

## DLC10 Series

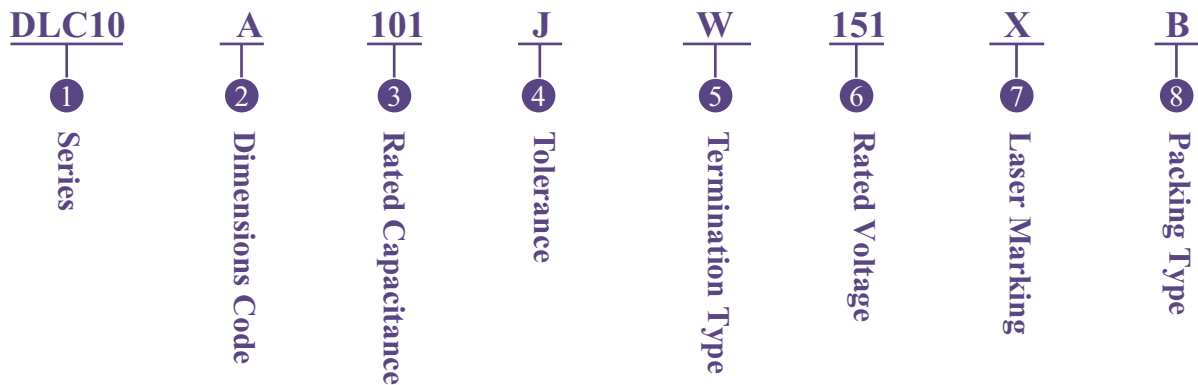
### ◆Product Features

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

### ◆Typical applications field

Wireless Broadcasting Equipment, Mobile Base Stations, GPS Portables, Medical (MRI coils), Radar.

### ◆Part Numbering



① **DLC10 Series – High Q, High Power Type** (Temperature coefficient:  $+90 \pm 20\text{ppm}/^\circ\text{C}$ )

### ② Dimensions Code

unit:inch(millimeter)

	10A	10B	10C	10D	10E
Length	0.055	0.110	0.230	0.08	0.380
	$+0.015 \sim -0.010$	$+0.020 \sim -0.010$	$+0.020 \sim -0.010$	$\pm 0.010$	$+0.015 \sim -0.010$
	(1.4 $+0.38 \sim -0.25$ )	(2.79 $+0.51 \sim -0.25$ )	(5.84 $+0.51 \sim -0.25$ )	(2.0 $+0.25 \sim -0.25$ )	(9.65 $+0.38 \sim -0.25$ )
width	$0.055 \pm 0.010$	$0.110 \pm 0.010$	$0.250 \pm 0.015$	$0.05 \pm 0.010$	$0.380 \pm 0.010$
	( $1.4 \pm 0.205$ )	( $2.79 \pm 0.25$ )	( $6.35 \pm 0.38$ )	( $1.2 \pm 0.25$ )	( $9.65 \pm 0.25$ )
Thickness	0.057(1.45)max	0.10(2.6)max	0.165(4.19)max	0.057(1.45)max	0.177(4.5)max

### ③ Rated Capacitance

Capacitance is less than 10pF; for example: 1R0=1.0pF, R denote point.

Capacitance is not less than 10pF; for example: 101=100pF, The third number is the power of 10.

#### ④ Tolerance

Code	A	B	C	D	F	G	J	K	M
Tolerance	±0.05pF	±0.1pF	±0.25pF	±0.5pF	±1%	±2%	±5%	±10%	±20%

#### ⑤ Termination Type

Code	W	P	C	MS	AR	RR	AW	RW
Type	Nickel, Plated 100% Sn(RoHS)	Non-magnetic Copper Plated 100% Sn(RoHS)	Palladium Silver	Microstrip	Axial Ribbon	Radial Ribbon	Axial Wire	Radial wire

Code	MN	AN	FN	BN	RN
Type	Non-mag Microstrip	Non-mag Axial Ribbon	Non-mag Radial Ribbon	Non-mag Axial Wire	Non-mag Radial Wire

#### ⑥ Rated voltage

Code	Rated Voltage	Code	Rated Voltage
500	50V	102	1000V
101	100V	152	1500V
151	150V	202	2000V
201	200V	252	2500V
301	300V	362	3600V
501	500V		

#### ⑦ Laser Marking

X denote Marking; N denote No-Marking.

Capacitance is less than 10pF; for example: The marking of 1.0pF is 1R0.

Capacitance is not less than 10pF; for example: The marking of 100pF is 101.

#### ⑧ Packaging Type

	10A	10B	10C	10D	10E
T:Tape carrier packaging	√	√	√	√	
B:Bulk packaging in a bag	√	√	√	√	√
C:Gridiron packaging			√	√	√
I:Special packaging	Consult with DALICAP				

Quantity per Reel: 10A: 500, 1000, 2000, 3000pcs/reel; 10B: 500, 1000, 2000pcs/reel;

#### ◆ Performance Requirements

DLC10 Series Capacitors are designed and manufactured to meet the requirements of MIL-C-55681 and MIL-C-123.

◆ All of Dalicap DLC10 Series products are in compliance with RoHS instruction.

## DLC10A Series

### ◆Product Features

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



### ◆DLC10A Series Rated Capacitance Table

Cap.pF	Code	Tol.	Rated WVDC	Cap.pF	Code	Tol.	Rated WVDC	Cap.pF	Code	Tol.	Rated WVDC
0.5	0R5	A,B,C,D	150V Code 151	3.0	3R0	A,B,C,D	150V Code 151	20	200	F,G, J,K, M	150V Code 151
0.6	0R6			3.3	3R3			22	220		
0.7	0R7			3.6	3R6			24	240		
0.8	0R8			3.9	3R9			27	270		
0.9	0R9			4.3	4R3			30	300		
1.0	1R0			4.7	4R7			33	330		
1.1	1R1			5.1	5R1			36	360		
1.2	1R2			5.6	5R6			39	390		
1.3	1R3			6.2	6R2			43	430		
1.4	1R4			6.8	6R8	47		470			
1.5	1R5			7.5	7R5	51		510			
1.6	1R6			8.2	8R2	56		560			
1.7	1R7			9.1	9R1	62		620			
1.8	1R8			10	100	68		680			
1.9	1R9			11	110	75		750			
2.0	2R0			12	120	82		820			
2.1	2R1			13	130	91		910			
2.2	2R2			15	150	100		101			
2.4	2R4	16	160								
2.7	2R7	18	180								

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

### ◆DLC10A Chip Dimensions

unit:inch(millimeter)

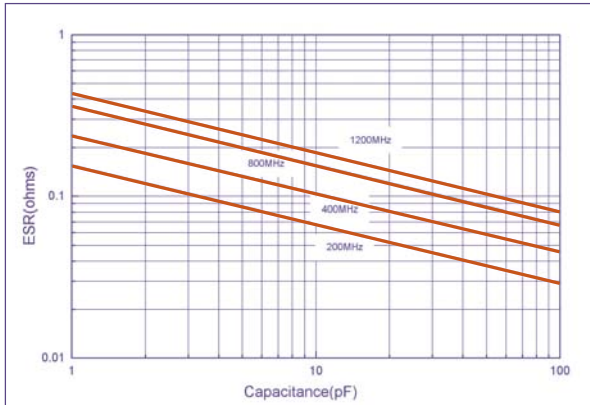
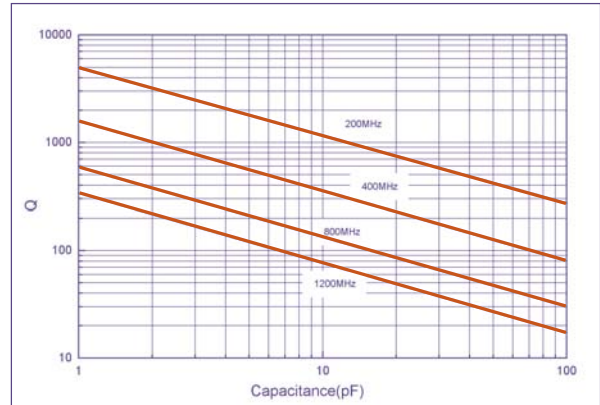
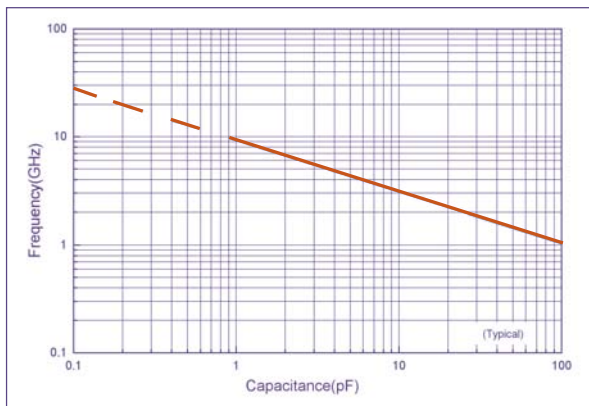
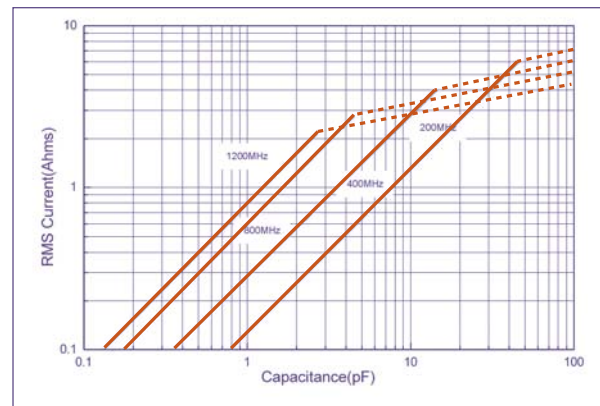
	Length	width	Thickness
DLC10A Chip Dimensions	0.055+0.015~-0.010 (1.4+0.38~ -0.25)	.055 ± .010 (1.4 ± 0.25)	.057(1.45)max

### ◆ Performance

Item	Specifications
Quality Factor (Q)	greater than 10,000 at 1 MHz
Insulation Resistance (IR)	0.1 pF to 100 pF: 10 <sup>6</sup> Megohms min. @ +25°C at rated WVDC. 10 <sup>5</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.
Operating Temperature Range	-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. 200% Rated voltage D.C. applied.

**◆ DLC10A Performance Curve**
**ESR VS Capacitance**

**Q VS Capacitance**

**Series resonance VS Capacitance**

**Current rating VS Capacitance**


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



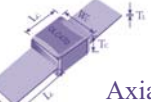
Item	Specifications
Quality Factor (Q)	greater than 10,000 at 1 MHz
Insulation Resistance (IR)	0.5 pF to 470 pF: 10 <sup>6</sup> Megohms min. @ +25 °C at rated WVDC. 10 <sup>5</sup> Megohms min. @ +125 °C at rated WVDC. 510 pF to 1000 pF: 10 <sup>5</sup> Megohms min. @ +25 °C at rated WVDC. 10 <sup>4</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



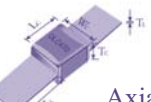
### ◆ Environmental Tests

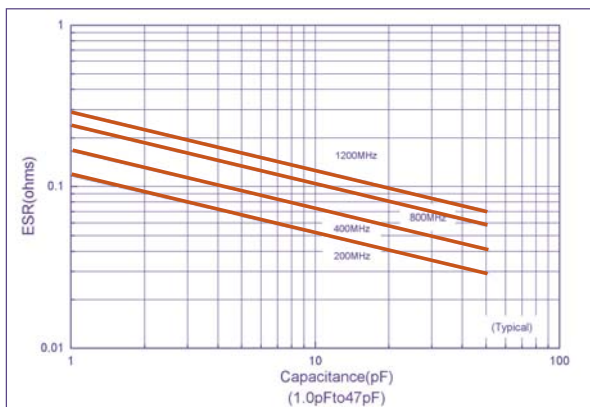
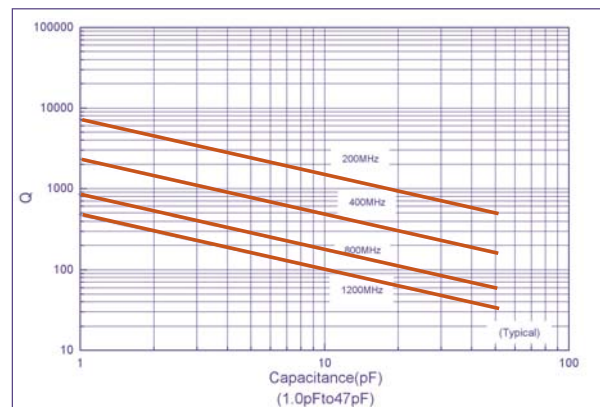
Item	Specifications	Method
Thermal shock	DWV: the initial value IR: Shall be not less than 30% the initial value Capacitance change: no more than 0.5% or 0.5pF.	MIL-STD-202, Method 107, Condition A. At the maximum rated temperature(-55 °C and 125 °C) stay 30 minutes,The time of removing shall be not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

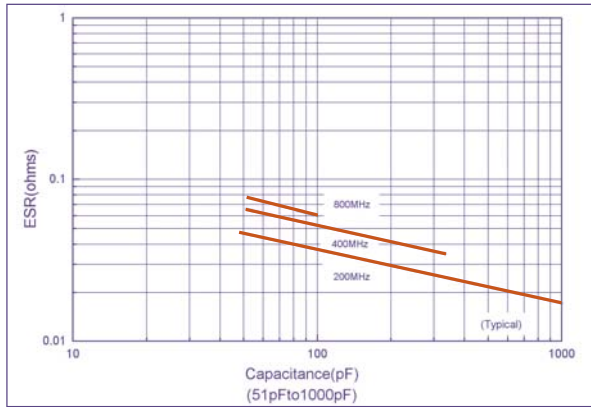
Series	Term. Code	Type / Outlines	Capacitor Dimensions			Overlap and Lead Dimensions				Overlap and Lead Material
			Length (L <sub>C</sub> )	Width (W <sub>C</sub> )	Thickness (T <sub>C</sub> )	Overlap (B)	Length (L <sub>L</sub> )	Width (W <sub>L</sub> )	Thickness (T <sub>L</sub> )	
10B	P (non-mag)	 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**


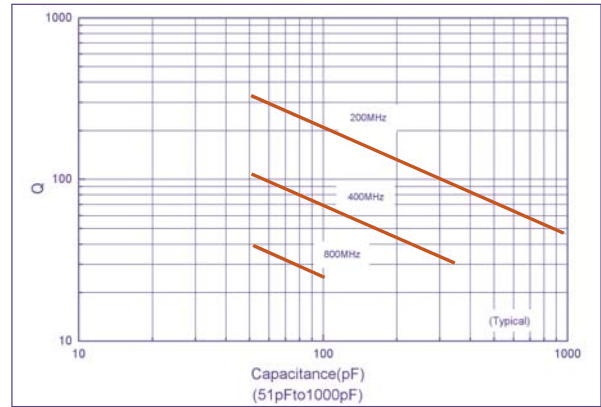


◆ **DLC10B Performance Curve**

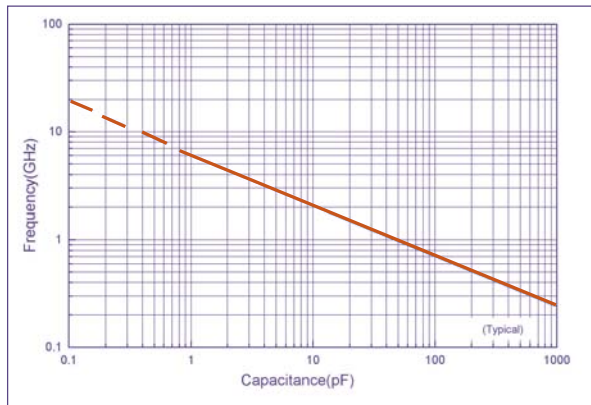
**ESR VS Capacitance**



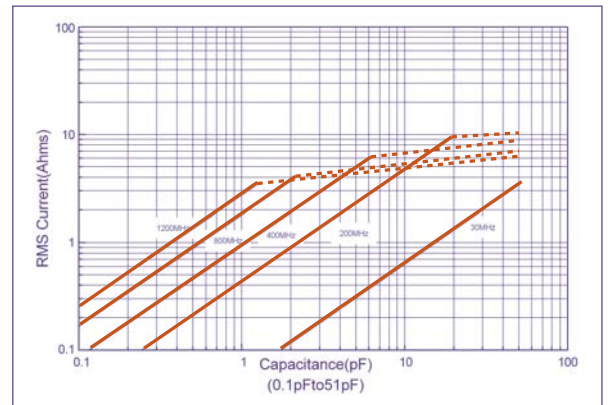
**Q VS Capacitance**



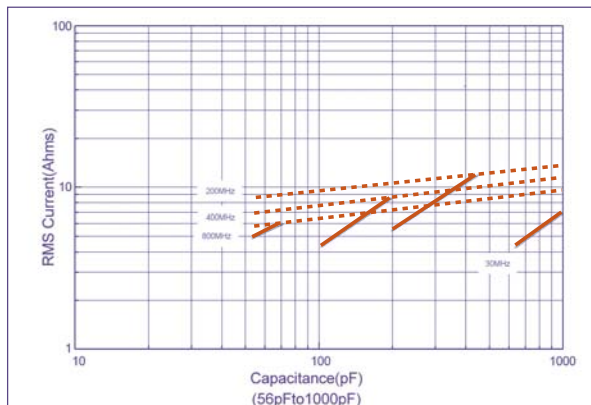
**Series resonance VS Capacitance**



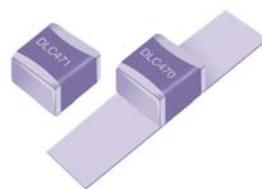
**Current rating VS Capacitance**



**Current rating VS Capacitance**



**DLC10C Series**



◆ **Product Features**

High Q, High RF Current/Voltage, High RF Power, Low ESR/ESL, low Noise, Ultra-Stable Performance.

◆ **DLC10C Series Rated Capacitance Table**

Cap.pF	Code	Tol.	WVDC V	Cap.pF	Code	Tol.	WVDC V	Cap.pF	Code	Tol.	WVDC V
1.0	1R0	B,C,D	2500 Code 252	18	180	F,G, J,K, M	2500 Code 252	330	331	F,G, J,K, M	1500 Code 152
1.2	1R2			22	220			390	391		
1.5	1R5			27	270			470	471		
1.8	1R8			33	330			560	561		1000 Code 102
2.2	2R2			39	390			680	681		
2.7	2R7			47	470			820	821		
3.3	3R3			56	560			1000	102		500 Code 501
3.9	3R9			68	680			1200	122		
4.7	4R7			82	820			1500	152		
5.6	5R6			100	101			1800	182		300 Code 301
6.8	6R8			120	121			2200	222		
8.2	8R2	150	151	2700	272						
10	100	F,G, J,K, M		180	181						
12	120			220	221						
15	150			270	271						

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

◆ **DLC10C Chip Dimensions**

unit:inch(millimeter)

	Length	width	Thickness
DLC10C Chip Dimensions	.230+.020~- .010 (5.84+0.51~ -0.25)	.250 ± .015 (6.35 ± 0.38)	.165(4.19)max

### ◆ Performance


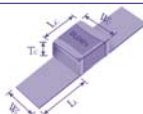
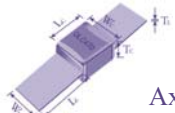
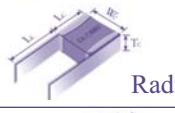
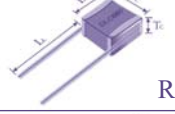

Item	Specifications
Quality Factor (Q)	1 pF to 1000 pF: greater than 10,000 at 1 MHz. 1100 pF to 2700 pF: greater than 10,000 at 1 KHz.
Insulation Resistance (IR)	Test Voltage: 500V 10 <sup>5</sup> Megohms min. @ +25°C at rated WVDC. 10 <sup>4</sup> Megohms min. @ +125°C at rated WVDC.
Rated Voltage	See Rated Voltage Table
Dielectric Withstanding Voltage(DWV)	1 pF to 470 pF: 120% of rated WVDC for 5 secs. 560 pF to 1200 pF: 150% of rated WVDC for 5 secs. 1500 pF to 2700 pF: 250% of rated WVDC for 5 secs.
Operating Temperature Range	-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


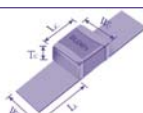
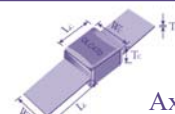
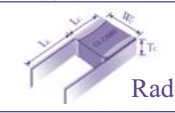
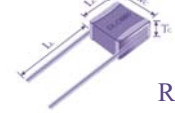

### ◆ Environmental Tests

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. no less than 1500V, 120% Rated voltage D.C. applied; less than 1500V, 150% rated voltage D.C. applied.

**◆DLC10C Lead Type and Dimensions**

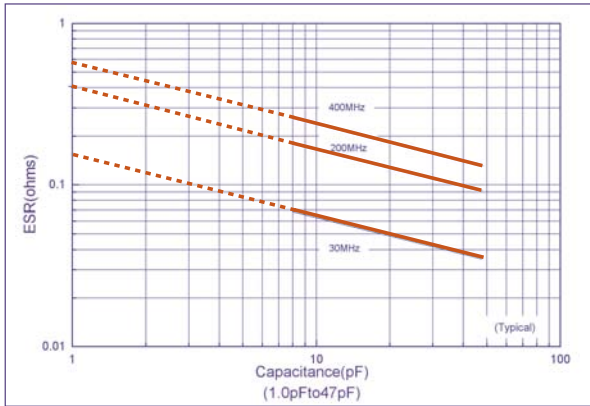
unit:inch(millimeter)

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> )		
10C	W	 Chip	.230+.020 ~.010 (5.84+0.51 ~-0.25)	.250 ± .015 (6.35 ±0.38)	.165 (4.19) max	.047 (1.20) max	—	—	—	Nickel, Plated 100% Sn, RoHS Compliant	
10C	MS	 Microstrip	.245 ± (6.22 ±0.64)	.250 ± (6.35 ±0.38)	.165 (4.19) max	—	.500 (12.7) min	.240 ±	.004 ±	Silver or Silver- plated Copper	
10C	AR	 Axial Ribbon						.005 (6.10 ±0.13)	.001 (0.1 ±0.025)		
10C	RR	 Radial Ribbon						.394 ±.039 (10±1)	.114 ±.005 (2.9 ±0.13)		.012 (0.3 ±0.025)
10C	RW	 Radial Wire						1.0 (25.4) min	Dia.=.031±.004 (0.8±0.1)		
10C	AW	 Axial Wire									

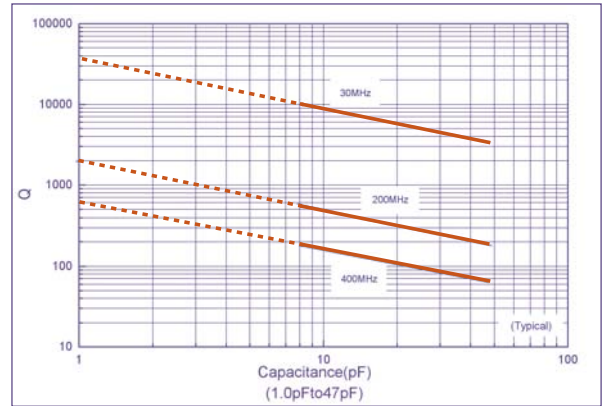
Series	Term. Code	Type/Outlines	Capacitor Dimensions			Overlap and Lead Dimensions				Overlap and Lead Material	
			Length (L <sub>c</sub> )	Width (W <sub>c</sub> )	Thickness (T <sub>c</sub> )	Overlap (B)	Length (L <sub>l</sub> )	Width (W <sub>l</sub> )	Thickness (T <sub>l</sub> )		
10C	P (non-mag)	 Chip	.230+.020 ~.010 (5.84+0.51 ~-0.25)	.250 ± .015 (6.35 ±0.38)	.165 (4.19) max	.047 (1.20) max	—	—	—	Copper Plated 100% Sn, Non-Mag, RoHS Compliant	
10C	MN (non-mag)	 Microstrip	.245 ± (6.22 ±0.64)	.250 ± (6.35 ±0.38)	.165 (4.19) max	—	.500 (12.7) min	.240 ±	.004 ±	Silver or Silver- plated Copper	
10C	AN (non-mag)	 Axial Ribbon						.005 (6.10 ±0.13)	.001 (0.1 ±0.025)		
10C	FN (non-mag)	 Radial Ribbon						.394 ±.039 (10±1)	.114 ±.005 (2.9 ±0.13)		.012 (0.3 ±0.025)
10C	RN (non-mag)	 Radial Wire						1.0 (25.4) min	Dia.=.031±.004 (0.8±0.1)		
10C	BN (non-mag)	 Axial Wire									

◆ **DLC10C Performance Curve**

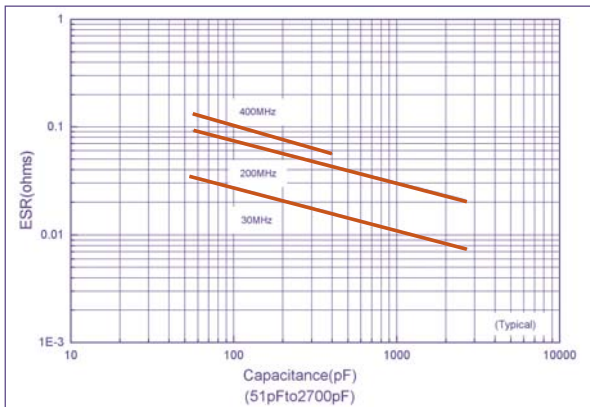
**ESR VS Capacitance**



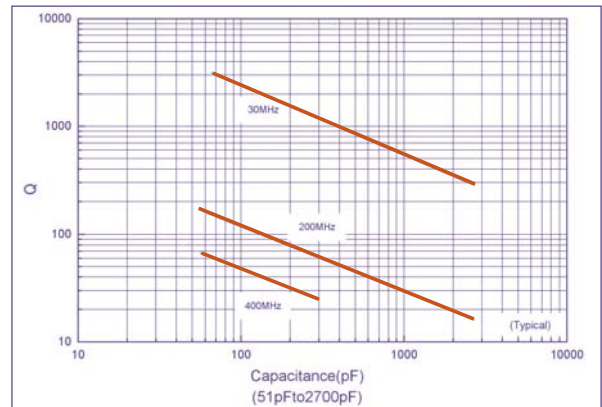
**Q VS Capacitance**



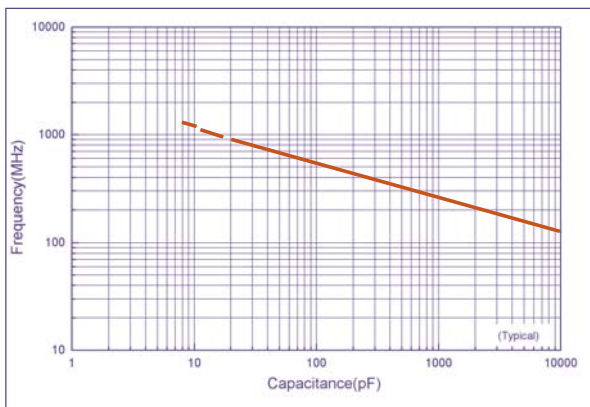
**ESR VS Capacitance**



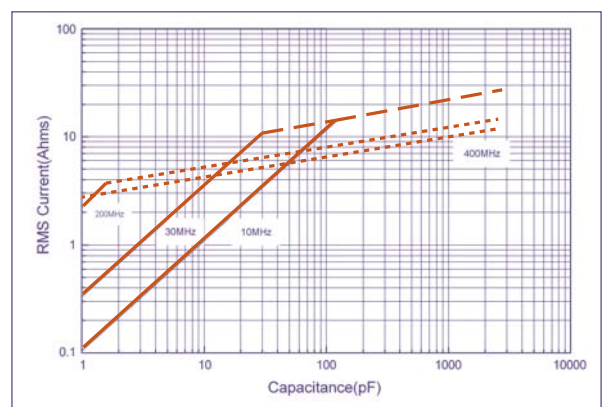
**Q VS Capacitance**



**Series resonance VS Capacitance**



**Current rating VS Capacitance**



## DLC10D Series

### ◆Product Features

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



### ◆DLC10D Series Rated Capacitance Table

Cap.pF	Code	Tol.	Rated WVDC	Cap.pF	Code	Tol.	Rated WVDC	Cap.pF	Code	Tol.	Rated WVDC
0.5	0R5	B,C,D	200V Code 201	3.0	3R0	B,C,D	200V Code 201	20	200	E,G, J,K, M	200V Code 201
0.6	0R6			3.3	3R3			22	220		
0.7	0R7			3.6	3R6			24	240		
0.8	0R8			3.9	3R9			27	270		
0.9	0R9			4.3	4R3			30	300		
1.0	1R0			4.7	4R7			33	330		
1.1	1R1			5.1	5R1	36		360			
1.2	1R2			5.6	5R6	39		390			
1.3	1R3			6.2	6R2	43		430			
1.4	1R4			6.8	6R8	47		470			
1.5	1R5			7.5	7R5	51		510			
1.6	1R6			8.2	8R2	56		560			
1.7	1R7			9.1	9R1	62		620			
1.8	1R8			10	100	68		680			
1.9	1R9			11	110	75		750			
2.0	2R0			12	120	82		820			
2.1	2R1			13	130	91		910			
2.2	2R2			15	150	100		101			
2.4	2R4	16	160	120	121	100V Code 101					
2.7	2R7	18	180	150	151						

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

### ◆DLC10D Chip Dimensions

unit:inch(millimeter)

	Length	width	Thickness
DLC10D Chip Dimensions	.08 ± .010 (2.0 ± 0.25)	.050 ± .010 (1.2 ± 0.25)	.057(1.45)max

**◆ Performance**

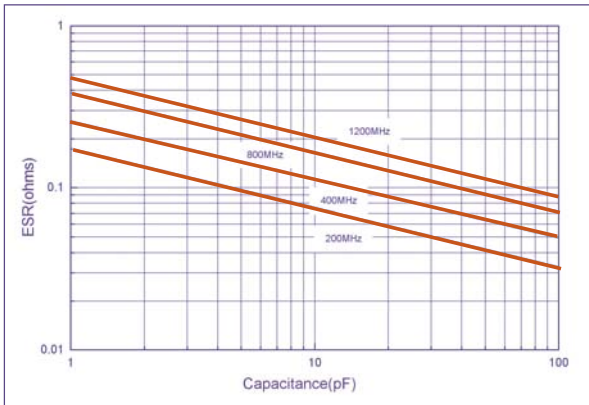
Item	Specifications
Quality Factor (Q)	greater than 10,000 at 1 MHz
Insulation Resistance (IR)	10 <sup>6</sup> Megohms min. @ +25°C at rated WVDC. 10 <sup>5</sup> Megohms min. @ +125°C at rated WVDC.
Rated Voltage	See Rated Voltage Table
Dielectric Withstanding Voltage(DWV)	250% of rated Voltage for 5 seconds.
Operating Temperature Range	-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**

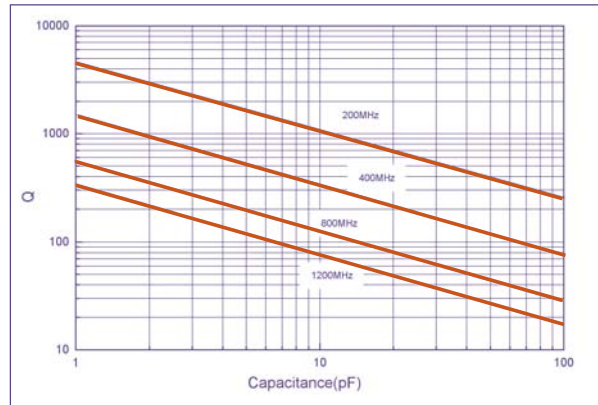
Item	Specifications	Method
Thermal shock	DWV: the initial value IR: Shall be not less than 30% the initial value Capacitance change: no more than 0.5% or 0.5pF.	MIL-STD-202, Method 107, Condition A. At the maximum rated temperature(-55°C and 125°C) stay 30 minutes,The time of removing shall be not more 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 . 200% Rated voltage D.C. applied.

◆ **DLC10D Performance Curve**

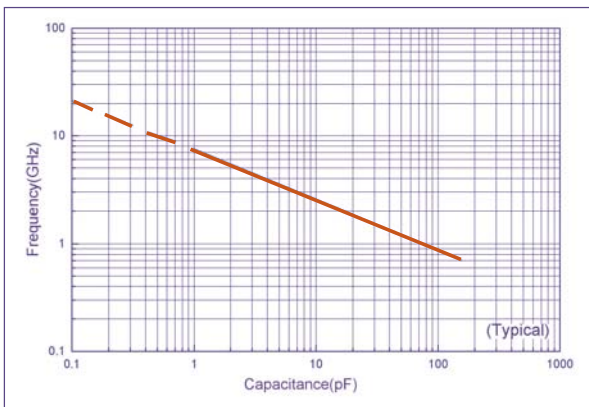
**ESR VS Capacitance**



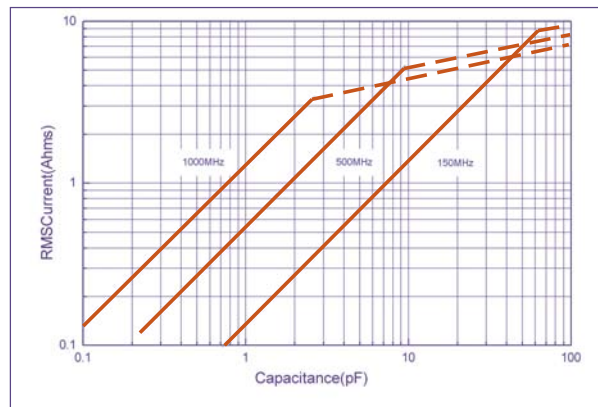
**Q VS Capacitance**



**Series resonance VS Capacitance**



**Current rating VS Capacitance**

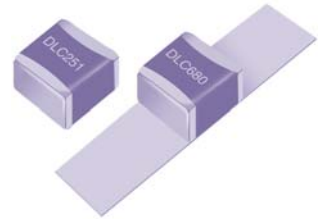




## DLC10E Series

### ◆Product Features

High Q, High RF Current/Voltage, High RF Power, Low ESR/ESL, low Noise,  
Ultra-Stable Performance.



### ◆DLC10E Series Rated Capacitance Table

Cap.pF	Code	Tol.	Rated WVDC	Cap.pF	Code	Tol.	Rated WVDC	Cap.pF	Code	Tol.	Rated WVDC				
1.0	1R0	B,C,D	3600 Code 362 or 7200 Code 722	22	220	F,G, J,K, M	3600 Code 362 or 7200 Code 722	470	471	F,G, J,K, M	2500 Code 252				
1.2	1R2			27	270			560	561						
1.5	1R5			33	330			680	681						
1.8	1R8			39	390			820	821		1000 Code 102				
2.2	2R2			47	470			1000	102						
2.7	2R7			56	560			1200	122						
3.3	3R3			68	680			1500	152		500 Code 501				
3.9	3R9			82	820			1800	182						
4.7	4R7			100	101			2200	222						
5.6	5R6			F,G, J,K, M	3600 Code 362			120	121		G,J, K,M	3600 Code 362	2700	272	G,J, K,M
6.8	6R8							150	151				3300	332	
8.2	8R2							180	181				4700	472	
10	100							220	221				5100	512	
12	120	270	271												
15	150	330	331												
18	180	390	391												

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

### ◆DLC10E Chip Dimensions

unit:inch(millimeter)

	Length	width	Thickness
DLC10E Chip Dimensions	0.380±.015~-.010 (9.65±0.38~ -0.25)	.380 ± .010 (9.65 ± 0.25)	0.117(4.5)max

### ◆ Performance


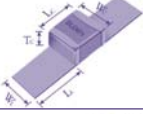
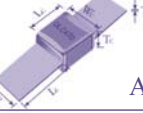

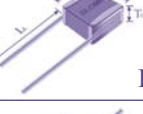
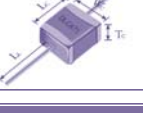
Item	Specifications
Quality Factor (Q)	1 pF to 1000 pF: greater than 10,000 at 1 MHz. 1100 pF to 2700 pF: greater than 10,000 at 1 KHz.
Insulation Resistance (IR)	Test Voltage: 500V 10 <sup>5</sup> Megohms min. @ +25°C at rated WVDC. 10 <sup>4</sup> Megohms min. @ +125°C at rated WVDC.
Rated Voltage	See Rated Voltage Table
Dielectric Withstanding Voltage(DWV)	Rated WVDC: 3600V 1 pF to 680 pF: 120% of rated WVDC for 5 secs. 820 pF to 2200 pF: 150% of rated WVDC for 5 secs. 2700 pF to 5100 pF: 250% of rated WVDC for 5 secs. Rated WVDC: 7200V 1 pF to 82 pF: 8000V applied for 5 secs.
Operating Temperature Range	-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


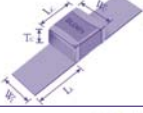
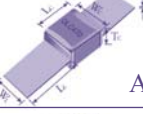

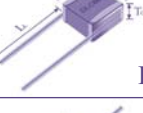
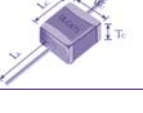
### ◆ Environmental Tests

Item	Specifications	Method
Thermal shock	DWV: the initial value IR: Shall be not less than 30% the initial value Capacitance change:	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	no more than 0.5% or 0.5pF.	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 ≥ 7200V: 100% Rated voltage D.C. applied. 1500V ≤ Rated voltage < 7200V: 120% Rated voltage D.C. applied. Rated voltage < 1500V: 150% Rated voltage D.C. applied.

**◆DLC10E Lead Type and Dimensions**

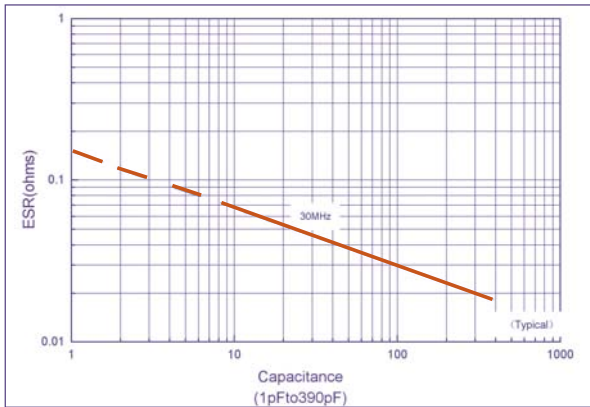
unit:inch(millimeter)

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> )	
10E	W	 Chip	.380+.015 ~.010 (9.65+0.38 ~-0.25)	.380 ± .010 (9.65 ±0.25)	.177 (4.50) max	.063 (1.60) max	—	—	—	Nickel, Plated 100% Sn, RoHS Compliant
10E	MS	 Microstrip	.380 +.015~ -.010 (9.65 0.25)	.380 ±.010 (9.65± 0.25)	.177 (4.5) max	—	.750 (19.05) min	.350 ±.010 (8.89± 0.25)	.010 ±.005 (0.25± 0.13)	Silver or Silver-plated Copper
10E	AR	 Axial Ribbon								
10E	RR	 Radial Ribbon								
10E	RW	 Radial Wire								
10E	AW	 Axial Wire								
10E							.394 ±.039 (10±1)	.114 ±.005 (2.9 ±0.13)	.012 ±.002 (0.3 ±0.05)	
10E							.787 (20) min	Dia.=.031±.004 (0.8±0.1)		
10E							1.18 (30) min			

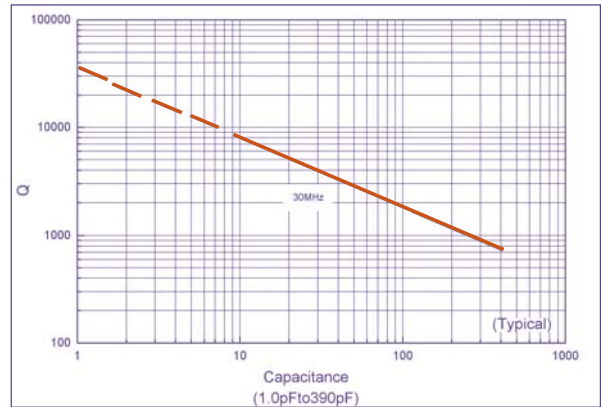
Series	Term. Code	Type/Outlines	Capacitor Dimensions			Overlap and Lead Dimensions				Overlap and Lead Material
			Length (L <sub>C</sub> )	Width (W <sub>C</sub> )	Thickness (T <sub>C</sub> )	Overlap (B)	Length (L <sub>L</sub> )	Width (W <sub>L</sub> )	Thickness (T <sub>L</sub> )	
10E	P (non-mag)	 Chip	.380+.015 ~.010 (9.65+0.38 ~-0.25)	.380 ± .010 (9.65 ±0.25)	.177 (4.50) max	.063 (1.60) max	—	—	—	Copper Plated 100% Sn, Non-Mag, RoHS Compliant
10E	MN (non-mag)	 Microstrip	.380 +.015~ -.010 (9.65 0.25)	.380 ±.010 (9.65± 0.25)	.177 (4.5) max	—	.750 (19.05) min	.350 ±.010 (8.89± 0.25)	.010 ±.005 (0.25± 0.13)	Silver or Silver-plated Copper
10E	AN (non-mag)	 Axial Ribbon								
10E	FN (non-mag)	 Radial Ribbon								
10E	RN (non-mag)	 Radial Wire								
10E	BN (non-mag)	 Axial Wire								
10E							.394 ±.039 (10±1)	.114 ±.005 (2.9 ±0.13)	.012 ±.002 (0.3 ±0.05)	
10E							.787 (20) min	Dia.=.031±.004 (0.8±0.1)		
10E							1.18 (30) min			

◆ **DLC10E Performance Curve**

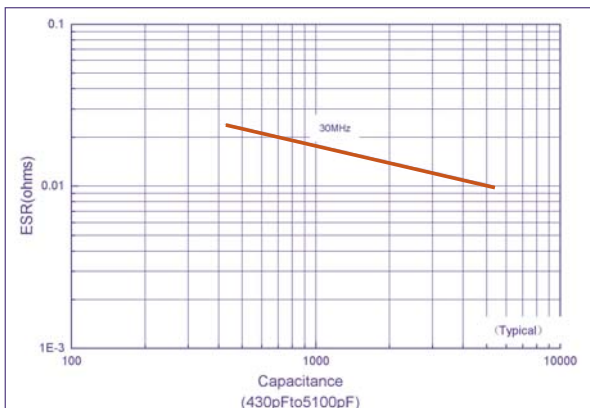
**ESR VS Capacitance**



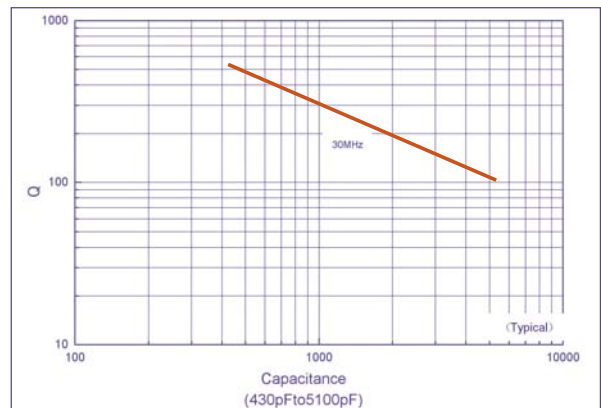
**Q VS Capacitance**



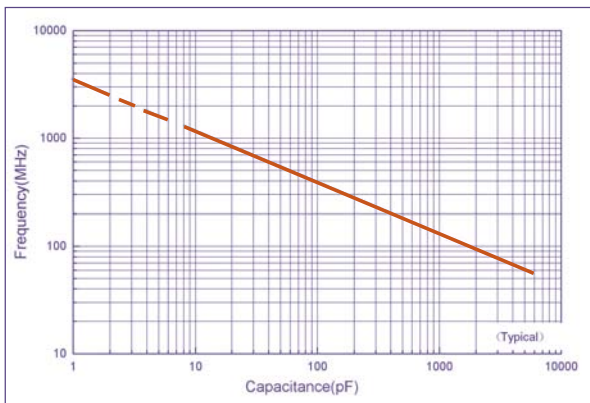
**ESR VS Capacitance**



**Q VS Capacitance**



**Series resonance VS Capacitance**



**Current rating VS Capacitance**

