

DLC70B Series

◆Product Features

High Q, High Power, Low ESR/ESL, low Noise, High Self-Resonance,
 Ultra- Stable Performance.



◆DLC70B Series Rated Capacitance Table

| Cap.pF | Code | Tol. | WVDC V | Cap.pF | Code | Tol. | WVDC V | Cap.pF | Code | Tol. | WVDC V | Cap.pF | Code | Tol. | WVDC V |
|--------|------|---------------------|---|--------|------|---------------------|---|--------|------|---------------------------|---|--------|------|---------------------------|--------------------|
| 0.5 | 0R5 | A, B, C, D | 500 Code 501 or 1500 Code 152 | 3.6 | 3R6 | A, B, C, D | 500 Code 501 or 1500 Code 152 | 30 | 300 | F, G, J, K, M | 500 Code 501 or 1500 Code 152 | 220 | 221 | F, G, J, K, M | 200 Code 201 |
| 0.6 | 0R6 | | | 3.9 | 3R9 | | | 33 | 330 | | | 240 | 241 | | |
| 0.7 | 0R7 | | | 4.3 | 4R3 | | | 36 | 360 | | | 270 | 271 | | |
| 0.8 | 0R8 | | | 4.7 | 4R7 | | | 39 | 390 | | | 300 | 301 | | |
| 0.9 | 0R9 | | | 5.1 | 5R1 | | | 43 | 430 | | | 330 | 331 | | |
| 1.0 | 1R0 | | | 5.6 | 5R6 | | | 47 | 470 | | | 360 | 361 | | |
| 1.1 | 1R1 | | | 6.2 | 6R2 | | | 51 | 510 | | | 390 | 391 | | |
| 1.2 | 1R2 | | | 6.8 | 6R8 | | | 56 | 560 | | | 430 | 431 | | |
| 1.3 | 1R3 | | | 7.5 | 7R5 | | | 62 | 620 | | | 470 | 471 | | |
| 1.4 | 1R4 | | | 8.2 | 8R2 | | | 68 | 680 | | | 510 | 511 | | |
| 1.5 | 1R5 | | | 9.1 | 9R1 | 75 | 750 | 560 | 561 | | | | | | |
| 1.6 | 1R6 | | | 10 | 100 | 82 | 820 | 620 | 621 | | | | | | |
| 1.7 | 1R7 | | | 11 | 110 | 91 | 910 | 680 | 681 | | | | | | |
| 1.8 | 1R8 | | | 12 | 120 | 100 | 101 | 750 | 751 | | | | | | |
| 1.9 | 1R9 | | | 13 | 130 | 110 | 111 | 820 | 821 | | | | | | |
| 2.0 | 2R0 | | | 15 | 150 | 120 | 121 | 910 | 911 | | | | | | |
| 2.1 | 2R1 | | | 16 | 160 | 130 | 131 | 1000 | 102 | | | | | | |
| 2.2 | 2R2 | | | 18 | 180 | 150 | 151 | 1100 | 112 | | | | | | |
| 2.4 | 2R4 | | | 20 | 200 | 160 | 161 | 1200 | 122 | | | | | | |
| 2.7 | 2R7 | | | 22 | 220 | 180 | 181 | 1500 | 152 | | | | | | |
| 3.0 | 3R0 | 24 | 240 | 200 | 201 | 1800 | 182 | | | | | | | | |
| 3.3 | 3R3 | 27 | 270 | | | 2200 | 222 | | | | | | | | |

Remark: special capacitance, tolerances and WVDC are available, consult with DALICAP.

◆DLC70B Chip Dimensions

unit:inch(millimeter)

| | Length | width | Thickness |
|---------------------------|--|------------------------------|-------------|
| DLC70B Chip Dimensions | 0.110+0.025~-0.010 (2.79+0.51~ -0.25) | .110 ± .010 (2.79 ± 0.25) | .10(2.6)max |

◆ Performance


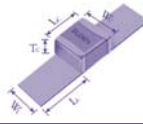
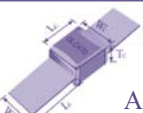
| Item | Specifications |
|--------------------------------------|---|
| Quality Factor (Q) | greater than 10,000 at 1 MHz |
| Insulation Resistance (IR) | 0.5 pF to 470 pF: 10 ⁶ Megohms min. @ +25°C at rated WVDC. 10 ⁵ Megohms min. @ +125°C at rated WVDC. 510 pF to 1000 pF: 10 ⁵ Megohms min. @ +25°C at rated WVDC. 10 ⁴ Megohms min. @ +125°C at rated WVDC. |
| Rated Voltage | See Rated Voltage Table |
| Dielectric Withstanding Voltage(DWV) | 250% of rated Voltage for 5 seconds, rated Voltage ≤ 500V 150% of rated Voltage for 5 seconds, 500V ≤ rated Voltage ≤ 1250V 120% of rated Voltage for 5 seconds, rated Voltage > 1250V |
| Operating Temperature Range | 0.5pF to 330pF ≤ 500V: -55°C to +175°C. Other: -55°C to +125°C. |
| Temperature Coefficient (TC) | 0 ± 30ppm/°C |
| Capacitance Drift | ± 0.02% or ± 0.02pF, whichever is greater. |
| Piezoelectric Effects | None |
| Termination Type | See Termination Type Table |


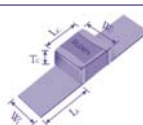
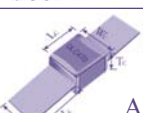
◆ Environmental Tests

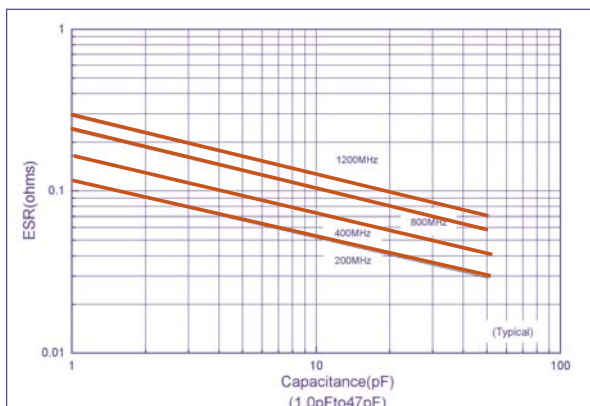
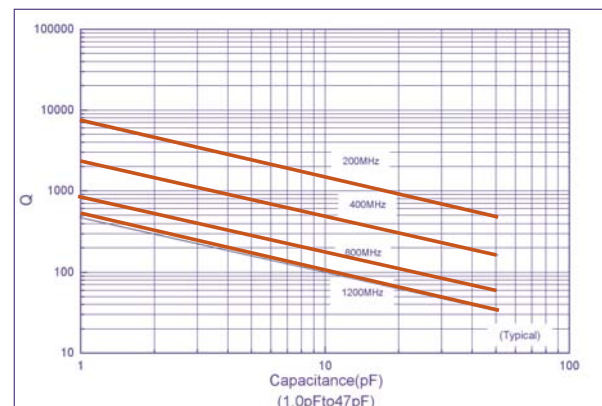
| Item | Specifications | Method |
|-------------------------|---|---|
| Thermal shock | DWV: the initial value IR: Shall be not less than 30% the initial value Capacitance change: no more than 0.5% or 0.5pF. | MIL-STD-202, Method 107, Condition A. At the maximum rated temperature(-55°C and 125°C) stay 30 minutes, The time of removing shall be not more than 3 minutes. Perform the five cycles. |
| Moisture resistance | | MIL-STD-202, Method 106. |
| Humidity (steady state) | DWV: the initial value IR: the initial value Capacitance change: no more than 0.3% or 0.3pF. | MIL-STD-202, Method 103, Condition A, with 1.5 Volts D.C. applied while subjected to an environment of 85°C with 85% relative humidity for 240 hours min. |
| Life | IR: Shall be not less than 30% the initial value Capacitance change: no more than 0.2% | MIL-STD-202, Method 108, for 2000 hours, at 125°C. Rated voltage ≤ 500V: 200% Rated voltage D.C. applied. 500V ≤ Rated voltage ≤ 1250V: 120% Rated voltage D.C. applied. Rated voltage > 1250V: 100% Rated voltage D.C. applied. |

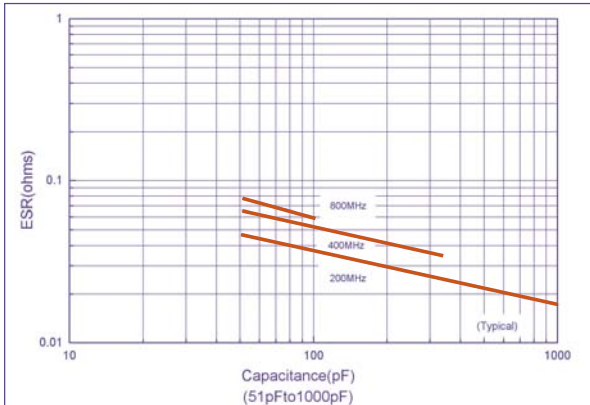
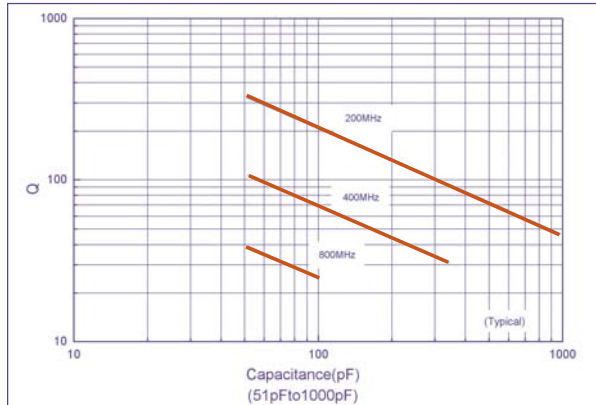
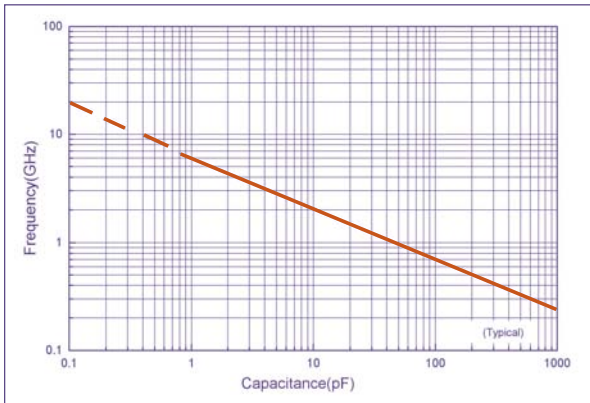
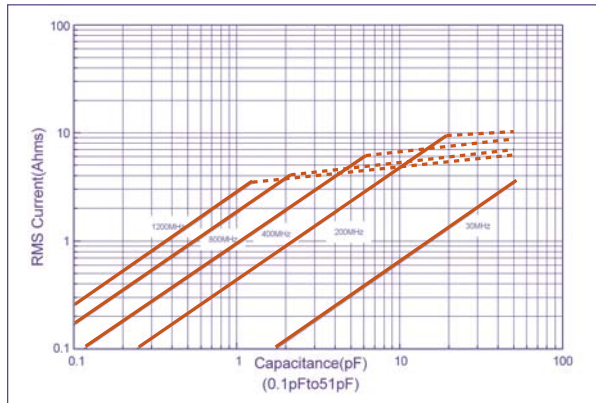
◆DLC70B Lead Type and Dimensions

unit:inch(millimeter)

| Series | Term. Code | Type / Outlines | Capacitor Dimensions | | | Overlap and Lead Dimensions | | | | Overlap and Lead Material |
|--------|------------|--|---|--------------------------------------|-----------------------------|-----------------------------|--------------------------|-------------------------|-----------------------------|---|
| | | | Length (L _c) | Width (W _c) | Thickness (T _c) | Overlap (B) | Length (L _L) | Width (W _L) | Thickness (T _L) | |
| 70B | W |  Chip | .110+.020 ~.010 (2.79+0.51 ~-0.25) | .110 ± .010 (2.79 ±0.25) | .10 (2.54) max | .024 (0.6) max | — | — | — | Nickel, Plated 100% Sn, RoHS Compliant |
| 70B | MS |  Microstrip | .135 ± | .110 ± | .10 (2.54) | — | .250 ± | .093 ± | .008 ± | Silver or Silver-plated |
| 70B | AR |  Axial Ribbon | (3.43 ±0.38) | (2.79 ±0.25) | max | — | 6.35 min | (2.36 ±0.13) | (0.2 ±0.025) | Copper |

| Series | Term. Code | Type / Outlines | Capacitor Dimensions | | | Overlap and Lead Dimensions | | | | Overlap and Lead Material |
|--------|-----------------|--|---|--------------------------------------|-----------------------------|-----------------------------|--------------------------|-------------------------|-----------------------------|---|
| | | | Length (L _c) | Width (W _c) | Thickness (T _c) | Overlap (B) | Length (L _L) | Width (W _L) | Thickness (T _L) | |
| 70B | P (non-mag) |  Chip | .110+.020 ~.010 (2.79+0.51 ~-0.25) | .110 ± .010 (2.79 ±0.25) | .10 (2.54) max | .024 (0.6) max | — | — | — | Copper Plated 100% Sn, Non-Mag, RoHS Compliant |
| 70B | MN (non-mag) |  Microstrip | .135 ± | .110 ± | .10 (2.54) | — | .250 ± | .093 ± | .008 ± | Silver or Silver-plated |
| 70B | AN (non-mag) |  Axial Ribbon | (3.43 ±0.38) | (2.79 ±0.25) | max | — | 6.35 min | (2.36 ±0.13) | (0.2 ±0.025) | Copper |

◆DLC70B Performance Curve
ESR VS Capacitance

Q VS Capacitance


◆DLC70B Performance Curve
ESR VS Capacitance

Q VS Capacitance

Series resonance VS Capacitance

Current rating VS Capacitance

Current rating VS Capacitance
