



**THE DATASHEET OF
DSF305Q3R0**





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

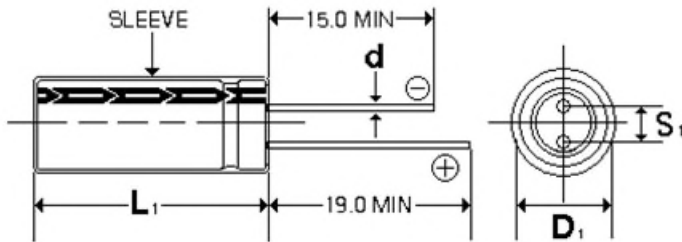
Operating Temperature Range	-40°C to +85°C	
Storage Temperature	-40°C to +70°C	
Capacitance Tolerance @ 20°C	-10% +30% (Q Tolerance) -20% +20% (M Tolerance)	
Voltage (Vdc) (+65°C/+85°C)	3.0V / 2.5V 6.0V / 5.0V 9.0V / 7.5V	
Life Time	1000 hours with rated voltage applied at rated temperature	
	Capacitance 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

[RoHS Compliant](#)

 810a Recognized



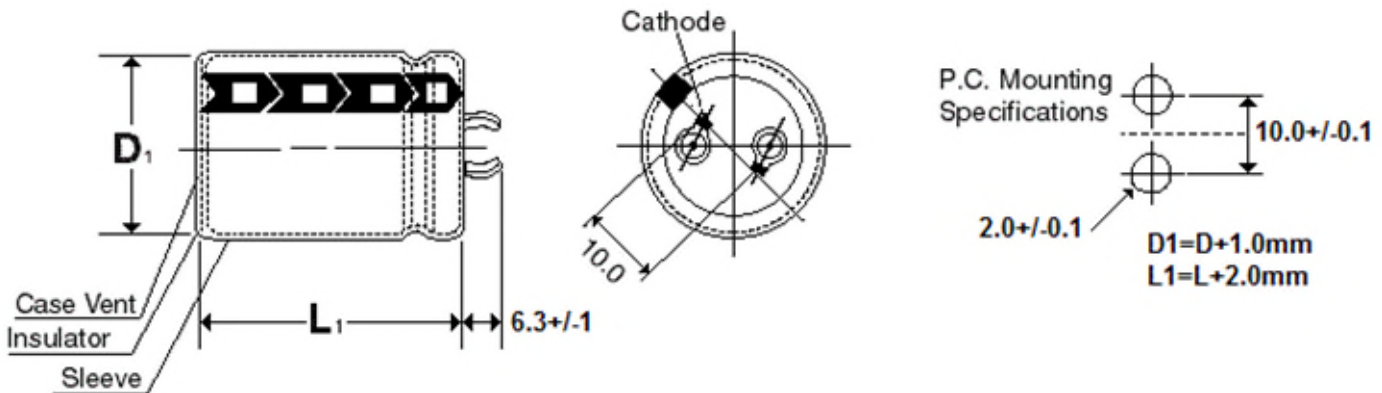
Diameter 6.3 mm to 18 mm



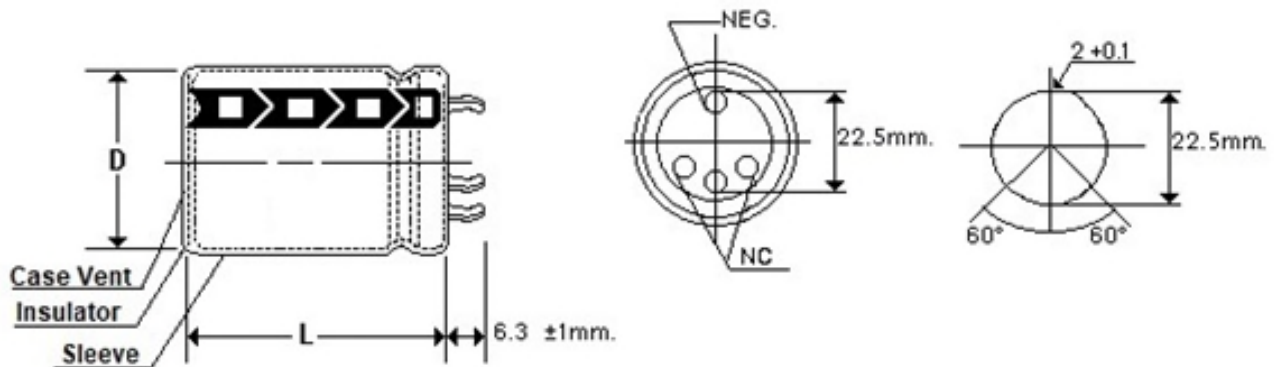
Lead spacing VS. Case diameter						
D	6.3	8	10	12.5	16	18
S	2.5	3.5	5.0	5.0	7.5	7.5
d	0.6	0.6	0.6	0.6	0.8	0.8
α	1.5	1.5	2.0	2.0	2.0	2.0

$L_1 = L + \alpha$ mm
 $D_1 = D + 0.5$ mm
 $S_1 = S \pm 0.5$ mm
 $d = d \pm 0.05$ mm

Diameter > 18 mm to < 35 mm

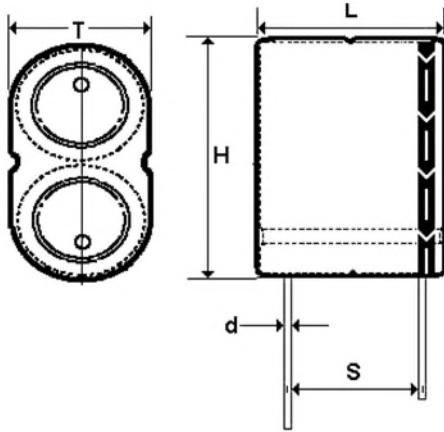


Diameter 35 mm



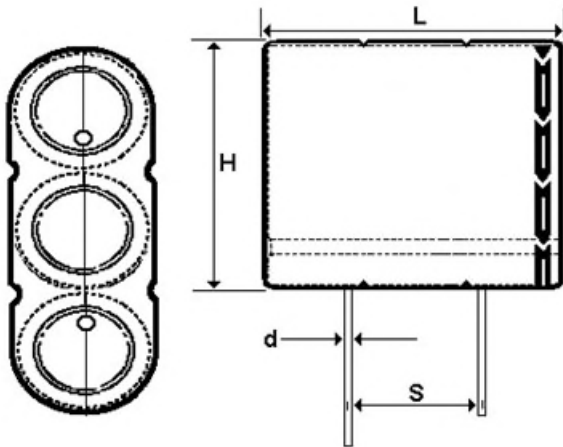


Capacitance 1.5F to 5F 6 Volts



Capacitance (F)	Dims (LxHxT) (mm) +1.0 mm	Lead spacing (S) (mm) ±0.5 mm	Lead diameter (d) (mm) ±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

DSF

High pulse power, extends battery life

WVDC	Capacitance (F)	IC PART NUMBER	MAX Current (A) (1 Sec.)	Maximum Continuous Current (A) ($\Delta T=15^{\circ}C$)	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	1.80	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	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



DSF

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	0.7	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	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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