



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

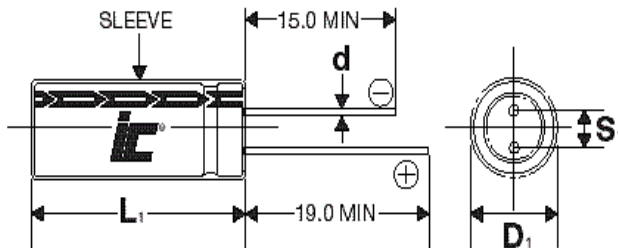
| | | |
|---|---|--------------------------------------|
| Operating Temperature Range | -40°C to +85°C | |
| Storage Temperature | -40°C to +70°C | |
| Capacitance Tolerance @ 20°C | -10% +30% (Q Tolerance) -20% +20% (M Tolerance) | |
| Voltage (Vdc) (+65°C/+85°C) | 3.0V / 2.5V | |
| Life Time | 1000 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

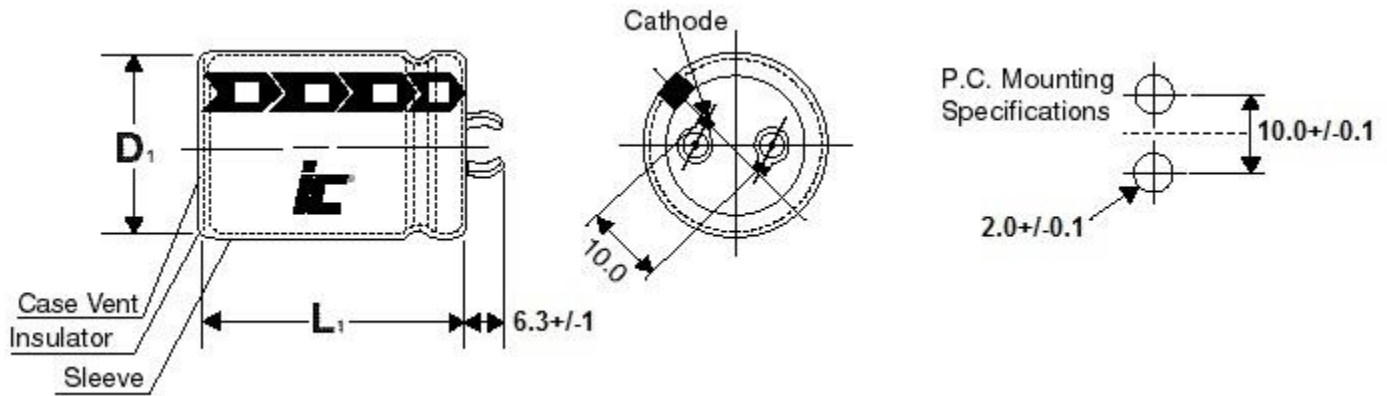


| Lead spacing VS. Case diameter | | | | | | |
|--------------------------------|------------|----------|-----------|-------------|-----------|-----------|
| D | 6.3 | 8 | 10 | 12.5 | 16 | 18 |
| S | 2.5 | 3.5 | 5.0 | 5.0 | 7.5 | 7.5 |
| d | 0.6 | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 |
| α | 1.5 | 1.5 | 2.0 |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

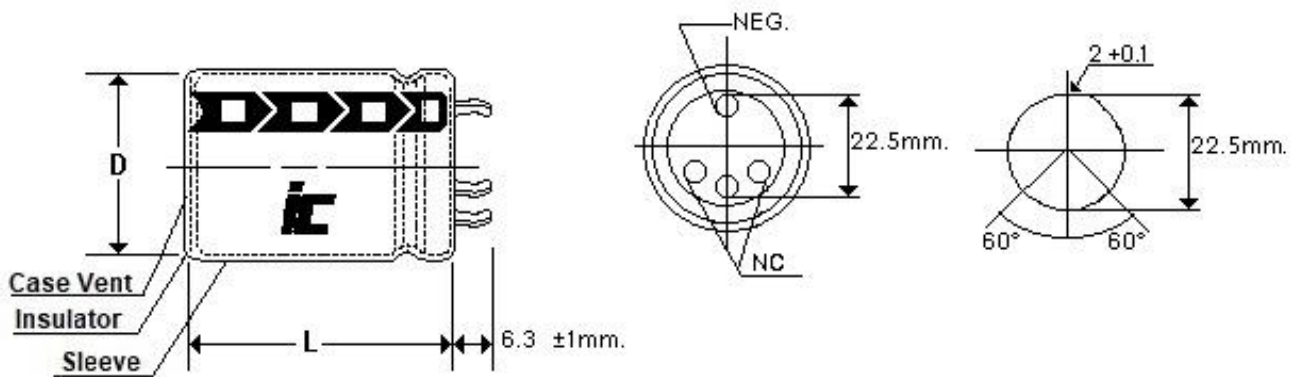
$L_1 = L + \alpha$ mm
 $D_1 = D + 0.5$ mm
 $S_1 = S \pm 0.5$ mm



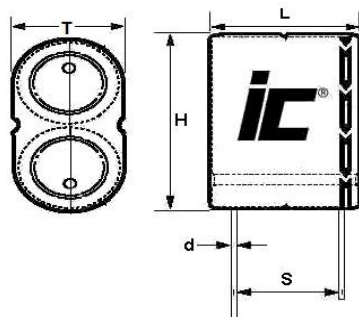
Diameter > 18 mm to < 35 mm



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 |

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 | 0.703 | 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 | DSF106Q3ROC | 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 |

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 | 1.8 | 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 |