



DSF

3 Volt Supercapacitor



FEATURES

High Voltage – Very Fast Charge/Discharge – High Power Density –
Lower ESR
RoHS Compliant

APPLICATIONS

Battery Backup/Alternative – Pulse Power – Energy Harvesting – LED
Displays – Mechanical Actuators – Audio Systems

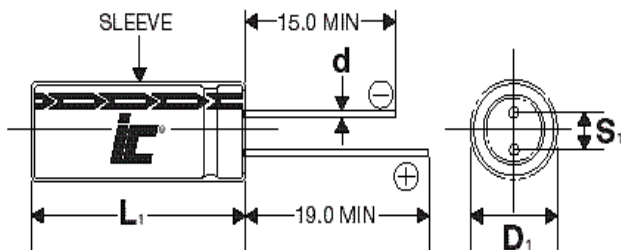
Operating Temperature Range	-40°C to +85°C	
Storage Temperature	-40°C to +70°C	
Capacitance Tolerance @ 20°C	-10% +30% (Q Tolerance) -20% +20% (M Tolerance)	
Voltage (Vdc) (+65°C/+85°C)	3.0V / 2.5V	
Life Time	1000 hours with rated voltage applied at rated temperature	
	Capacitance change	±30% of initially measured values
	ESR	<200% of initially specified values*
	Leakage current	≤100% specified maximum value
Shelf Life	1000 hours with no voltage applied at 65°C	
	Capacitance change	±30% of initially measured values
	ESR	<200% 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 10s	500,000 cycles	
	Capacitance change	±30% of initially measured values
	ESR change	<200% of initially specified values

*ESR change ≤4x at 85°C

[RoHS Compliant](#)

810a Recognized

Diameter 6.3 mm to 18 mm



Lead spacing VS. Case diameter						
D	6.3	8	10	12.5	16	18
S	2.5	3.5	5.0	5.0	7.5	7.5
d	0.6	0.6	0.6	0.6	0.8	0.8
α	1.5	1.5	2.0	2.0	2.0	2.0

$L_1 = L + \alpha$ mm
 $D_1 = D + 0.5$ mm
 $S_1 = S \pm 0.5$ mm

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Apr-22

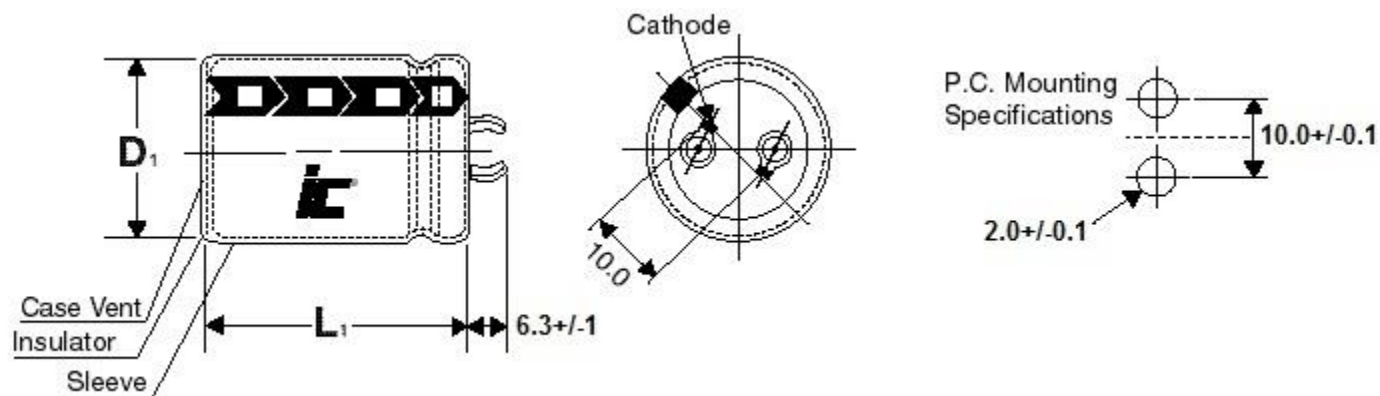


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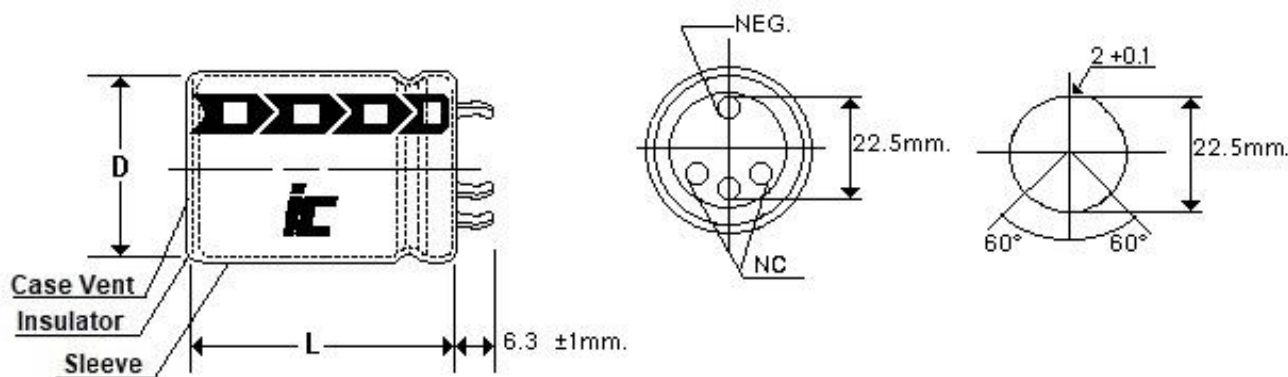
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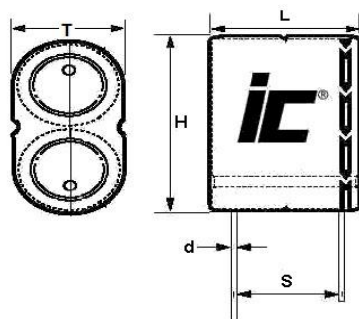
Diameter > 18 mm to < 35 mm



Diameter 35 mm



Capacitance 1.5F to 5F 6 Volts



Capacitance (F)	Dims (LxHxT) (mm) +1.0 mm	Lead spacing (S) (mm) +/- 0.5 mm	Lead diameter (d) (mm)
1.5	17x23x8.5	12	0.6
2.5	21x23x11	15.5	0.6
3.5	21x27x11	15.5	0.6
5	21x32x11	15.5	0.6

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High pulse power, extends
battery life

WVDC	Capacitance (F)	IC PART NUMBER	Weight (grams)	Volume (mL)	Dims DxL LxHxT (mm)	Lead Spacing S (mm)	Lead Diameter d (mm)
3	1.2	DSF125M3R0	0.8	0.47	6.3x15	2.5	0.5
3	1.5	DSF155M3R0	0.95	0.56	6.3x18	2.5	0.5
3	2.0	DSF205Q3R0	1	0.703	8x14	3.5	0.6
3	3.0	DSF305Q3R0	1.4	1.01	8x20	3.5	0.6
3	4.0	DSF405M3R0	1.4	1.01	8x20	3.5	0.6
3	5.0	DSF505Q3R0	2.1	1.57	10x20	5	0.6
3	7.0	DSF705Q3R0	2.3	1.96	10x25	5	0.6
3	10.0	DSF106Q3R0C	2.8	1.96	10x25	5	0.6
3	10.0	DSF106Q3R0	3.2	2.36	10x30	5	0.6
3	11.0	DSF116Q3R0	3.2	2.36	10x30	5	0.6
3	15.0	DSF156Q3R0	4.7	3.68	12.5x30	5	0.6
3	25.0	DSF256Q3R0	7	5.03	16x25	7.5	0.8
3	35.0	DSF356Q3R0	8.8	6.33	16x31.5	7.5	0.8
3	50.0	DSF506Q3R0	12.8	10.18	18x40	7.5	0.8
3	70.0	DSF706Q3R0	16.9	10.05	16x50	7.5	0.8
3	100.0	DSF107Q3R0	20	17.11	22x45	10	1.2
3	110.0	DSF117Q3R0	22	15.27	18x60	7.5	0.8
3	200.0	DSF207Q3R0	36	35.34	30x50	10	1.2
3	350.0	DSF357Q3R0	64	57.73	35x60	22.5	1.2
3	400.0	DSF407Q3R0	70	57.73	35x60	22.5	1.2
3	470.0	DSF477Q3R0	70	57.73	35x60	22.5	1.2
3	600.0	DSF607Q3R0	82	67.35	35x70	22.5	1.2
6	1.5	DSF155Q6R0HAE	3	2.97	17x23x8.5	12	0.6
6	2.5	DSF255Q6R0JBE	5.2	4.97	21x23x11	15.5	0.6
6	3.5	DSF355Q6R0JBF	6	5.83	21x27x11	15.5	0.6
6	5.0	DSF505Q6R0JBG	8.3	6.91	21x32x11	15.5	0.6

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High pulse power, extends
battery life

WVDC	Capacitance (F)	IC PART NUMBER	MAX Current (A) (1 Sec.)	Maximum Continuous Current (A) ($\Delta T=15^{\circ}\text{C}$)	Short Circuit Current (A)	ESR AC 1 kHz (m Ω)	DC ESR (m Ω) 20°C	Max stored energy (mWh)	LC (mA), (72 hrs)	Energy Density (Wh/kg)	Energy Volumetric Density (Wh/l)	Power Density (kW/kg)	Power Volumetric Density (kW/l)
3	1.2	DSF125M3R0	0.98	0.11	4.29	350	700	1.5	0.01	1.88	3.21	1.93	3.3
3	1.5	DSF155M3R0	1.15	0.14	4.6	320	640	1.88	0.008	1.97	3.34	1.78	3.01
3	2.0	DSF205Q3R0	1.9	1.8	9.38	160	320	2.5	0.012	2.5	3.55	3.38	4.8
3	3.0	DSF305Q3R0	3.1	1.4	20	80	150	3.75	0.014	2.67	3.71	5.14	6.6
3	4.0	DSF405M3R0	3.66	0.38	18.75	80	160	5	0.012	3.57	4.97	4.82	6.71
3	5.0	DSF505Q3R0	4.5	2.2	23	70	130	6.25	0.02	2.97	3.98	3.95	5.29
3	7.0	DSF705Q3R0	6.7	2.4	38	55	80	8.75	0.03	3.8	4.46	5.86	6.88
3	10.0	DSF106Q3R0C	5.3	0.89	16.6	90	180	12.5	0.045	4.46	3.36	2.14	3.06
3	10.0	DSF106Q3R0	9.4	3.4	50	40	60	12.5	0.045	3.9	5.29	5.625	7.62
3	11.0	DSF116Q3R0	7.86	1.02	30	50	100	13.75	0.045	4.3	5.83	3.38	4.58
3	15.0	DSF156Q3R0	12.33	1.42	54.5	55	80	18.75	0.055	3.99	5.09	4.18	5.33
3	25.0	DSF256Q3R0	20	4.4	86	25	35	31.25	0.1	4.46	6.21	4.4	6.13
3	35.0	DSF356Q3R0	19.09	3.13	60	25	50	43.75	0.1	4.97	6.91	2.45	3.41
3	50.0	DSF506Q3R0	35.7	7.1	136	15	22	62.5	0.15	4.88	6.14	3.83	4.82
3	70.0	DSF706Q3R0	27.63	5.9	75	20	40	87.5	0.45	5.18	8.703	1.6	2.69
3	100.0	DSF107Q3R0	68.2	8.3	250	8	12	125	0.3	5.95	7.31	4.29	5.26
3	110.0	DSF117Q3R0	59.8	6.3	188	10	16	137.5	0.21	6.25	9.005	3.07	4.421
3	200.0	DSF207Q3R0	100	10	300	6	10	250	0.7	6.94	7.07	3	3.06
3	350.0	DSF357Q3R0	236	18.9	857	3	3.5	437.5	1	6.73	7.58	4.75	5.35
3	400.0	DSF407Q3R0	250	18.9	857	3	3.5	500	1	7.35	8.66	4.96	5.85
3	470.0	DSF477Q3R0	267	18.9	857	3	3.5	587.5	1.3	8.05	10.18	4.23	5.35
3	600.0	DSF607Q3R0	290	20	857	3	3.5	750	1.5	9.15	11.14	4.12	5.35
6	1.5	DSF155Q6R0HAE	3.1	1.4	20	180	320	7.5	0.013	2.5	2.52	16.6	16.8
6	2.5	DSF255Q6R0JBE	4.5	2.2	23	160	280	12.5	0.018	3.1	2.51	14.1	11.3
6	3.5	DSF355Q6R0JBF	6.7	2.4	38	130	180	17.5	0.025	3.5	3	13.8	11.9
6	5.0	DSF505Q6R0JBG	9.4	3.4	50	100	140	25	0.04	3.57	3.62	12.9	13