

## DLC10B Series

### ◆Product Features

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



### ◆DLC10B 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		500 Code 501 or 1500 Code 152	3.3	3R3	A, B, C, D	500 Code 501 or 1500 Code 152	24	240	F, G, J, K, M	300 Code 301 200 Code 201 100 Code 101 50 Code 500	180	181	F, G, J, K, M			
0.6	0R6			3.6	3R6				27			270				200	201
0.7	0R7			3.9	3R9				30			300				220	221
0.8	0R8			4.3	4R3				33			330				240	241
0.9	0R9			4.7	4R7				36			360				270	271
1.0	1R0			5.1	5R1				39			390				300	301
1.1	1R1			5.6	5R6				43			430				330	331
1.2	1R2			6.2	6R2				47			470				360	361
1.3	1R3			6.8	6R8				51			510				390	391
1.4	1R4			7.5	7R5				56			560				430	431
1.5	1R5			8.2	8R2			62	620			470	471				
1.6	1R6			9.1	9R1			68	680			510	511				
1.7	1R7			10	100			75	750			560	561				
1.8	1R8			11	110			82	820			620	621				
1.9	1R9			12	120			91	910			680	681				
2.0	2R0			13	130			100	101			750	751				
2.1	2R1			15	150			110	111			820	821				
2.2	2R2			16	160			120	121			910	911				
2.4	2R4			18	180			130	131			1000	102				
2.7	2R7			20	200			150	151								
3.0	3R0		22	220		160	161										

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

### ◆DLC10B Chip Dimensions

unit:inch(millimeter)

	Length	width	Thickness
DLC10B 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


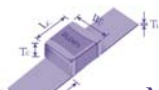
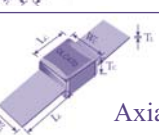
Item	Specifications
Quality Factor (Q)	greater than 10,000 at 1 MHz
Insulation Resistance (IR)	0.5 pF to 470 pF: 10 <sup>6</sup> Megohms min. @ +25 °C at rated WVDC. 10 <sup>5</sup> Megohms min. @ +125 °C at rated WVDC. 510 pF to 1000 pF: 10 <sup>5</sup> Megohms min. @ +25 °C at rated WVDC. 10 <sup>4</sup> 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)	+90 ± 20ppm/°C
Capacitance Drift	± 0.02% or ± 0.02pF, whichever is greater.
Piezoelectric Effects	None
Termination Type	See Termination Type Table


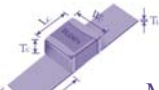
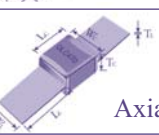
### ◆ Environmental Tests

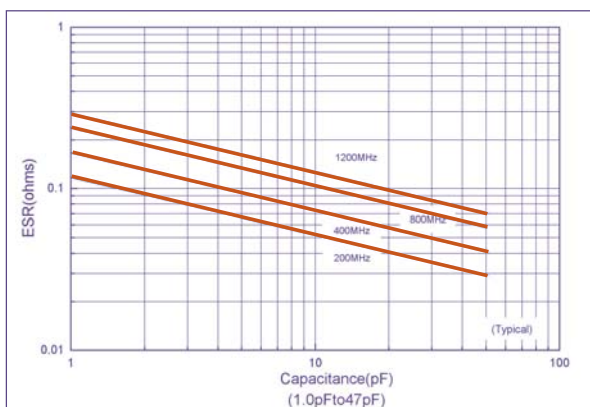
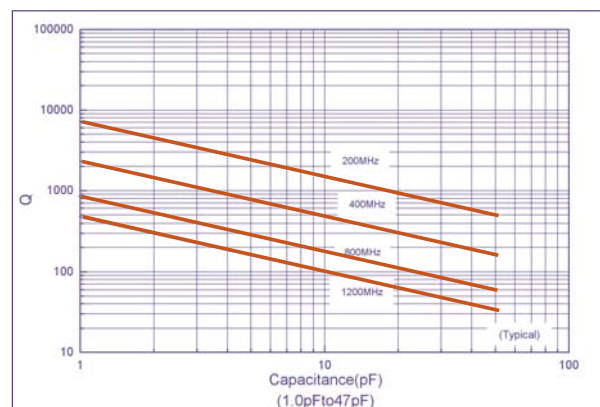
Item	Specifications	Method
Thermal shock	DWV: the initial value IR: Shall be not less than 30% the initial value Capacitance change: no more than 0.5% or 0.5pF.	MIL-STD-202, Method 107, Condition A. At the maximum rated temperature(-55 °C and 125 °C) stay 30 minutes,The time of removing shall be not 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.

**◆DLC10B Lead Type and Dimensions**

unit:inch(millimeter)

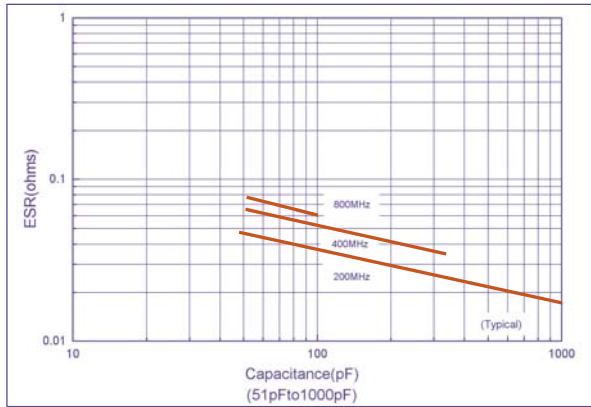
Series	Term. Code	Type / Outlines	Capacitor Dimensions			Overlap and Lead Dimensions				Overlap and Lead Material
			Length (L <sub>C</sub> )	Width (W <sub>C</sub> )	Thickness (T <sub>C</sub> )	Overlap (B)	Length (L <sub>L</sub> )	Width (W <sub>L</sub> )	Thickness (T <sub>L</sub> )	
10B	W	 Chip	.110+.020 ~.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
10B	MS	 Microstrip	.135 ± .015 (3.43 ±0.38)	.110 ± .010 (2.79 ±0.25)	.10 (2.54) max	—	.250 ± 6.35 min	.093 ± .005 (2.36 ±0.13)	.008 ± .001 (0.2 ±0.025)	Silver or Silver- plated Copper
10B	AR	 Axial Ribbon								

Series	Term. Code	Type / Outlines	Capacitor Dimensions			Overlap and Lead Dimensions				Overlap and Lead Material
			Length (L <sub>C</sub> )	Width (W <sub>C</sub> )	Thickness (T <sub>C</sub> )	Overlap (B)	Length (L <sub>L</sub> )	Width (W <sub>L</sub> )	Thickness (T <sub>L</sub> )	
10B	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
10B	MN (non-mag)	 Microstrip	.135 ± .015 (3.43 ±0.38)	.110 ± .010 (2.79 ±0.25)	.10 (2.54) max	—	.250 ± 6.35 min	.093 ± .005 (2.36 ±0.13)	.008 ± .001 (0.2 ±0.025)	Silver or Silver- plated Copper
10B	AN (non-mag)	 Axial Ribbon								

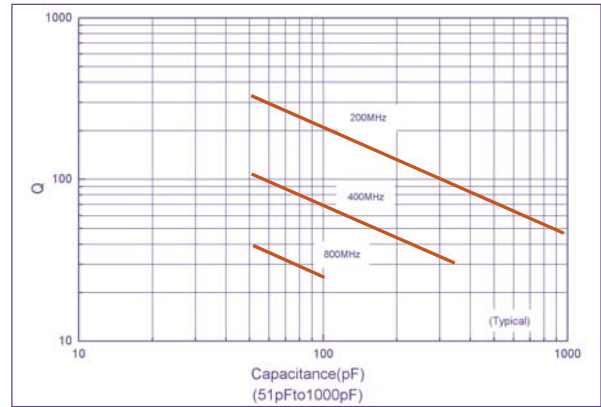
**◆DLC10B Performance Curve**
**ESR VS Capacitance**

**Q VS Capacitance**


◆ **DLC10B Performance Curve**

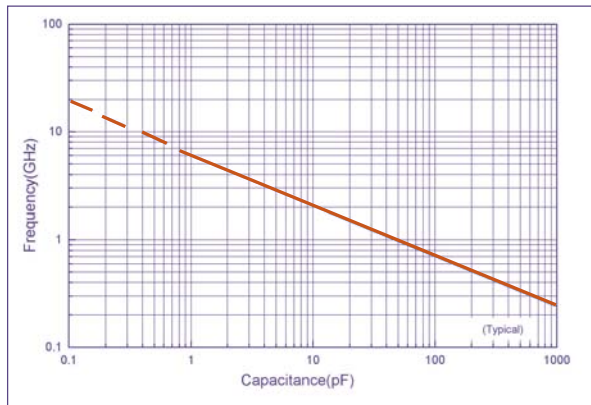
**ESR VS Capacitance**



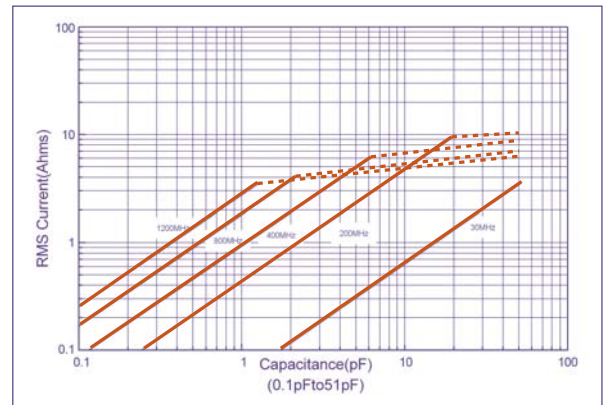
**Q VS Capacitance**



**Series resonance VS Capacitance**



**Current rating VS Capacitance**



**Current rating VS Capacitance**

