

# DCN

# Super Capacitors



## APPLICATIONS

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

## FEATURES

- Capacitances to 3500F
- Long Life
- Low ESR
- Very fast charge/discharge cycling
- Circuit board mountable
- High power density
- RoHS compliant
- Compact size
- IEC 62391 compliant

## SPECIFICATIONS

<b>Operating Temperature Range</b>		<b>-40°C to +60°C</b>			
<b>Storage Temperature</b>		<b>-40°C to +70°C</b>			
<b>Capacitance Tolerance @ 20°C</b>		+30%/-10% (Q tolerance), +20%/-20% (M tolerance) +10%/-10% (K tolerance), +50%/-20% (S tolerance)			
<b>Surge voltage</b>	<b>WVDC</b>	<b>2.7</b>	<b>5.4</b>	<b>5.5</b>	
	<b>SVDC</b>	<b>2.8</b>	<b>5.7</b>	<b>5.7</b>	
<b>Maximum Current</b>		<b>See standard part listing</b>		1 second discharge to ½ WVDC	
<b>Operating Current</b>		<b>See standard part listing</b>		5 second discharge to ½ WVDC	
<b>Leakage Current</b>		<b>See standard part listing</b>		72 hours, 25°C	
<b>Life time (25°C)</b>		<b>1000 hours with rated voltage applied at 60°C</b>			
		<b>Capacitance change</b>	<30% of initially measured values		
		<b>ESR</b>	<400% of initially specified values		
<b>Shelf Life</b>		<b>500 hours with no voltage applied at 60°C</b>			
		<b>Capacitance change</b>	<30% of initially measured values		
		<b>ESR</b>	<400% of initially specified values		
<b>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</b>		<b>500,000 cycles</b>			
		<b>Capacitance change</b>	<30% of initially measured values		
		<b>ESR change</b>	<400% of initially specified values		



## DCN

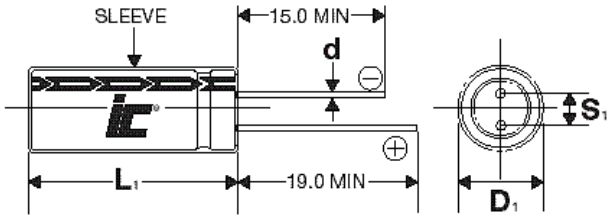
## Super Capacitors

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 DxLxHxT (mm)
1	2.7	105DCN2R7M	0.7297	400	850	0.001	0.008	1.300	1.6786	1.338	5.207	1	0.603	8x12
1	5.4	105DCN5R4M	1.4211	600	900	0.0041	0.5	1.157	2.5192	1.111	5.207	3.5	3.305	17.5x19.5x9
1.5	5.5	155DCN5R5M	3.1731	320	600	0.0063	0.18	2.17	1.703	2.17	3.406	5.81	3.701	17.5x23.5x9
2	2.7	205DCN2R7M	1.3918	280	470	0.002	0.01	1.900	2.5192	1.756	7.010	1.3	0.804	8x16
2.5	5.5	255DCN5R5Q	5.1887	220	450	0.0105	0.2	2.39	1.89	9.562	12.095	7.03	5.558	21.5x23.5x11
3	2.7	305DCN2R7Q	2.3143	160	250	0.003	0.012	2.025	3.0375	7.5938	11.391	1.5	1.000	20xx
5	2.7	505DCN2R7Q	3.375	110	200	0.0051	0.03	2.170	3.1900	9.11	14.240	2.5	1.600	10x20
10	2.7	106DCN2R7M	5.8696	80	130	0.0101	0.03	3.100	4.2970	1.755	15.510	4	2.350	10x30
25	2.7	256DCN2R7Q	16.463	30	60	0.0253	0.06	3.516	5.042	4.209	6.051	7.2	5.020	16x25
30	2.7	306DCN2R7M	14.464	30	60	0.0304	0.07	3.700	4.7984	1.768	8.576	8.5	6.333	16x31.5
50	2.7	506DCN2R7Q	22.5	25	40	0.0506	.16	4.100	4.8550	1.77	7.150	14	10.200	18x40
100	2.7	107DCN2R7Q	35.526	18	28	0.1013	0.3	5.200	5.9190	1.625	8.200	21	17.100	22x45
100	2.7	107DCN2R7SLB	35.526	20	28	0.1013	0.3	5.300	6.6315	1.625	5.968	19.1	15.268	18x60
150	2.7	157DCN2R7M	42.632	16	25	0.1519	0.55	5.000	6.1911	1.144	6.750	35	24.544	25x55
200	2.7	207DCN2R7M	54	15	20	0.2025	0.7	5.100	5.7325	1.092	6.700	40	28.274	30x50
250	2.7	257DCN2R7SDP	61.364	13	18	0.2531	0.8	5.600	6.5109	1.078	3.606	235	38.877	30x55
350	2.7	357DCN2R7M	90.865	10	12	0.3544	1	4.160	6.1420	1.115	0.096	323	57.727	35x60
400	2.7	407DCN2R7K	93.103	8	12	0.405	1.3	5.786	7.0194	1.562	5.695	259.3	57.727	35x60
500	2.7	507DCN2R7SEW	112.5	8	10	0.5063	1.3	4.900	5.5388	0.848	2.492	597	91.401	35x95
3500	2.7	358DCN2R7SZLJ	2344.9	0.24	0.29	3.5438	225	5.883	7.6000	10.432	33.040	602.42	466.527	60x165



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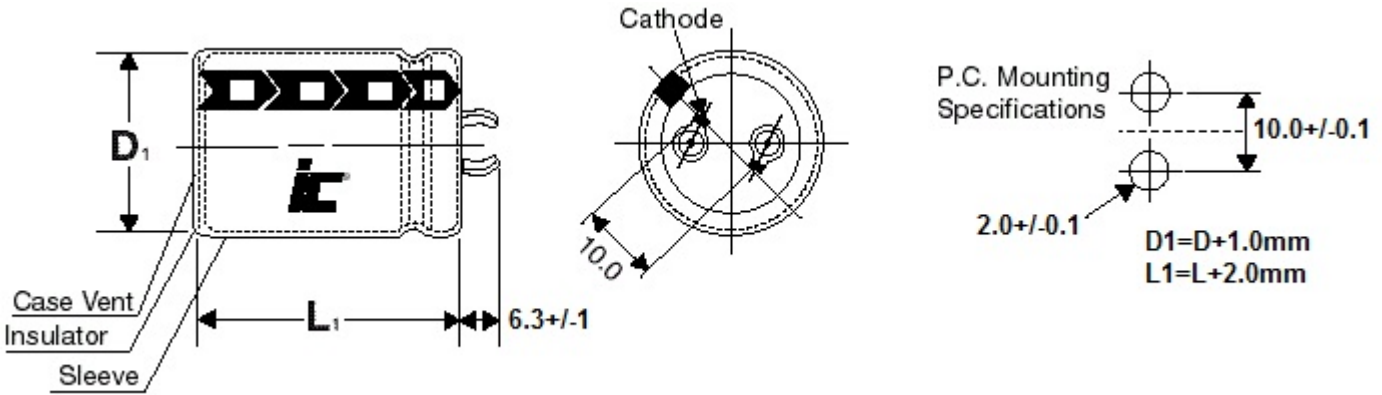
**D= 8 to 18mm**



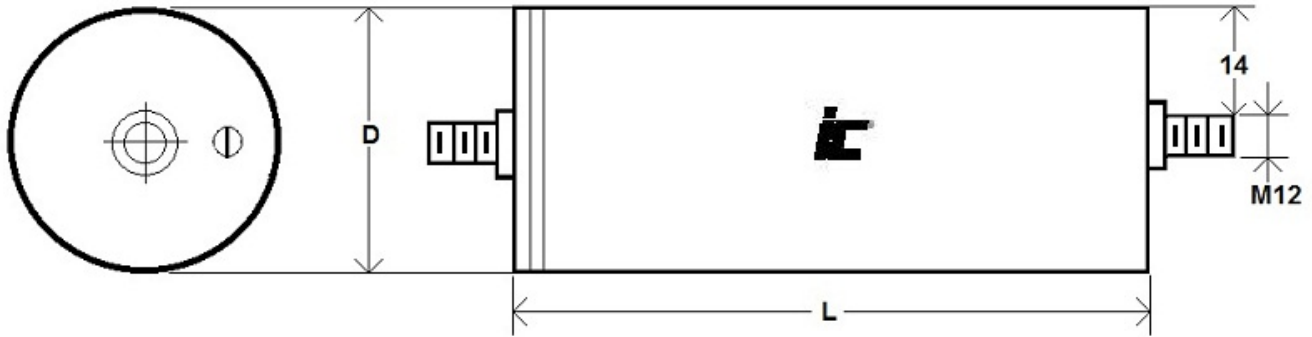
Lead spacing VS. Case diameter				
D	8	10	16	18
S	3.5	5.0	7.5	7.5
d	0.6	0.6	0.8	0.8

$L_1 = L + 1.5\text{mm}$   
 $D_1 = D + 0.5\text{mm}$   
 $S_1 = S + 0.5\text{mm}$

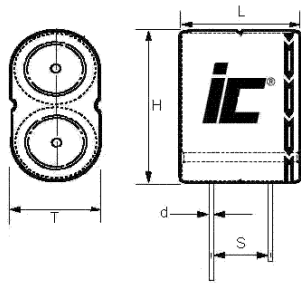
**D ≥ 20mm**



**3500F**



**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	10.3	0.6
2.5	21.5x23.5x11	10.3	0.6

