very fast charge/discharge cycling
- Circuit board mountable
- High power density
- RoHS compliant
- Compact size
- IEC 62391 compliant

SPECIFICATIONS

Operating Temperature Range		-40°C to +60°C				
Storage Temperature		-40°C to +70°C				
Capacitance Tolerance @ 20°C		+30%/-10% (Q tolerance) +20%/-20% (M tolerance) +10%/-10% (K tolerance) +20%/-10% (X tolerance)				
Surge voltage	**WVDC**	**2.7**	**5.4**	**5.5**		
	SVDC	**2.8**	**5.7**	**5.7**		
Maximum Current		See standard part listing			1 second discharge to ½ WVDC	
Operating Current					5 second discharge to ½ WVDC	
Leakage Current		See standard part listing			72 hours,25°C	
Life time **(25°C)**		**1000 hours with rated voltage applied at 60°C**				
		Capacitance change			<30% of initially measured values	
		ESR			<400% of initially specified values	
		Leakage current			< specified maximum value	
Shelf Life		**500 hours with no voltage applied at 60°C**				
		Capacitance change			<30% of initially measured values	
		ESR			<400% of initially specified values	
Life cycles (25°C) 1 cycle= Charge to WVDC for 20s, constant voltage charging for 10s, discharge to ½ WVDC for 20s, rest for 10 s		**500,000 cycles**				
		Capacitance change			<30% of initially measured values	
		ESR change			<400% of initially specified values	

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Standard Part Listing

Cap (F)	VDC	IC PART NUMBER	Max current (A)	ESR AC (mΩ, 1kHz)	ESR DC (mΩ)	Max stored energy (Wh)	LC (mA) 72Hrs, 25°C	Energy Density (Wh/kg)	Energy Volumetric Density (Wh/l)	power Density (kW/kg)	Power Volu-Metric Density (kW/l)	Weight (grams)	Volume (mL)	Dimensions DxL LxHxT (mm)
1	2.7	105DCN2R7M	1.4	400	850	0.001	0.5	1.3	1.68	1.338	5.21	1	0.603	8x12
1	5.4	105DCN5R4M	1.42	600	900	0.0041	0.1	1.16	2.52	1.111	5.21	3.5	3.071	17.5x19.5x9
1.5	5.5	155DCN5R5M	4.125	320	200	0.0063	0.12	1.40	1.70	8.403	10.22	4.5	3.701	17.5x23.5x9
2	2.7	205DCN2R7M	2.7	280	470	0.002	1	1.90	2.52	1.756	7.01	1.3	0.804	8x16
2.5	5.5	255DCN5R5M	5.1	220	130	0.0101	0.15	2.02	1.87	11.2	10.39	5	5.558	21.5x23.5x11
3	2.7	305DCN2R7Q	4.1	160	250	0.003	1.5	2.30	2.20	2.647	18.23	1.5	1.005	8x20
5	2.7	505DCN2R7Q	5.7	110	200	0.0051	0.015	2.17	3.19	9.11	14.24	2.5	1.571	10x20
10	2.7	106DCN2R7Q	13.5	80	130	0.0101	5	3.10	4.30	1.755	15.51	4	2.356	10x30
25	2.7	256DCN2R7Q	20.1	30	42	0.0253	0.049	3.85	5.04	7.79	12.10	7.2	5.027	16x25
30	2.7	306DCN2R7M	40.5	30	60	0.0304	15	3.70	4.80	1.768	8.58	8.5	6.333	16x31.5
50	2.7	506DCN2R7Q	67.5	25	40	0.0506	25	4.10	4.86	1.77	7.15	14	10.179	18x40
100	2.7	107DCN2R7Q	135	18	28	0.1013	50	5.20	5.92	1.625	8.20	21	17.106	22x45
100	2.7	107DCN2R7XLB	135	20	28	0.1013	50	5.30	6.63	1.625	5.97	19.1	15.268	18x60
150	2.7	157DCN2R7M	203	16	35	0.1519	75	5.00	6.19	1.144	6.75	35	24.544	25x50
200	2.7	207DCN2R7M	270	15	20	.2025	100	5.1	5.73	1.092	6.7	40	35.34	30x50
250	2.7	257DCN2R7XDP	338	13	18	0.253	125	5.60	6.51	1.078	2.60	235	38.877	30x55
350	2.7	357DCN2R7M	473	10	12	0.36	175	5.40	6.14	1.115	3.16	323	57.727	35x60
400	2.7	407DCN2R7K	93.103	8	12	0.405	1.2	5.79	7.02	1.562	5.70	259.28	57.727	35x60
500	2.7	507DCN2R7XEW	675	8	10	0.5063	250	4.90	5.54	0.848	2.49	597	91.401	35x95
1200	2.7	128DCN2R7XZM	880.4	0.6	0.7	1.215	600	4.20	5.37	4.311	11.51	282	226.195	60x80
1500	2.7	158DCN2R7XZL	1065.8	0.5	0.6	1.5188	750	4.70	5.37	4.535	12.89	335	282.743	60x100
1800	2.7	188DCN2R7ZZLA	2430	0.45	0.55	1.5188	900	4.80	5.37	4.172	11.94	364.	339.292	60x120
2000	2.7	208DCN2R7XZLD	2700	0.4	0.45	2.025	1000	4.90	5.51	4.668	12.40	434	367.566	60x130
2500	2.7	258DCN2R7XZLZ	3375	0.36	0.42	2.53	1250	5.20	5.97	4.318	11.94	586	424.115	60x150
3000	2.7	308DCN2R7XZLK	4050	0.35	0.4	3.038	1500	5.50	6.32	3.965	10.83	766	480.664	60x170
3000	2.7	308DCN2R7XZLZ	4050	0.38	0.43	3.038	1500	5.30	7.16	3.555	11.31	855	424.115	60x150

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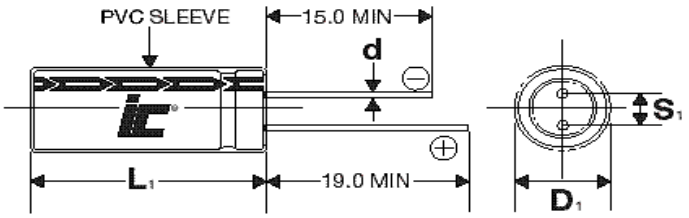
Physical dimensions

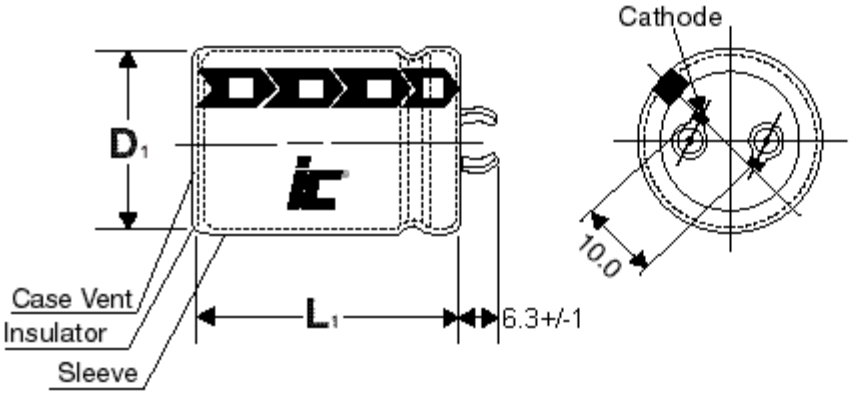
D= 8 to 18mm

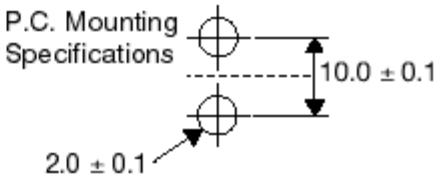


Lead spacing VS. Case diameter				
D	8	10	16	18
S	3.5	5.0	7.5	7.5
d	0.6	0.6	0.8	0.8

L_1=L+1.5mm
D_1=D+05mm
S_1=S±0.5mm

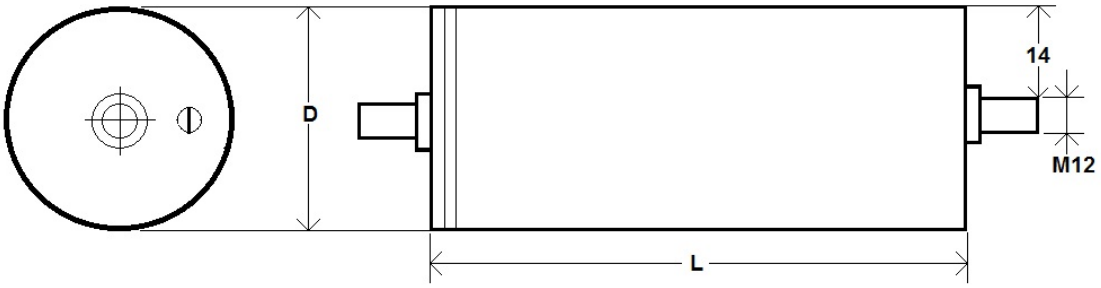
D≥20mm



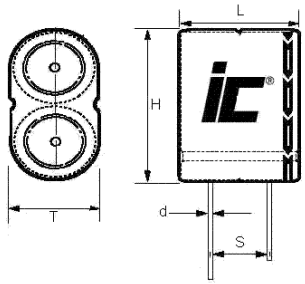


L1=L+2.0mm
D1=D+/-1.0mm

1200F to 3000F



5.4/5.5 Volt units



Capacitance (F)	Dims (LxHxT) (mm) +1.0mm	Lead spacing S (mm) +/-0.5mm	Lead diameter d (mm)
1	17x19.5x9	12.3	0.6
1.5	17.5X23.5X9	12.3	0.6
2.5	21.5X23.5X11	10.5	0.6

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