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** **6.0V / 5.0V** **9.0V / 7.5V**	
Life Time	**1000 hours with rated voltage applied at rated temperature**	
	Capacitance change	±30% of initially measured values
	ESR	<400% of initially specified values <200% of initially specified values (100F to 600F)
	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

810a Recognized

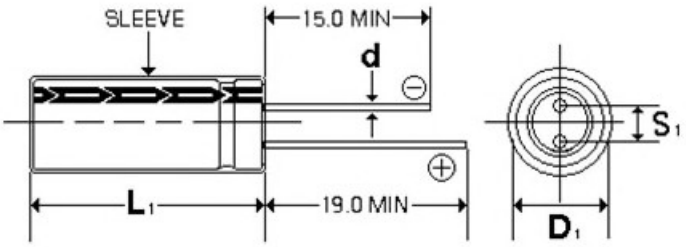
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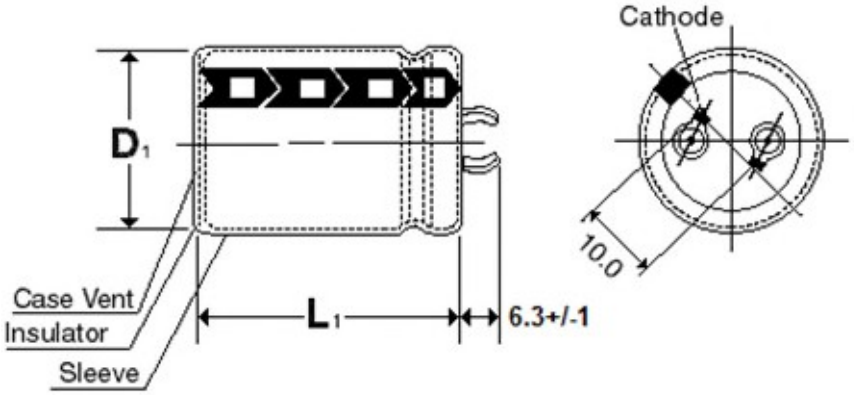
Diameter 6.3 mm to 18 mm

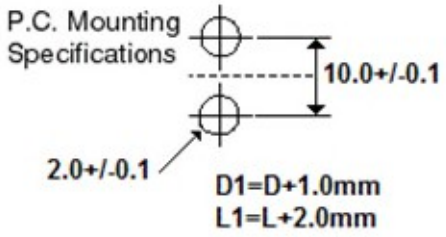


Lead spacing VS. Case diameter						
D	**6.3**	**8**	**10**	**12.5**	**16**	**18**
S	2.5	3.5	5.0	5.0	7.5	7.5
d	0.6	0.6	0.6	0.6	0.8	0.8
α	1.5	1.5	2.0	2.0	2.0	2.0

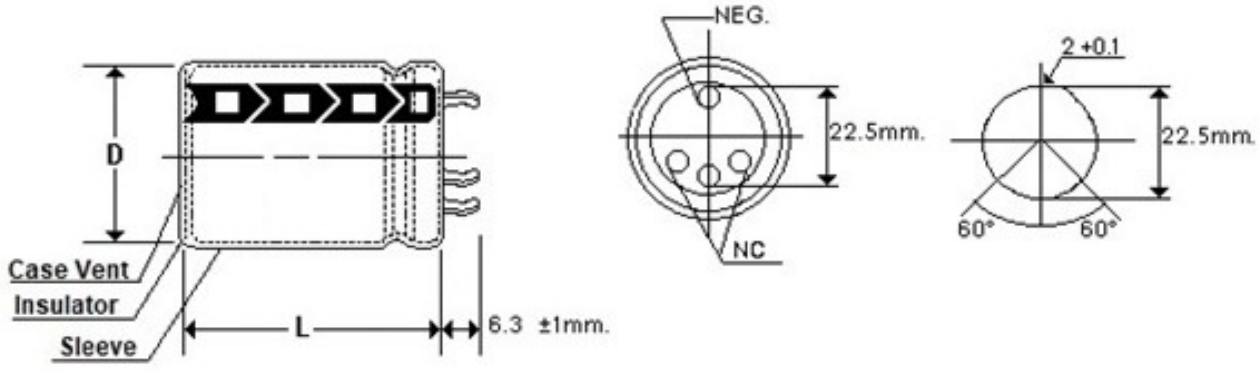
L_1=L+α mm
D_1=D+0.5 mm
S_1=S±0.5 mm
d=d±0.05mm

Diameter > 18 mm to < 35 mm





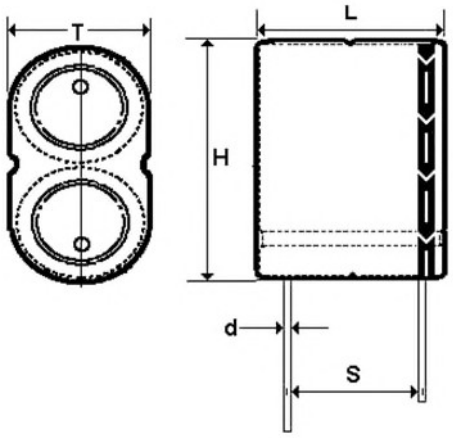
Diameter 35 mm



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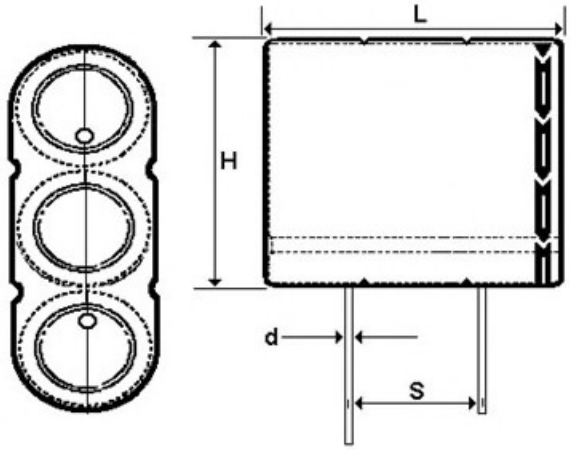


Capacitance 1.5F to 5F
6 Volts



Capacitance (F)	Dims (LxHxT) (mm) +1.0 mm	Lead spacing (S) (mm) ±0.5 mm	Lead diameter (d) (mm) ±0.05mm
1.5	17x22x8.5	12	0.6
2.5	21x22x11	15.5	0.6
3.5	21x27x11	15.5	0.6
5	21x32x11	15.5	0.6

Capacitance 0.33F to 5F
9 Volts



Capacitance (F)	Dims (LxHxT) (mm) ±1.0 mm	Lead spacing (S) (mm) ±1.0 mm	Lead diameter (d) (mm) ±0.05mm
0.33	25x16x8.5	13.5	0.6
0.5	21x20x6.5	11	0.6
0.67	25x16x8.5	13.5	0.6
1	25x22x8.5	13.5	0.6
1.66	31x23x11	16	0.6
3.3	31x27x11	16	0.6
5	39x33x13	21	0.6

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WVDC	Capacitance (F)	PART NUMBER	MAX Current (A) (1 Sec.)	Maximum Continuous Current (A) (ΔT=15°C)	Short Circuit Current (A)	ESR AC 1 kHz (mΩ)	DC ESR (mΩ) 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	1.80	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	3.8	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	6.3	0.02	2.97	3.98	3.95	5.3
3	7.0	DSF705Q3R0	6.7	2.4	38	55	80	8.8	0.03	3.8	4.46	5.86	6.9
3	10.0	DSF106Q3R0C	5.3	0.89	16.6	90	180	12.5	0.045	4.46	3.36	2.14	3.1
3	10.0	DSF106Q3R0	9.4	3.4	50	40	60	12.5	0.045	3.9	5.3	5.63	7.6
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	DSF156Q3R0B	10.98	1.40	42	35	70	18.75	0.055	4.57	1.12	3.76	0.9
3	15.0	DSF156Q3R0	10.98	1.40	42.86	35	70	18.75	0.055	3.99	5.09	3.283	4.191
3	25.0	DSF256Q3R0	20	4.4	86	25	35	31.3	0.1	4.46	6.21	4.4	6.1
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	7.10	136	15	22	62.5	0.15	4.88	6.14	3.83	4.8
3	70.0	DSF706Q3R0	27.3	5.9	75	20	40	87.5	0.45	5.18	8.7	1.6	2.7
3	100.0	DSF107Q3R0	68.2	8.3	250	8	12	125	0.3	5.95	7.31	4.3	5.3
3	100.0	DSF107Q3R0B	32	17	83	18	36	125	0.2	6.58	8.19	1.58	1.96
3	110.0	DSF117Q3R0	59.8	6.3	188	18	36	137.5	0.21	6.25	9	3.07	4.4
3	200.0	DSF207Q3R0	100	10	300	6	10	250	0.7	6.94	7.07	3	3.1
3	350.0	DSF357Q3R0	236	18.9	857	3	3.5	437.5	1	6.73	7.58	4.75	5.4
3	400.0	DSF407Q3R0	250	18.9	857	3	3.5	500	1	7.35	8.66	4.96	5.9
3	470.0	DSF477Q3R0	267	18.9	857	3	3.5	587.5	1.3	8.05	10.18	4.23	5.4
3	600.0	DSF607Q3R0	290	20	587	3	3.5	750	1.5	9.15	11.1	4.12	5.4
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	4.05	2.2	23	160	280	12.5	0.018	3.1	2.51	14.1	11.3
6	3.5	DSF355Q6R0JBF	6.7	2.40	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
9	0.33	DSF334Q9R0HDL	0.83	0.09	3.75	1200	2400	4	0.2	1.56	2.66	1.56	2.7
9	0.5	DSF504M9R0ZBN	1.14	0.14	4.68	980	1940	5.6	0.2	1.97	3.35	1.97	3.4
9	0.67	DSF674Q9R0HDL	1.82	0.19	9.18	500	980	7.5	0.25	2.5	3.56	2.48	3.6
9	1.0	DSF105Q9R0HDR	3.04	0.29	18.75	320	620	11.2	0.3	2.68	3.71	2.68	3.71
9	1.66	DSF165Q9R0JSE	4.1	0.47	18	260	500	18.7	0.4	2.98	3.98	2.97	4
9	3.3	DSF335Q9R0JSF	5.34	0.88	16.6	290	560	37	0.9	4.46	6.4	4.46	6.4
9	5.0	DSF505Q9R0KZT	10.98	1.4	42.9	125	230	56.2	1.1	3.99	5.1	3.98	5.1

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WVDC	Capacitance (F)	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	0.7	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	2.2	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	DSF156Q3R0B	4.1	3.07	12.5x25	5	0.6
3	15.0	DSF156Q3R0	4.7	3.68	12.5x30	5	0.6
3	25.0	DSF256Q3R0	7.4	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	13.8	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	100.0	DSF107Q3R0B	19.3	15.27	18x60	7.5	0.8
3	110.0	DSF117Q3R0	22	15.27	18x60	7.5	0.8
3	200.0	DSF207Q3R0	36	35.3	30x50	10	1.2
3	350.0	DSF357Q3R0	73	57.73	35x60	22.5	1.2
3	400.0	DSF407Q3R0	73	57.73	35x60	22.5	1.2
3	470.0	DSF477Q3R0	73	57.73	35x60	22.5	1.2
3	600.0	DSF607Q3R0	90	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	21x22x11	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
9	0.33	DSF334Q9R0HDL	4	3.4	25x16x8.5	13.5	0.6
9	0.5	DSF504M9R0ZBN	5	2.73	21x20x6.5	11	0.6
9	0.67	DSF674Q9R0HDL	4	3.4	25x16x8.5	13.5	0.6
9	1.0	DSF105Q9R0HDR	5.5	4.67	25x22x8.5	13.5	0.6
9	1.66	DSF165Q9R0JSE	7.5	7.84	31x23x11	16	0.6
9	3.3	DSF335Q9R0JSF	11	9.21	31x27x11	16	0.6
9	5.0	DSF505Q9R0KZT	13	16.7	39x33x13	21	0.6

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