



FEATURES

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 +65°C (-40 to +85°C @ 2.3V) | | |
| Storage Temperature | | -40°C to +70°C | | |
| Capacitance Tolerance @ 20°C | | +30%/-10% (Q tolerance) | | |
| Voltage | WVDC | 2.7 | 5.5 | |
| | SVDC | 2.85 | 5.8 | |
| Life Time | | 1000 hours with rated voltage applied at 65°C | | |
| | | Capacitance change | ≤30% of initially measured values | |
| | | ESR | ≤200% of initially specified values | |
| Shelf Life | | 1000 hours with no voltage applied at 60°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 | |

D = 8 to 18mm

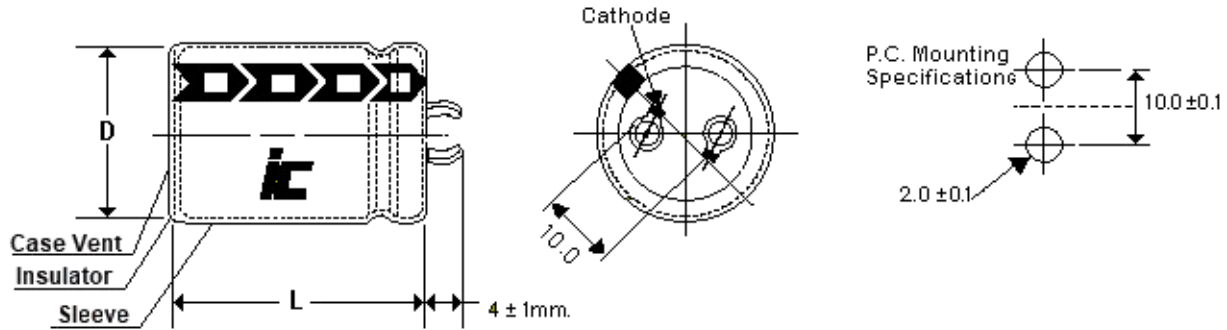


| Lead spacing VS. Case diameter | | | | | |
|--------------------------------|-----|-----|------|-----|-----|
| D | 8 | 10 | 12.5 | 16 | 18 |
| S | 3.5 | 5.0 | 5.0 | 7.5 | 7.5 |
| d | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 |
| α | 1.5 | 2.0 | 2.0 | 2.0 | 2.0 |

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

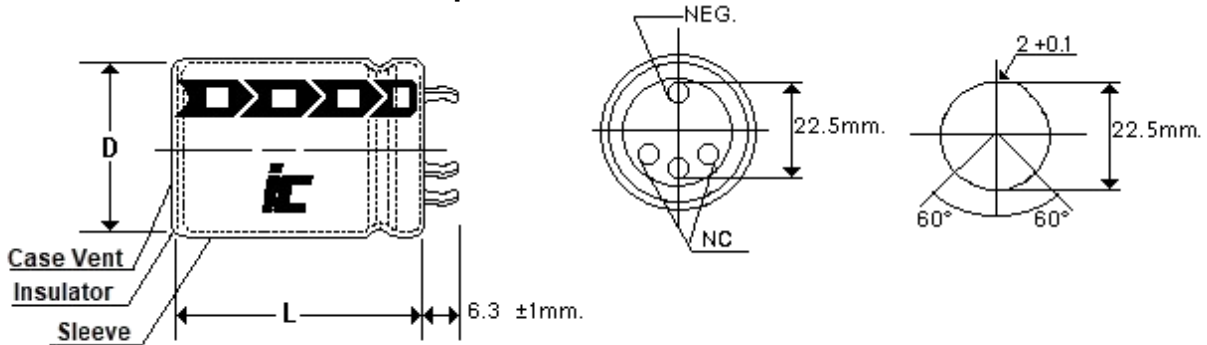


Capacitance 100F to 350F

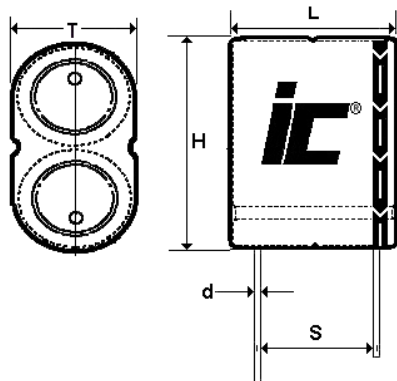


*Lead style L available for 350F

Capacitance 400F to 470F



5.5 Volt Parts



| Capacitance (F) | Dims (LxHxT) (mm) +1.0mm | Lead spacing (S) (mm) +/-0.5mm | Lead diameter (d) (mm) |
|-----------------|--------------------------|--------------------------------|------------------------|
| 0.5 | 17x15x8.5 | 12 | 0.6 |
| 1 | 17x17x8.5 | 12 | 0.6 |
| 1.5 | 17x23x8.5 | 12 | 0.6 |
| 2.5 | 21x23x11 | 15.5 | 0.6 |
| 3.5 | 21x27x11 | 15.5 | 0.6 |
| 5 | 26x27x13 | 18 | 0.6 |

DGH

High pulse power, extends battery life

| Capacitance (F) | WVDC | 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) |
|-----------------|------|----------------|--------------------------|---|---------------------------|----------------------------|---------------------------|-------------------------|-------------------|------------------------|----------------------------------|-----------------------|---------------------------------|
| 0.5 | 5.5 | DGH504Q5R5 | 0.982 | 0.6 | 6.875 | 400 | 800 | 2.101 | 0.008 | 0.955 | 0.855 | 2.063 | 1.847 |
| 1.0 | 2.7 | DGH105Q2R7 | 0.964 | 0.6 | 6.75 | 200 | 400 | 1.013 | 0.008 | 0.92 | 1.44 | 1.988 | 3.109 |
| 1.0 | 5.5 | DGH105Q5R5 | 1.833 | 0.7 | 11 | 260 | 500 | 4.201 | 0.01 | 1.681 | 1.71 | 2.904 | 2.955 |
| 1.5 | 5.5 | DGH155Q5R5 | 2.845 | 1.2 | 18.333 | 160 | 300 | 6.302 | 0.012 | 2.101 | 1.896 | 4.033 | 3.641 |
| 2.0 | 2.7 | DGH205Q2R7 | 1.8 | 0.7 | 10.8 | 130 | 250 | 2.025 | 0.01 | 1.688 | 2.879 | 2.916 | 4.975 |
| 2.5 | 5.5 | DGH255Q5R5 | 4.167 | 1.3 | 21.154 | 140 | 260 | 10.503 | 0.016 | 2.02 | 1.977 | 2.685 | 2.628 |
| 3.0 | 2.7 | DGH305Q2R7 | 2.792 | 1.2 | 18 | 80 | 150 | 3.038 | 0.012 | 2.17 | 3.023 | 4.166 | 5.804 |
| 3.3 | 2.7 | DGH335Q2R7 | 2.98 | 1.2 | 18 | 80 | 150 | 3.341 | 0.014 | 2.228 | 3.325 | 3.888 | 5.804 |
| 3.5 | 5.5 | DGH355Q5R5 | 6.17 | 1.7 | 34.375 | 110 | 160 | 14.705 | 0.02 | 2.451 | 2.358 | 3.781 | 3.638 |
| 5.0 | 2.7 | DGH505Q2R7 | 4.091 | 1.3 | 20.769 | 70 | 130 | 5.063 | 0.016 | 2.531 | 3.225 | 3.365 | 4.286 |
| 5.0 | 5.5 | DGH505Q5R5 | 8.594 | 2.1 | 45.833 | 80 | 120 | 21.007 | 0.03 | 2.531 | 2.302 | 3.645 | 3.315 |
| 6.0 | 2.7 | DGH605Q2R7 | 4.5 | 2.3 | 20.7 | 70 | 130 | 6.08 | 0.016 | 2.89 | 3.86 | 3.2 | 4.3 |
| 7.0 | 2.7 | DGH705Q2R7 | 6.058 | 1.7 | 33.750 | 55 | 80 | 7.088 | 0.02 | 2.835 | 3.611 | 4.374 | 5.572 |
| 10.0 | 2.7 | DGH106Q2R7 | 8.438 | 2.4 | 45 | 40 | 60 | 10.125 | 0.03 | 3.894 | 5.159 | 5.608 | 7.429 |
| 10.0 | 2.7 | DGH106Q2R7B | 8.438 | 2.1 | 45 | 40 | 60 | 10.125 | 0.03 | 2.978 | 4.299 | 4.288 | 6.191 |
| 10.0 | 2.7 | DGH106Q2R7C | 8.4 | 3.4 | 45.0 | 40 | 60 | 10.13 | 0.03 | 3.38 | 5.16 | 4.86 | 7.4 |
| 15.0 | 2.7 | DGH156Q2R7 | 11.571 | 2.4 | 54 | 30 | 50 | 15.188 | 0.045 | 3.375 | 4.127 | 3.888 | 4.755 |
| 20.0 | 2.7 | DGH206Q2R7 | 15 | 2.6 | 67.5 | 30 | 40 | 20.25 | 0.06 | 3.11 | 4.02 | 3.36 | 4.3 |
| 25.0 | 2.7 | DGH256Q2R7 | 18 | 3.1 | 77.143 | 25 | 35 | 25.313 | 0.08 | 2.978 | 5.038 | 2.941 | 4.975 |
| 30.0 | 2.7 | DGH306Q2R7 | 21.3 | 4.0 | 90 | 22 | 30 | 30.38 | 0.1 | 3.79 | 5.03 | 3.64 | 4.8 |
| 50.0 | 2.7 | DGH506Q2R7 | 32.143 | 5.2 | 122.727 | 15 | 22 | 50.625 | 0.14 | 3.616 | 4.976 | 2.84 | 3.909 |
| 70.0 | 2.7 | DGH706Q2R7 | 39.375 | 5.8 | 135 | 14 | 20 | 70.875 | 0.16 | 3.938 | 5.573 | 2.43 | 3.439 |
| 100.0 | 2.7 | DGH107Q2R7 | 61.364 | 8.3 | 225 | 8 | 12 | 101.25 | 0.3 | 4.821 | 5.922 | 3.471 | 4.264 |
| 200.0 | 2.7 | DGH207Q2R7 | 90 | 10 | 270 | 6 | 10 | 202.5 | 0.7 | 5.192 | 5.732 | 2.243 | 2.476 |
| 350.0 | 2.7 | DGH357Q2R7 | 212.36 | 18.9 | 771.429 | 3 | 3.5 | 354.375 | 1 | 5.452 | 6.134 | 3.845 | 4.329 |
| 350.0 | 2.7 | DGH357Q2R7L | 212.36 | 18.9 | 771.4 | 3 | 3.5 | 354.4 | 1 | 5.452 | 6.134 | 3.845 | 4.329 |
| 400.0 | 2.7 | DGH407Q2R7 | 236.84 | 18.9 | 843.750 | 2.8 | 3.2 | 405 | 1 | 5.956 | 7.016 | 4.02 | 4.736 |
| 470.0 | 2.7 | DGH477Q2R7 | 239.89 | 18.9 | 771.429 | 3 | 3.5 | 475.875 | 1.3 | 6.609 | 8.244 | 3.471 | 4.33 |

DGH

High pulse power, extends battery life

| Capacitance (F) | WVDC | IC PART NUMBER | Weight (grams) | Volume (mL) | Dims DxL LxHxT (mm) | Lead Spacing S (mm) | Lead Diameter d (mm) |
|-----------------|------|----------------|----------------|-------------|---------------------|---------------------|----------------------|
| 0.5 | 5.5 | DGH504Q5R5 | 2.2 | 2.457 | 17x15x8.5 | 12 | 0.6 |
| 1.0 | 2.7 | DGH105Q2R7 | 1.1 | 0.703 | 8x13 | 3.5 | 0.6 |
| 1.0 | 5.5 | DGH105Q5R5 | 2.5 | 2.457 | 17x17x8.5 | 12 | 0.6 |
| 1.5 | 5.5 | DGH155Q5R5 | 3 | 3.324 | 17x23x8.5 | 12 | 0.6 |
| 2.0 | 2.7 | DGH205Q2R7 | 1.2 | 0.703 | 8x14 | 3.5 | 0.6 |
| 2.5 | 5.5 | DGH255Q5R5 | 5.2 | 5.313 | 21x23x11 | 15.5 | 0.6 |
| 3.0 | 2.7 | DGH305Q2R7 | 1.4 | 1.005 | 8x20 | 3.5 | 0.6 |
| 3.3 | 2.7 | DGH335Q2R7 | 1.5 | 1.005 | 8x20 | 3.5 | 0.6 |
| 3.5 | 5.5 | DGH355Q5R5 | 6 | 6.237 | 21x27x11 | 15.5 | 0.6 |
| 5.0 | 2.7 | DGH505Q2R7 | 2 | 1.57 | 10x20 | 5 | 0.6 |
| 5.0 | 5.5 | DGH505Q5R5 | 8.3 | 9.126 | 26x27x13 | 18 | 0.6 |
| 6.0 | 2.7 | DGH605Q2R7 | 2.1 | 1.57 | 10x20 | 5 | 0.6 |
| 7.0 | 2.7 | DGH705Q2R7 | 2.5 | 1.963 | 10x25 | 5 | 0.6 |
| 10.0 | 2.7 | DGH106Q2R7 | 2.6 | 1.963 | 10x30 | 5 | 0.6 |
| 10.0 | 2.7 | DGH106Q2R7B | 3.4 | 2.355 | 12.5x25 | 5 | 0.6 |
| 10.0 | 2.7 | DGH106Q2R7C | 2.3 | 1.96 | 10x25 | 5 | 0.6 |
| 15.0 | 2.7 | DGH156Q2R7 | 4.5 | 3.68 | 12.5x30 | 5 | 0.6 |
| 20.0 | 2.7 | DGH206Q2R7 | 7 | 5.03 | 16x25 | 7.5 | 0.6 |
| 25.0 | 2.7 | DGH256Q2R7 | 8.5 | 5.024 | 16x25 | 7.5 | 0.8 |
| 30.0 | 2.7 | DGH306Q2R7 | 9.7 | 6.03 | 16x30 | 7.5 | 0.6 |
| 50.0 | 2.7 | DGH506Q2R7 | 14 | 10.174 | 18x40 | 7.5 | 0.8 |
| 70.0 | 2.7 | DGH706Q2R7 | 18 | 12.717 | 18x50 | 7.5 | 0.8 |
| 100.0 | 2.7 | DGH107Q2R7 | 21 | 17.097 | 22x45 | 10 | 0 |
| 200.0 | 2.7 | DGH207Q2R7 | 39 | 35.325 | 30x50 | 10 | 0 |
| 350.0 | 2.7 | DGH357Q2R7 | 65 | 57.727 | 35x60 | 10 | 0 |
| 350.0 | 2.7 | DGH357Q2R7L | 65 | 57.727 | 35x60 | 18.4 | 0 |
| 400.0 | 2.7 | DGH407Q2R7 | 68 | 57.727 | 35x60 | 22.5 | 0 |
| 470.0 | 2.7 | DGH477Q2R7 | 72 | 57.727 | 35x60 | 22.5 | 0 |