



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



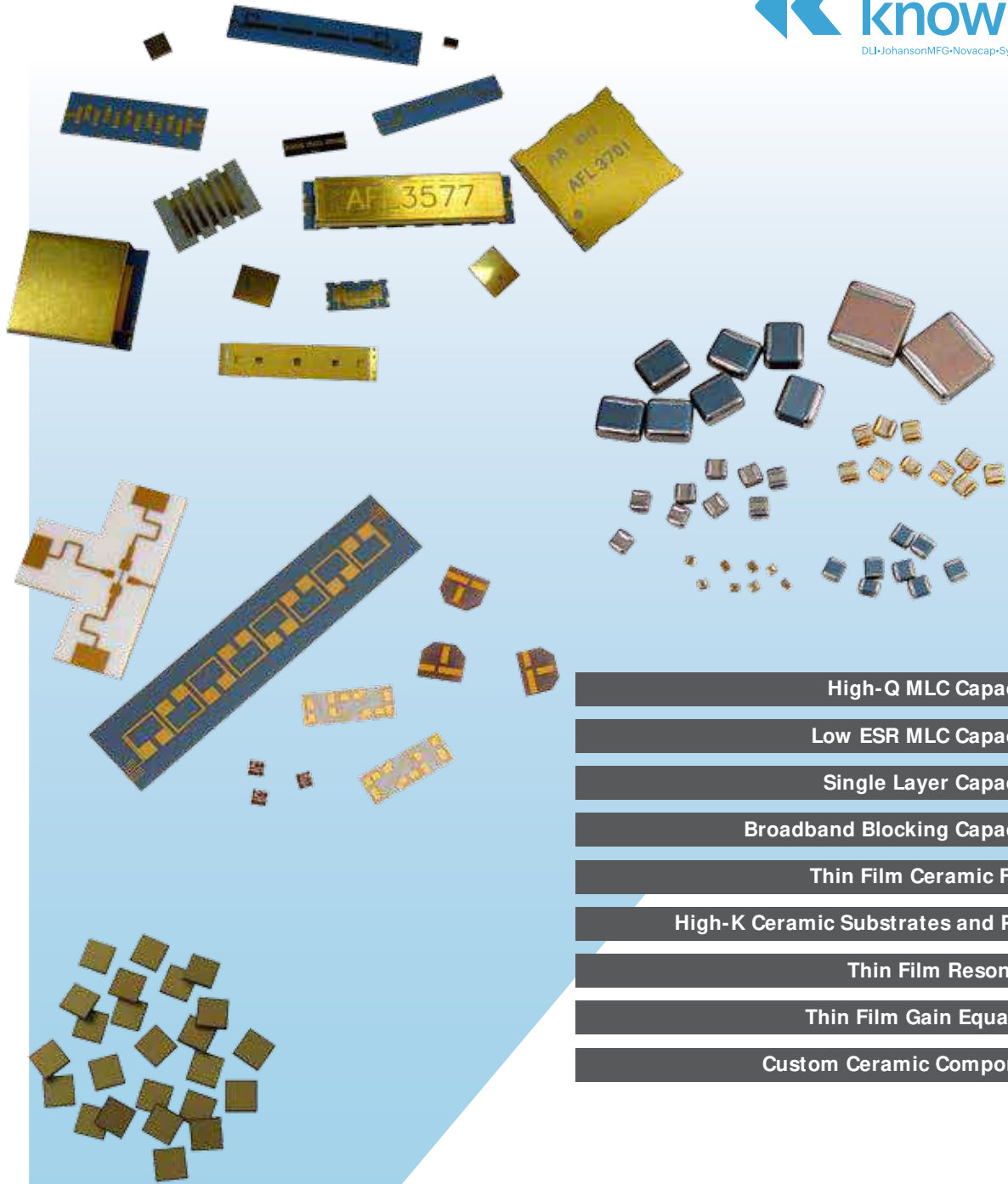
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- High-Q MLC Capacitors
- Low ESR MLC Capacitors
- Single Layer Capacitors
- Broadband Blocking Capacitors
- Thin Film Ceramic Filters
- High-K Ceramic Substrates and Plates
- Thin Film Resonators
- Thin Film Gain Equalizers
- Custom Ceramic Components

MLC & SLC Capacitors Thin Film Components

Introduction to Dielectric Laboratories Inc.

What makes DLI Unique?

DLI built its global reputation as a manufacturer of high frequency, High Q capacitors. In recent years, DLI has emerged as a comprehensive manufacturer of specialty ceramic components for application specific microwave and millimeter wave components serving customers in fiber optic, wireless, medical, transportation, semiconductor, space, avionics and military markets.

With over four decades of material science formulation and development, more than one hundred proprietary and/or patented ceramic formulations, and multiple recent patent filings, DLI is the pre-eminent ceramic component manufacturer in the industry. The marriage of ceramic expertise, manufacturing know-how, product quality, customer service, product customization, and clever microwave and RF design engineering sets us apart from all others in the industry.

DLI offers a broad range of Multi-Layer Capacitor products. We have the most comprehensive array of Broadband Blocking capacitors. We have expertise in customizing, tight tolerances and meeting specific design targets.

DLI is the preeminent global supplier of Single-Layer Capacitors. We have the world's broadest range of materials starting with Class 1 dielectrics with ϵ_r from 5.7 to 900 and Class 2 dielectrics with ϵ_r from 445 to 25,000. DLI specializes in high reliability and space applications.

Our Build-to-Print services designed to facilitate thin film product design, manufacturing and testing from prototype to high volume production. Our custom ceramics offer significantly better thermal performance than majority of industry standard ceramics and have an added benefit of a sufficiently higher dielectric constant (K) allowing miniaturization opportunities and temperature stable performance.

DLI continues to introduce exciting new innovations in custom ceramic resonator and filter technologies. These patent-protected products leverage decades of ceramic and Thin Film experience, creative and clever design expertise, and advanced prototyping and testing capabilities. Please discuss your needs with our Sales and Applications Engineering Team.

Heat Sinks and Resonator Components complete our portfolio.

RoHS Compliance Statement

DLI is a leading supplier to the electronic components market and is fully committed to offering products supporting Restriction of Hazardous Substances (RoHS) directive 2011/65/Eu. All of our Dielectric formulations are RoHS compliant and we offer a broad range of capacitors with RoHS compliant terminations. DLI complies with the requirements of the individual customer and will maintain product offerings that meet the demands of our industry.

Quality and Environmental Policy

DLI's reputation for quality and environmental responsibility is based on a commitment not only to meet our customers' requirements, but to exceed their expectations. The entire organization, beginning with top management, strives to achieve excellence in designing, manufacturing and delivering High Q capacitors and proprietary thin film components for niche high frequency applications, while maintaining safe and healthy working conditions. Furthermore, DLI commits to achieve these goals in an environmentally responsible manner through our commitment to comply with environmental regulations and implement pollution prevention initiatives. DLI strives to continually improve the effectiveness of our Quality and Environmental Management System through the establishment and monitoring of objectives and targets.



www.dilabs.com

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Broadband Blocking Capacitors

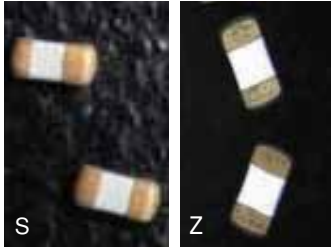
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What's New at DLI

0402

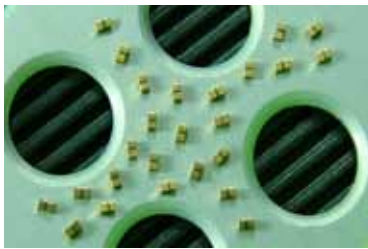


0402 product line extension of Z type plating (Sn over Ni) in the C04 (0402) case size with its Ultra-Low ESR UL dielectric material. Previously the C04 product line was only available in "S" type plating (Au flash over Ni).

Plating Code	Layers	Applications
"S"	<ul style="list-style-type: none"> Au Flash (3-5μ") Ni barrier Layer Ag Termination 	<ul style="list-style-type: none"> Specialty Solder & Epoxy
"Z"	<ul style="list-style-type: none"> Sn plated solder Ni barrier layer Ag Termination 	<ul style="list-style-type: none"> High Volume & Hand Solder

Both termination types are fully RoHS compliant Dielectric Laboratories Inc. C04 case size meets the EIA 0402 footprint, which is perfectly suited for High Frequency decoupling type of applications.

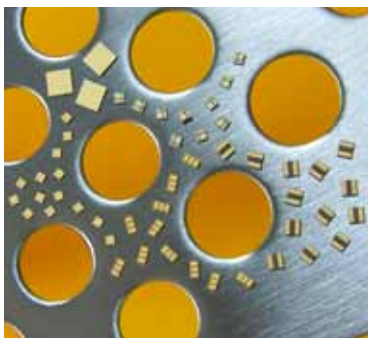
Milli-Caps®



Available in 0402, 0502 and 0602 footprints with capacitance values ranging from 0.3pF to 82pF. These capacitors are perfect for testing equipment, photonics, SONET, digital radios and matching filter

applications. A usable frequency range up to 40GHz with very low series inductance and ultra-high series resonance makes this the ideal capacitor for your broadband blocking needs.

50V UX material



The UX material space qualified to MIL-PRF-38534 Class K is now available in a 50V rating. DLI's broad range of standard architectures, including Di-Caps®, Border Caps®, Bar Caps® and Gap Caps® can utilize the new 50V rated high K dielectric. UX has

the highest dielectric constant of any of DLI's wide variety of materials. The high dielectric constant (K) allows for higher capacitance values in smaller case sizes. This means smaller components on your boards without sacrificing performance!

- Ultra-High Dielectric Constant K=25,000
- X7R Temperature Stability
- Highest Capacity Density SLC
- Ideal for Epoxy & Wire Bond Assembly
- Voltage Rating of 25V & 50V
- Rugged Ceramic & Thin Film Gold
- Excellent Dimensional Tolerance

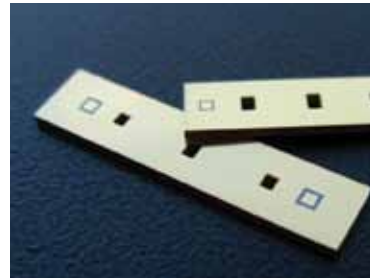
Catalog Filters



Newly released Catalog Lowpass and Bandpass Filters for high frequency applications. This small, surface mount filters have temperature stable performance from 2 GHz up to 50 GHz. The filters integrate DLI's

high dielectric, temperature stable ceramic materials to offer high reliability in environmentally challenging conditions. Continue to check our website for new additions.

Cavity Filters

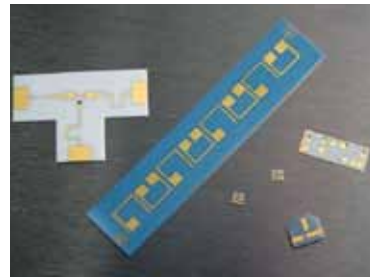


Ceramic cavity resonator technology can be employed in conjunction with DLI's stable, high Q ceramics to create highly selective, small, low loss band pass filters. Using a multi-port implementation, a very small robust filter

can be created. Wide reject band performance without spurious modes is possible. The small, shielded nature of the ceramic filter implementation makes it an ideal choice for integration in low noise receiver front ends with the antenna and pre-amplifier.

High-order band pass filters are created by cascading single cavity resonators to generate the required rejection.

Build to print



DLI offers Build to Print services designed to facilitate thin film product design, manufacturing and testing from prototype to high volume production. Our custom ceramics offer significantly

better thermal performance than the majority of the industry standard ceramics and have an added benefit of a sufficiently higher dielectric constant (K) allowing miniaturization opportunities and temperature stable performance.

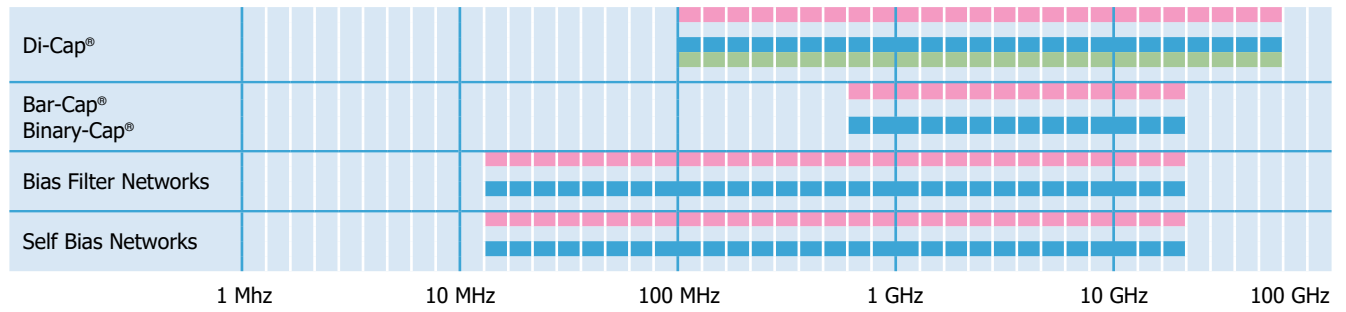
Gain Equalizers



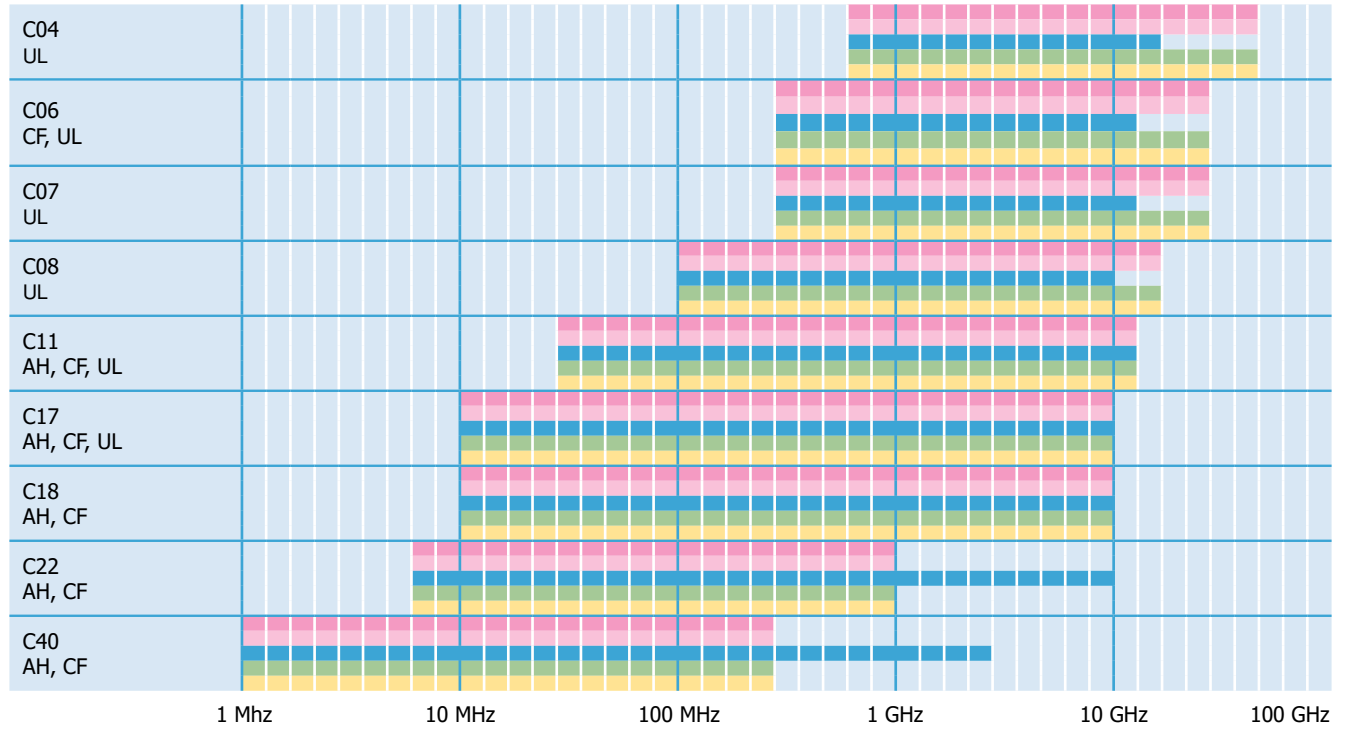
Gain Equalizers are designed as a small, low cost solution to your gain slope challenges. DLI's EW series is designed to address the issue from DC to 18 GHz in a package smaller than an 0302 capacitor. Components are designed for surface mount pick and place equipment or epoxy mount.

Simplified Frequency & Product Application Chart

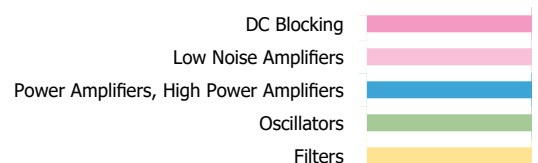
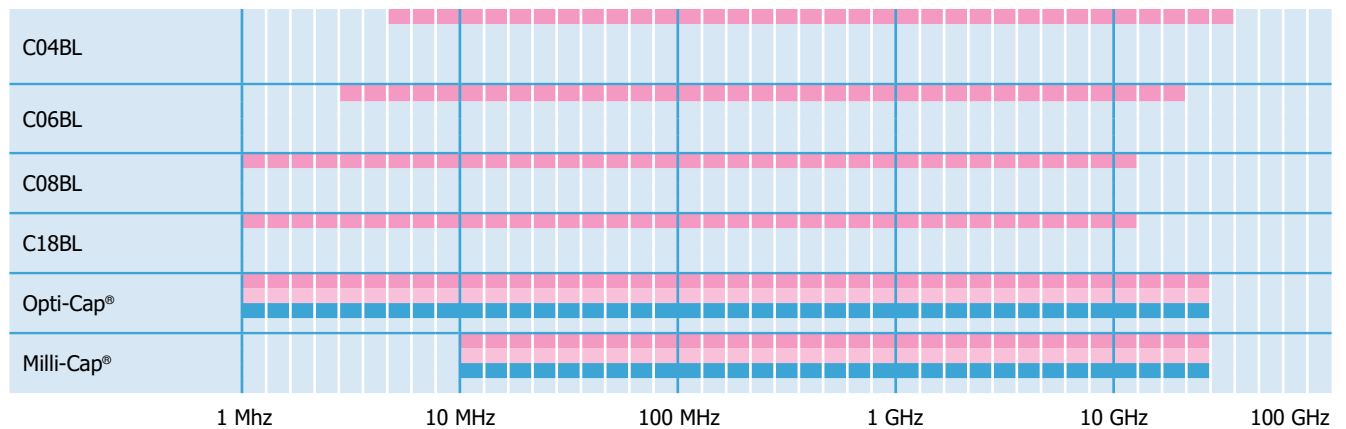
SLC and Thin Film



High Q Capacitors



Broadband and DC Blocks



SLC - Dielectric Information

Single Layer Capacitors are available with any of our proprietary dielectric materials in the following configurations:

- Border Cap[®]
- Di-Cap[®]
- Bar Cap[®]
- Bi-Cap[®]
- Gap Cap[®]
- T-Cap[®]

Please consult the following pages for part number identification.



DLI Class I Dielectric Materials

Dielectric Code	Relative ϵ_r @ 1 MHz	Temperature Coefficient -55°C to 125°C (ppm/°C Max)	1 MHz Dissipation Factor (% Maximum)	25°C Insulation Resistance (M Ω)	125°C Insulation Resistance (M Ω)
PI	9.9	P105 \pm 20	0.15	>106	>105
PG	13	P22 \pm 30	0.15	>106	>105
AH	20	P90 \pm 20	0.15	>106	>105
CF	24	0 \pm 15	0.60	>106	>105
NA	22	N30 \pm 15	0.15	>106	>105
CD	37	N20 \pm 15	0.15	>106	>105
NG	43	N220 \pm 60	0.25	>106	>105
CG	70	0 \pm 30	0.70	>106	>105
DB	72	N50 \pm 30	0.15	>106	>105
NP	85	N750 \pm 200	0.50	>104	>103
NR	160	N1500 \pm 500	0.25	>106	>105
NS	300	N2400 \pm 500	0.70	>106	>105
NU	600	N3700 \pm 1000	1.50	>106	>105
NV	900	N4700 \pm 1000	1.20	>106	>105

DLI Class II Dielectric Materials

Dielectric Code	Relative ϵ_r @ 1 MHz	Temperature Coefficient -55°C to 125°C (ppm/°C Max)		1 MHz Dissipation Factor (% Maximum)	25°C Insulation Resistance (M Ω)	125°C Insulation Resistance (M Ω)
		No Bias, Pre Voltage Conditioning	No Bias, Post Voltage Conditioning			
BF*	445	\pm 7.5	\pm 10	2.5	>104	>102
BD	700	\pm 10	\pm 15	2.5	>104	>103
BG*	900	\pm 10	\pm 15	2.5	>104	>103
BC	1300	\pm 10	\pm 15	2.5	>104	>103
BE	1250	\pm 10	\pm 15	2.5	>104	>103
BL	2000	\pm 15	\pm 25	2.5	>105	>104
BJ	3300	\pm 10	\pm 15	3.0	>105	>104
BN	4500	\pm 15	\pm 25	3.0	>105	>104

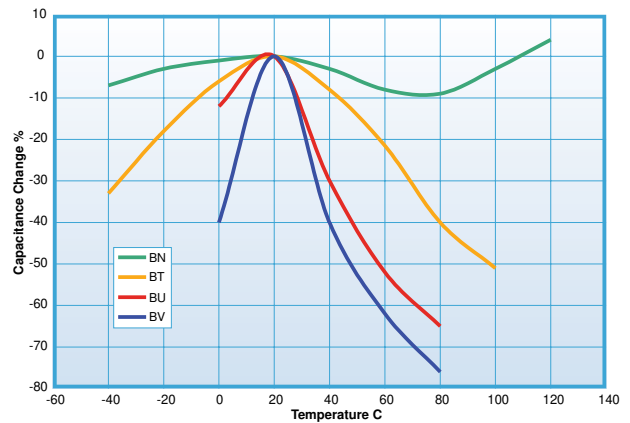
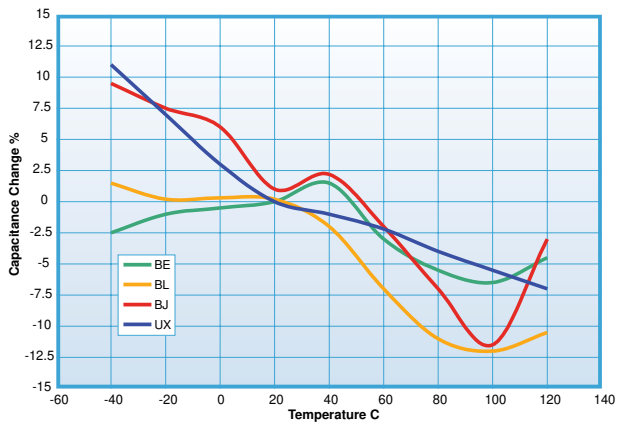
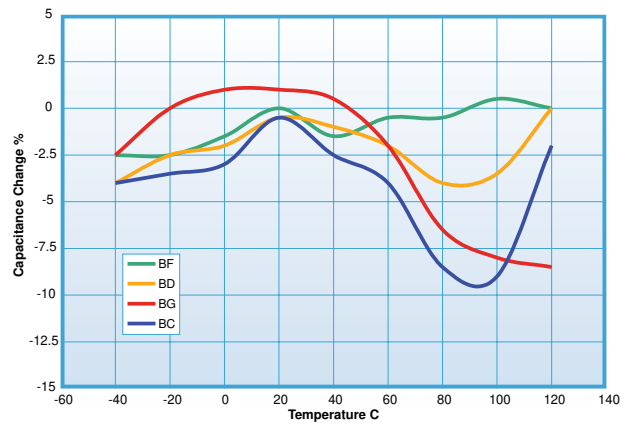
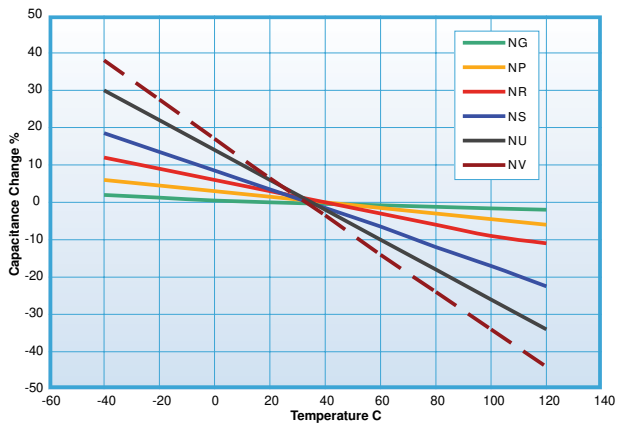
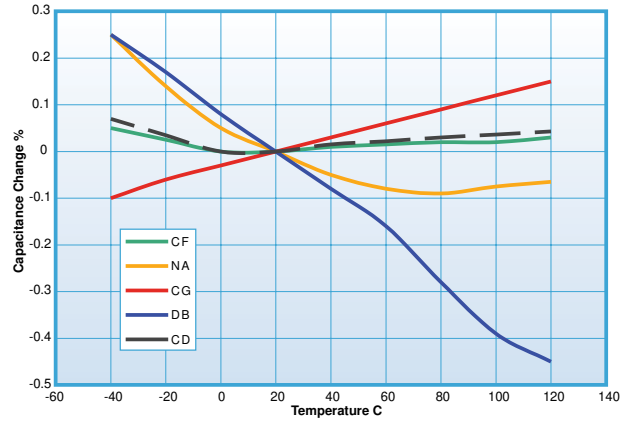
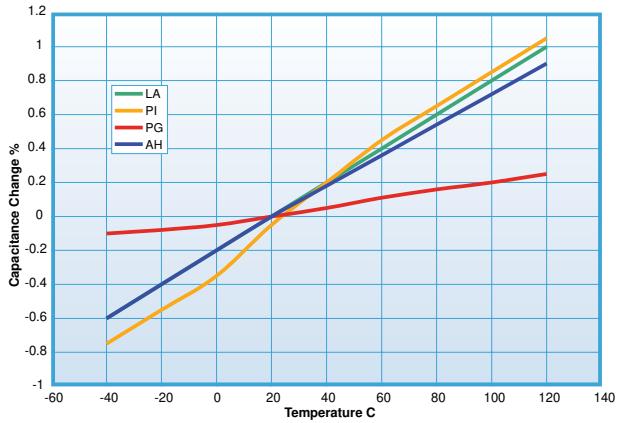
DLI Class III Dielectric Materials

BT*	4200	+22, -56% (-55°C to 105°C)	+22, -56% (-55°C to 105°C)	3.0	>105	>102
BU	8500	+22, -82% (10°C to 85°C)	+22, -82% (10°C to 85°C)	3.0	>105	>104
BV	13,500	+22, -82% (10°C to 85°C)	+22, -82% (10°C to 85°C)	3.0	>105	>104
UX	25,000	\pm 15%	\pm 25%	2.5	>103	>102

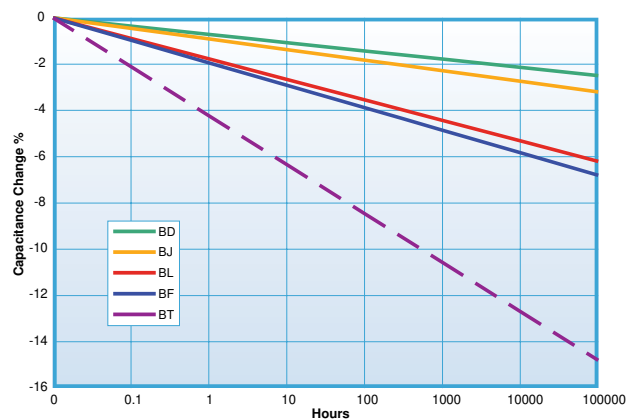
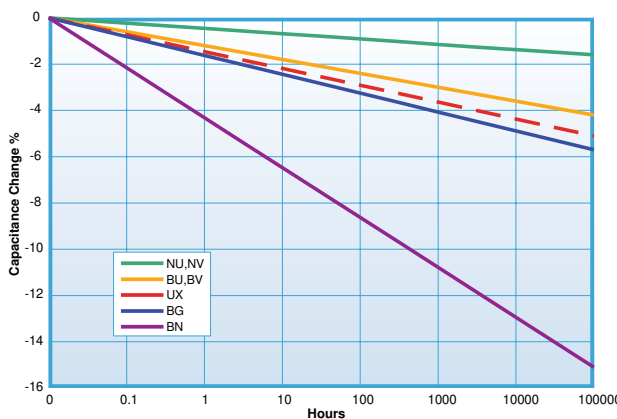
* Recommended for commercial use only. Please contact an inside sales representative for additional information.

SLC - Dielectric Information

Dielectric Temperature Characteristics






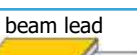
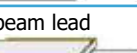
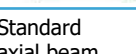




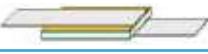
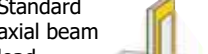



Dielectric Aging Characteristics



SLC - Specifications

Termination Codes

	Code	Description (Layers in order from dielectric material to outermost)		Capacitor Types
	P	S1 (Sputter Plated)		Di-Cap®, T-Cap®, Bar Cap®, Binary Cap®, and Gap Cap
		1. 300 Angstroms Titanium-Tungsten		
		2. 50µ Inches min. Nickel-Vanadium		
	T	S2		Di-Cap®, T-Cap®
		1. 300 Angstroms Titanium-Tungsten		
		2. 50µ Inches min. Nickel-Vanadium		
	M	S5		Di-Cap®, T-Cap®, Bar Cap®, Binary Cap®, and Gap Cap
		1. 300 Angstroms Titanium-Tungsten		
		2. 100µ Inches min. Gold		
	B	S1	AU-100	Single Border Cap
	E	S1	AU-100	Double Border Cap
Single beam lead 	L	Standard lead material is silver (Ag) .002" thick. Optional Gold (Au)		Di-Cap®
Axial beam lead 	A	Standard lead material is Silver (Ag) .002" thick. Optional Gold (Au)		Di-Cap®
	Z	Standard lead material is Tin-Copper (Sn,Cu) .002" thick. Optional Gold (Au)		
Standard axial beam lead 	S	Standard lead material is silver (Ag) .002" thick. Optional Gold (Au)		Di-Cap®



Test Level Codes

Code	Description
Industrial / Commercial Options	
Y	<ul style="list-style-type: none"> 1% AQL 2 Side Visual Screening
X	<ul style="list-style-type: none"> 100% 4 Side Visual Screening 1% AQL for the electrical parameters Capacitance, Dissipation Factor, Insulation Resistance, and Dielectric Withstanding Voltage

High Reliability Options	
A	<ul style="list-style-type: none"> MIL-PRF-49464 Group A 100% Thermal Shock 100%, 100 +0/-4 Hours Voltage Conditioning 100% Electrical Screening 100% 6 Side Visual Screening Bond Strength Die Shear Strength Temperature Coefficient Limits
B	<ul style="list-style-type: none"> MIL-PRF-49464 Group B MIL-PRF-49464, Group A Immersion Low Voltage Humidity Life
D	<p>Special agreed upon testing to customers' formal specification. Customer Drawing Required! (May include, but is not limited to, one or more of the following common requests.)</p> <ul style="list-style-type: none"> MIL-PRF-38534 Class H Element Evaluation. MIL-PRF-38534 Class K Element Evaluation. 10(0) Destructive Bond Pull per MIL-STD-883, Method 2011. 10(0) Die Shear per MIL-STD-883, Method 2019. <p>Consult Factory for other alternatives or assistance in specifying custom testing.</p>
E	6 Side Visual Screening per MIL-STD-883, Method 2032.

All Single Layer Capacitors are Lead Free and RoHS compliant.

Capacitance Tolerance Table

Tolerance Code	Tolerance
A	±.05pF
B	±.10pF
C	±.25pF
D	±.50pF
E	±.5%
F	±1%
G	±2%
H	±3%
I	±4%
J	±5%
K	±10%
L	±15%
M	±20%
X	GMV
V	+100%, -0%
Z	+80% , -20%
S	Special

Environmental & Physical Testing Procedures

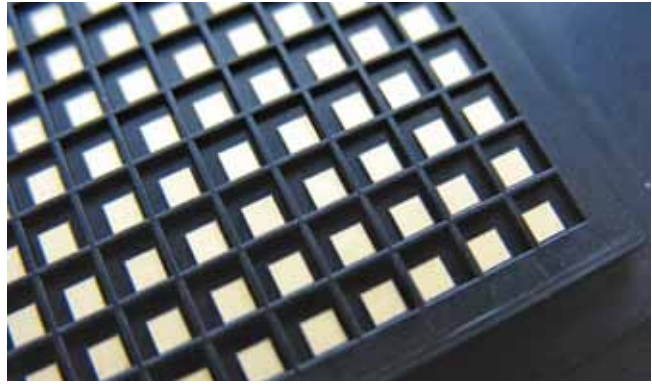
Parameter	Method	MIL-STD-202
		Condition
Thermal Shock	107	A, (modified), -55°C to +125°C.
Immersion	104	B
Moisture Resistance	106	-
Resistance to Solder Heat	210	C, 260°C for 20 seconds.
Life	108	A, 96 Hours @ +125°C.
Barometric Pressure	105	B
Shock, (Specified Pulse)	213	I, 100g's, 6ms.
Vibration, High Frequency	204	G, 30g's peak, 10Hz to 2kHz.

Parameter	Method	MIL-STD-883
		Condition
Bond Strength	2011	D, 3 grams minimum with .001" dia wire
Die Shear Strength	2019	Limit per MIL-STD-883, Figure 2019-4.
Temperature Cycling	1010	C
Mechanical Shock	2002	B,Y1,
Constant Acceleration	2001	3,000g's, Y1 direction

SLC - Packaging

SLC Waffle Packaging

DLI offers a wide variety of standard design waffle packs in various materials depending on the application. Typical material offerings are antistatic and gel pack, which can contain up to 400 pieces depending on component dimension. Custom waffle packs are available; please consult the factory for details.



SLC Waffle Packaging

SLC Tape and Reel

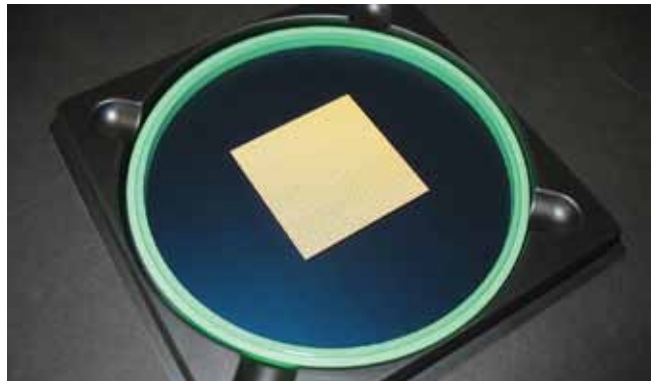
DLI offers tape and reel packaging solutions for a variety of our single layer capacitor case sizes. Utilizing the latest technology and equipment to provide our customers the highest quality products, our standard SMD tape and reel packaging meets or exceeds EIA standards. Custom tape and reel packaging available; consult the factory for options.



SLC Tape and Reel

SLC on Tape Ring

DLI offers single layer capacitors re-populated on blue membrane tape and photon ring assembly to maximize efficiency and minimize product cost. Used in high volume applications, the re-populated capacitors provide for more efficient component placement and fewer "pick and place" machine change outs. The re-populated capacitors meet GMV capacitance value, are 100% visually acceptable and can be re-populated in custom shapes and sizes on a 6 inch photon tape ring.



SLC on Tape Ring

SLC "Black Dotted" on Tape Ring

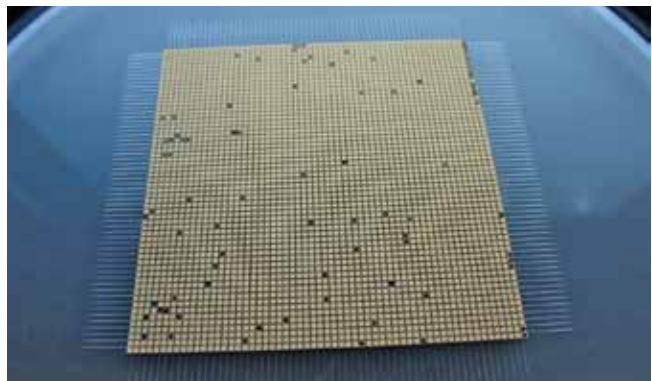
DLI offers "black dotted" capacitors on membrane tape and photon ring assembly. For high volume applications utilizing visual recognition, a less expensive alternative is the use of "black dotted" capacitors provided on saw dice membrane tape. The non- "black dotted" capacitors meet GMV capacitance value and a minimum of 75% visually acceptable product is guaranteed.

Storage

Single layer capacitors with applicable terminations will be solderable for a minimum of 1 year from date of shipment if properly stored in their original packaging. For extended periods, storage in a dry nitrogen environment is recommended. Product supplied on membrane tape and photon ring should be stored in the original container and in an environmentally controlled area where temperature and humidity are maintained. It is recommended not to store the product in direct light as this can negatively impact the adhesion properties of the tape.

Handling

Single layer ceramic capacitors should be handled carefully during component transfer or placement, preventing damage to the gold and ceramic surfaces. The capacitors should be handled with precision stainless steel tweezers or a vacuum wand. Contacting the capacitor with bare hands should be avoided as resulting contaminants will affect the performance of the component.



SLC "Black Dotted" on Tape Ring

SLC - Border Cap®

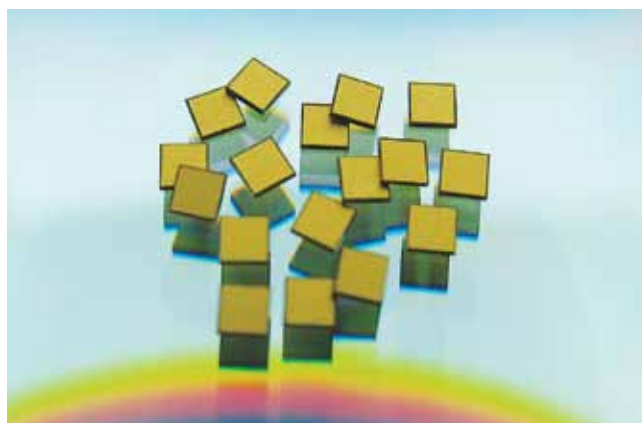
Description

SLC with recessed metallization available with border on one or both sides.

- Recessed metallization minimizes the potential for shorting during die attach
- Bordered area provides contrast for vision recognition during automated placement and wire bonding
- Thin film technology
- ESD proof

Functional Applications

- DC Blocking
- RF Bypass
- Filtering
- Tuning and Submounts



Double Border Cap® Designer Kits 160 Capacitors, 10 Each of 16 Values

Part Number	Capacitor Width	10 Capacitors of each value								
		Dielectric	pF	Tol.	pF	Tol.	pF	Tol.	pF	Tol.
D10XXKITA1EX	.010"	Class I, see codes on Page 4	0.1	B	0.6	C	1.5	C	2.7	D
			0.4	B	1.0	C	2.2	D	3.3	D
		Class II, see codes on Page 4	3.9	D	5.6	M	8.2	M	20	M
			4.7	D	6.2	M	10	M	33	M
D15XXKITA1EX D20XXKITA1EX	.015"	Class I, see codes on Page 4	0.1	B	0.7	C	1.5	C	3.3	D
			0.4	B	1.0	C	2.2	C	6.4	D
	.020"	Class II, see codes on Page 4	6.8	K	10	K	20	M	50	M
			8.2	K	15	K	33	M	100	M
D25XXKITA1EX D30XXKITA1EX	.025"	Class I, see codes on Page 4	0.4	B	1.7	C	4	D	8.2	K
			0.6	C	1.9	C	5	D	10	K
			0.9	C	2.7	C	5.6	D	20	K
	.030"	Class II, see codes on Page 4	33	M	50	M	100	M	180	M

DLI reserves the right to substitute values as required.

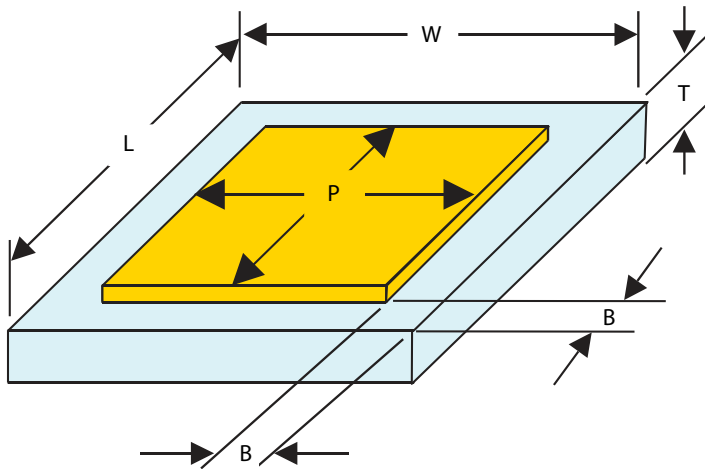
Customer may request particular cap value and material for sample kit to prove out designs.

Part Number Identification

D	10	BN	100	K	1	E	X	
Product D = Border Cap®	Case Size 10 12 15 20 25 30 35 40 50	Material See material tables on Page 4.	Capacitance (pF) R02 = 0.02 pF 0R5 = 0.5 pF 1R0 = 1.0 pF 5R1 = 5.1 pF 100 = 10 pF 101 = 100 pF 152 = 1500 pF Refer to Capacitance range tables for available values. Consult an inside sales rep. for custom solutions.	Tolerance A = ± 0.05pF B = ± 0.10pF C = ± 0.25pF D = ± 0.5pF F = ± 1% G = ± 2% J = ± 5% K = ± 10% L = ± 15% M = ± 20% Z = +80% -20%	Voltage 2 = 25V* 1 = 100V *For Capacitors with UX material only	Termination P = Ni / Au B = Single Border E = Double Border M = Au	Test Level Y, X, A, B, D and E. See test level definitions on Page 6.	Packaging D = Black Dotted E = Repopulated T = Tape and Reel Leave blank for generic waffle pack. See packaging definitions on Page 7.

SLC - Border Cap®

Border Cap®



Border Cap®



Double Border Cap®



Border Cap® Dimensions

Style	Standard Capacitance Range pF	L&W Length & Width		P Pad Size		B Border		T Thickness	
		Inches (±.001)	mm (±.025)	Inches (Nom.)	mm (Nom.)	Inches	mm	Inches	mm
D10	0.02 - 100	0.010	0.254	0.008	0.203	0.001 (+.001,-.0005)	0.025 (+.025,-.013)	0.0035 (+0, -0.008)	0.089 (+0, -0.203)
D12	0.03 - 100	0.012	0.305	0.010	0.254				
D15	0.03 - 200	0.015	0.381	0.011	0.279				
D20	0.06 - 430	0.020	0.508	0.016	0.406				
D25	0.10 - 700	0.025	0.635	0.021	0.533				
D30	0.15 - 1000	0.030	0.762	0.026	0.660	0.002 (+.002,-.0015)	0.051 (+.005, -.038)		
D35	0.20 - 1300	0.035	0.889	0.031	0.787				
D40	0.25 - 1800	0.040	1.016	0.036	0.914				
D50	0.40 - 3000	0.050	1.270	0.046	1.168				

SLC - Border Cap®

Ultra High K, UX Dielectric

25 Volt Single Border Cap® Cap. Ranges (pF)

Case Size		Available Thicknesses	
		0.006"	0.010"
D10	Min	82	—
	Max	100	—
D12	Min	120	—
	Max	140	—
D15	Min	160	100
	Max	200	140
D20	Min	300	200
	Max	370	240
D25	Min	490	300
	Max	590	370
D30	Min	710	450
	Max	860	540
D35	Min	1000	600
	Max	1200	750
D40	Min	1300	800
	Max	1600	950
D50	Min	2000	1300
	Max	2400	1500

25 Volt Double Border Cap® Cap. Ranges (pF)

Case Size		Available Thicknesses	
		0.006"	
D10	Min	75	
	Max	91	
D12	Min	110	
	Max	130	
D15	Min	140	
	Max	170	
D20	Min	270	
	Max	320	
D25	Min	440	
	Max	540	
D30	Min	650	
	Max	800	
D35	Min	900	
	Max	1100	
D40	Min	1200	
	Max	1500	
D50	Min	2000	
	Max	2400	

UX material restricted to "M" termination only. Consult a DLI Application Engineer for additional values.

100 Volt Single Border Cap® Capacitance Ranges (pF)

Case Size	pF	DLI Class I Dielectrics													
		PI	PG	AH	CF	NA	CD	NG	CG	DB	NP	NR	NS	NU	NV
D10	Min	0.03	0.04	0.06	0.07	0.07	0.15	0.15	0.25	0.25	0.25	0.50	0.90	1.8	2.7
	Max	0.05	0.06	0.10	0.10	0.10	0.15	0.20	0.35	0.35	0.40	0.80	1.5	3.0	4.3
D12	Min	0.05	0.06	0.09	0.10	0.15	0.20	0.30	0.30	0.35	0.40	0.70	1.3	2.7	3.9
	Max	0.07	0.09	0.10	0.15	0.15	0.25	0.30	0.50	0.50	0.60	1.1	2.2	4.3	6.2
D15	Min	0.06	0.08	0.15	0.15	0.15	0.25	0.30	0.45	0.45	0.55	1.00	1.9	3.9	5.6
	Max	0.09	0.10	0.20	0.20	0.20	0.35	0.40	0.70	0.70	0.85	1.6	3.0	5.6	8.2
D20	Min	0.15	0.15	0.25	0.25	0.25	0.45	0.50	0.80	0.80	0.95	1.8	3.6	6.8	10
	Max	0.15	0.20	0.35	0.40	0.45	0.70	0.80	1.3	1.3	1.6	3.0	5.6	11	16
D25	Min	0.20	0.25	0.40	0.40	0.45	0.70	0.80	1.3	1.3	1.5	3.0	5.6	11	16
	Max	0.30	0.40	0.60	0.65	0.70	1.1	1.3	2.0	2.2	2.4	4.7	9.1	18	27
D30	Min	0.30	0.35	0.55	0.60	0.65	0.95	1.2	1.8	1.9	2.2	4.3	8.2	16	24
	Max	0.45	0.55	0.90	1.0	1.0	1.6	1.9	3.0	3.0	3.6	6.8	13	27	39
D35	Min	0.35	0.50	0.75	0.80	0.85	1.4	1.6	2.7	2.7	3.0	6.2	11	22	33
	Max	0.60	0.80	1.2	1.3	1.5	2.2	2.7	4.3	4.3	5.1	10	18	36	56
D40	Min	0.50	0.65	1.0	1.1	1.2	1.8	2.0	3.3	3.6	4.3	7.5	15	30	43
	Max	0.70	0.95	1.4	1.6	1.7	2.7	3.0	5.1	5.1	6.2	11	22	43	62
D50	Min	0.8	1.0	1.5	1.7	1.8	2.7	3.3	5.1	5.6	6.2	12	22	47	68
	Max	1.1	1.5	2.2	2.4	2.7	4.3	4.7	8.2	8.2	10	18	33	68	100

*Recommended for commercial use only. Please contact an inside sales representative for additional information.

100 Volt Double Border Cap® Capacitance Ranges (pF)

Case Size	pF	DLI Class I Dielectrics													
		PI	PG	AH	CF	NA	CD	NG	CG	DB	NP	NR	NS	NU	NV
D10	Min	0.03	0.04	0.06	0.07	0.07	0.15	0.15	0.20	0.23	0.27	0.45	0.85	1.7	2.7
	Max	0.04	0.06	0.09	0.10	0.10	0.15	0.15	0.30	0.34	0.41	0.70	1.3	2.7	3.9
D12	Min	0.04	0.06	0.09	0.10	0.09	0.15	0.20	0.30	0.33	0.39	0.65	1.3	2.7	3.9
	Max	0.06	0.08	0.10	0.15	0.15	0.25	0.25	0.45	0.51	0.60	1.1	2.0	3.9	6.2
D15	Min	0.06	0.07	0.15	0.15	0.15	0.20	0.25	0.40	0.48	0.56	0.85	1.6	3.3	5.1
	Max	0.08	0.10	0.15	0.15	0.15	0.30	0.35	0.55	0.68	0.80	1.3	2.4	4.7	6.8
D20	Min	0.10	0.15	0.20	0.25	0.25	0.40	0.45	0.70	0.87	1.03	1.6	3.0	6.2	9.1
	Max	0.15	0.20	0.30	0.35	0.35	0.60	0.70	1.1	1.3	1.5	2.4	4.7	9.1	13
D25	Min	0.20	0.25	0.35	0.40	0.40	0.60	0.70	1.2	1.4	1.7	2.7	5.1	10	15
	Max	0.25	0.35	0.50	0.65	0.60	1.0	1.1	1.9	2.1	2.5	4.3	8.2	16	24
D30	Min	0.25	0.35	0.50	0.60	0.55	0.90	1.1	1.7	2.0	2.4	3.9	7.5	15	22
	Max	0.40	0.50	0.80	0.95	0.90	1.5	1.7	2.7	3.1	3.7	6.2	12	24	36
D35	Min	0.35	0.45	0.70	0.80	0.75	1.3	1.5	2.4	2.8	3.3	5.6	10	20	30
	Max	0.55	0.70	1.1	1.3	1.2	2.0	2.4	3.9	4.3	5.1	9.1	16	33	51
D40	Min	0.45	0.60	0.90	1.1	1.0	1.7	1.9	3.3	3.6	4.3	7.5	15	27	43
	Max	0.65	0.90	1.3	1.6	1.5	2.4	2.7	4.7	5.7	6.8	11	20	39	62
D50	Min	0.70	0.95	1.4	1.7	1.6	2.7	3.0	5.1	5.7	6.8	12	22	43	68
	Max	1.1	1.4	2.2	2.4	2.4	3.9	4.7	7.5	9.1	10	16	33	62	100

*Recommended for commercial use only. Please contact an inside sales representative for additional information.

SLC - Border Cap®

Ultra High K, UX Dielectric

50 Volt Single Border Cap® Cap. Ranges (pF)

Case Size		Available Thicknesses 0.010"
D10	Min	—
	Max	—
D12	Min	—
	Max	—
D15	Min	100
	Max	140
D20	Min	200
	Max	240
D25	Min	300
	Max	370
D30	Min	450
	Max	540
D35	Min	600
	Max	750
D40	Min	800
	Max	1000
D50	Min	1200
	Max	1500

50 Volt Double Border Cap® Cap. Ranges (pF)

Case Size		Available Thicknesses 0.010"
D10	Min	-
	Max	-
D12	Min	-
	Max	-
D15	Min	91
	Max	110
D20	Min	170
	Max	210
D25	Min	280
	Max	340
D30	Min	410
	Max	500
D35	Min	560
	Max	700
D40	Min	750
	Max	900
D50	Min	1200
	Max	1500

UX material restricted to "M" termination only. Consult a DLI Application Engineer for additional values.

DLI Class II Dielectrics								DLI Class III Dielectrics			pF	Case Size
BF*	BD	BG*	BC	BE	BL	BJ	BN	BT*	BU	BV		
1.3	2.2	2.7	3.9	3.6	6.2	10	13	13	27	39	Min	D10
2.2	3.3	4.3	6.2	6.2	10	16	22	22	43	68	Max	
1.9	3.0	3.9	5.6	5.6	9.1	15	20	20	36	62	Min	D12
3.3	5.1	6.2	9.1	9.1	13	24	33	33	62	100	Max	
2.7	4.3	5.6	8.2	8.2	13	20	30	30	56	82	Min	D15
4.3	6.8	8.2	13	12	20	33	43	43	82	130	Max	
5.1	8.2	10	15	15	24	39	51	51	100	150	Min	D20
8.2	13	16	24	22	36	62	82	82	160	240	Max	
8.2	13	16	24	24	36	62	82	82	150	240	Min	D25
13	20	27	39	36	56	100	130	130	240	390	Max	
12	18	24	36	33	56	91	120	120	220	360	Min	D30
20	30	39	56	56	91	150	200	200	360	560	Max	
16	27	33	47	47	75	120	160	160	300	510	Min	D35
27	43	56	75	75	120	200	270	270	510	820	Max	
22	33	43	62	62	100	160	220	220	430	680	Min	D40
33	51	62	91	91	130	240	330	330	620	1000	Max	
33	51	68	100	91	150	270	330	330	620	1000	Min	D50
51	82	100	150	130	220	390	510	510	1000	1500	Max	

DLI Class II Dielectrics								DLI Class III Dielectrics			pF	Case Size
BF*	BD	BG*	BC	BE	BL	BJ	BN	BT*	BU	BV		
1.3	2.0	2.7	3.6	3.6	5.6	9.1	13	13	24	39	Min	D10
2.0	3.0	3.9	5.6	5.6	9.1	15	20	20	39	62	Max	
1.8	3.0	3.9	5.6	5.1	8.2	15	20	20	36	56	Min	D12
3.0	4.7	6.2	8.2	8.2	13	22	30	30	56	91	Max	
2.4	3.9	5.1	6.8	6.8	11	18	24	24	47	75	Min	D15
3.6	5.6	6.8	10	10	16	27	36	36	68	110	Max	
4.7	7.5	9.1	13	13	20	33	47	47	91	150	Min	D20
6.8	11	13	20	20	30	51	68	68	130	220	Max	
7.5	12	15	22	22	33	56	75	75	150	220	Min	D25
12	18	24	33	33	51	82	120	120	220	360	Max	
11	18	22	33	30	51	82	110	110	220	330	Min	D30
18	27	36	51	51	82	130	180	180	330	510	Max	
15	24	30	43	43	68	110	150	150	300	470	Min	D35
24	39	51	68	68	110	180	240	240	470	750	Max	
20	33	43	62	56	91	150	200	200	390	620	Min	D40
30	47	62	82	82	130	220	300	300	560	910	Max	
33	51	68	91	91	150	240	330	330	620	1000	Min	D50
47	75	100	130	130	220	360	470	470	910	1500	Max	

SLC - T-Cap[®]

T-Cap[®] "Transmission Line" capacitors are designed as a reliable solution in DC Blocking and RF Bypassing applications. The T-Cap[®] products utilize the same Single-Layer processing technology of the Di-Cap[®] product line, with one difference, this device offers a more constant physical size and resonance behavior where dimensional consistency is more desirable than a specified capacitance value.

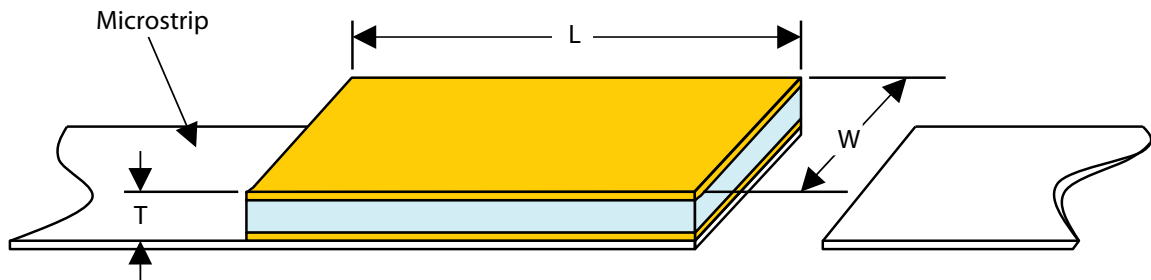
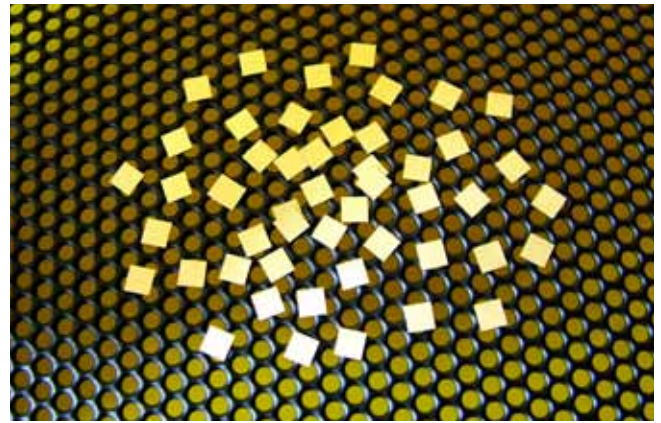
Description

Transmission Line Single Layer Capacitors

- Consistent electrical resonance performance at microwave frequencies
- Repeatable performance from lot to lot
- Thin Film technology

Functional Applications

- Filtering • DC Blocking • RF Bypassing • Tuning
- Insulation • Submounts • Stand-Offs



Part Number Identification

T	30	BV	30	X	45	P	X	
Product T = T-Cap [®]	Width Two digit number representing the Width in .001" For Widths >.099", Consult an inside sales rep.	Material See material tables on Page 4.	Length Two digit number representing the Length in .001" For Lengths >.099", Consult an inside sales rep.	Tolerance X= Length and Width: ± .001", Thickness: -.0005" S= Special	Thickness "35" - "99" Represents thickness in .0001" K0 = .010" M0 = .020" Examples: 55 = .0055" K2 = .012" M5 = .025"	Termination P = Ni / Au T = Ni / AuSn M = Au	Test Level Y or X See test level definitions on Page 6.	Packaging D = Black Dotted E = Repopulated T = Tape and Reel Leave blank for generic waffle pack. See packaging definitions on Page 7.

SLC - Di-Cap[®]

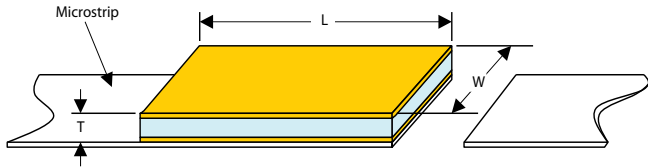
High Performance Single Layer Capacitors for RF, Microwave and Millimeter-Wave Applications.

- Gold metallization for wire bonding
- Rugged construction
- Custom sizes at commercial prices
- Thin film technology
- ESD proof

Functional Applications

- DC Blocking
- RF Bypass
- Filtering
- Tuning

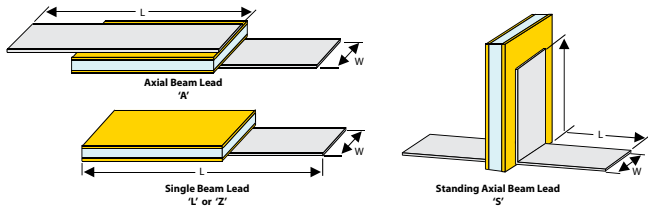
Di-Cap[®]



Dimensions Maximum thickness does not apply for capacitance values below 0.5pF. For thickness of 25 Volt product refer to table on page 14.

Style	W Width		L Length (Max)		T Thickness (50 Volts)		T Thickness (100 Volts)		Std. Capacitor Range pF
	Inches	mm	Inches	mm	Inches	mm	Inches	mm	
D10	.010 +.000 -.003	.254 +.000 -.076	.010	.254	.004 ±.001	.102 ±.025	-	-	.02 - 100
D12	.012 +.002 -.003	.305 +.051 -.076	.015	.381	.004 ±.001	.102 ±.025	-	-	.03 - 200
D15	.015 +.000 -.003	.381 +.000 -.076	.020	.508	.004 ±.001	.102 ±.025	.006 ±.001	.152 ±.025	.04 - 300
D20	.020 +.000 -.003	.508 +.000 -.076	.020	.508	.004 ±.001	.102 ±.025	.006 ±.001	.152 ±.025	.06 - 400
D25	.025 +.000 -.003	.635 +.000 -.076	.030	.762	.004 ±.001	.102 ±.025	.006 ±.001	.152 ±.025	.10 - 780
D30	.030 +.000 -.003	.762 +.000 -.076	.030	.762	.004 ±.001	.102 ±.025	.006 ±.001	.152 ±.025	.15 - 950
D35	.035 ±.005	.889 ±.127	.040	1.016	.004 ±.001	.102 ±.025	.007 ±.002	.178 ±.051	.20 - 1600
D50	.050 ±.010	1.270 ±.254	.060	1.524	-	-	.007 ±.002	.178 ±.051	.30 - 3700
D70	.070 ±.010	1.778 ±.254	.080	1.778	-	-	.008 ±.002	.203 ±.051	.55 - 6800
D90	.090 ±.010	2.286 ±.254	.100	2.540	-	-	.010 ±.004	.254 ±.102	.65 - 10,000

Leaded Di-Cap[®]



Notes: • See Di-Cap[®] Termination Code Table for available lead configurations. • Lead material is 0.002" pure silver, (Ag), 0.002" ±.0005" thick. • Leads are attached with AuSn, 80%/20% eutectic alloy. Re-flow temperature is 280°C minimum. • Pure Gold, (Au) leads are available. Consult factory for details. • Chip dimensions per Di-Cap[®] dimensions table. • Custom lead dimensions are available. Consult factory for details.

Dimensions

Style	W Lead Width (Min)		W Lead Width (Max)		L Lead Length (Min)	
	Inches	mm	Inches	mm	Inches	mm
D10	.0035	.0889	.007	.1778	.250	6.350
D12	.0045	.1143	.009	.2286	.250	6.350
D15	.0065	.1651	.013	.3302	.250	6.350
D20	.0085	.2159	.017	.2159	.250	6.350
D25	.011	.2794	.022	.5588	.250	6.350
D30	.0135	.3429	.027	.6858	.250	6.350
D35	.015	.381	.030	.762	.250	6.350
D50	.020	.508	.040	1.016	.250	6.350
D70	.030	.762	.060	1.524	.250	6.350
D90	.040	1.016	.080	2.032	.250	6.350

Part Number Identification

D	10	CF	OR1	B	5	P	X	
Product D = Di-Cap [®]	Case Size 10 12 15 20 25 30 35 50 70 90	Material See material tables on Page 4.	Capacitance (pF) R02 = 0.02pF OR5 = 0.5pF 1R0 = 1.0pF 5R1 = 5.1pF 100 = 10pF 101 = 100pF 432 = 4300pF Refer to Capacitance range tables for available values. Consult an inside sales rep. for custom solutions.	Tolerance A = ± 0.05pF B = ± 0.10pF C = ± 0.25pF D = ± 0.5pF F = ± 1% G = ± 2% J = ± 5% K = ± 10% L = ± 15% M = ± 20% Z = +80% -20%	Voltage 2 = 25V 5 = 50V 1 = 100V	Termination P = Ni / Au T = Ni / AuSn M = Au L = Single Beam Lead A = Axial Beam Lead S = Standing Axial Beam Lead D = Special Z = Tin Copper Ribbon	Test Level Y, X, A, B, D and E. See test level definitions on Page 6.	Packaging D = Black Dotted E = Repopulated T = Tape and Reel Leave blank for generic waffle pack. See packaging definitions on Page 7.

SLC - Di-Cap®

Ultra High K, UX* Dielectric Di-Cap®

25 Volt Capacitance Ranges (pF)

Case Size		Available Thicknesses	
		0.006"	0.010"
D10	Min	51	—
	Max	75	—
D12	Min	75	—
	Max	180	—
D15	Min	110	—
	Max	250	—
D20	Min	170	100
	Max	340	200
D25	Min	280	170
	Max	650	390
D30	Min	390	240
	Max	800	470
D35	Min	620	360
	Max	1400	850
D50	Min	1600	940
	Max	3200	2000
D70	Min	3500	2100
	Max	5900	3500
D90	Min	6200	3700
	Max	10000	5500

50 Volt Capacitance Ranges (pF)

Case Size		Available Thicknesses	
		0.010"	
D10	Min	—	—
	Max	—	—
D12	Min	—	—
	Max	—	—
D15	Min	82	—
	Max	150	—
D20	Min	100	—
	Max	200	—
D25	Min	170	—
	Max	390	—
D30	Min	240	—
	Max	470	—
D35	Min	360	—
	Max	850	—
D50	Min	940	—
	Max	2000	—
D70	Min	2100	—
	Max	3500	—
D90	Min	3700	—
	Max	5500	—

*UX material restricted to "M" termination only.

50 Volt Di-Cap® Capacitance Ranges (pF)

Case Size	pF	DLI Class I Dielectrics													
		PI	PG	AH	CF	NA	CD	NG	CG	DB	NP	NR	NS	NU	NV
D10	Min	0.03	0.04	0.06	0.07	0.06	0.10	0.15	0.20	0.20	0.25	0.45	0.80	1.6	2.4
	Max	0.05	0.06	0.10	0.10	0.10	0.15	0.20	0.35	0.35	0.40	0.80	1.5	3.0	4.3
D12	Min	0.04	0.06	0.08	0.10	0.09	0.15	0.20	0.30	0.30	0.35	0.65	1.2	2.4	3.6
	Max	0.10	0.10	0.20	0.25	0.20	0.35	0.45	0.75	0.75	0.90	1.7	3.0	6.2	9.1
D15	Min	0.06	0.08	0.15	0.15	0.15	0.25	0.25	0.45	0.45	0.50	1.0	1.8	3.6	5.6
	Max	0.15	0.20	0.30	0.35	0.30	0.55	0.65	1.1	1.1	1.3	2.4	4.7	9.1	13
D20	Min	0.09	0.15	0.20	0.20	0.20	0.35	0.40	0.65	0.65	0.75	1.5	2.7	5.6	8.2
	Max	0.20	0.25	0.40	0.50	0.45	0.75	0.90	1.4	1.5	1.8	3.3	6.2	12	18
D25	Min	0.20	0.25	0.35	0.45	0.40	0.65	0.75	1.2	1.3	1.5	2.7	5.1	11	16
	Max	0.40	0.50	0.80	0.95	0.90	1.5	1.7	2.7	2.7	3.3	6.2	12	24	36
D30	Min	0.25	0.30	0.45	0.55	0.50	0.85	0.95	1.6	1.6	1.9	3.6	6.8	15	20
	Max	0.45	0.60	0.95	1.1	1.0	1.8	2.0	3.3	3.3	3.9	7.5	13	27	43
D35	Min	0.35	0.50	0.70	0.85	0.80	1.3	1.5	2.7	2.7	3.0	5.6	11	22	33
	Max	0.85	1.1	1.8	2.0	1.9	3.3	3.6	6.2	6.2	7.5	13	27	51	75

*Recommended for commercial use only. Please contact an inside sales representative for additional information.

100 Volt Di-Cap® Capacitance Ranges (pF)

Case Size	pF	DLI Class I Dielectrics													
		PI	PG	AH	CF	NA	CD	NG	CG	DB	NP	NR	NS	NU	NV
D15	Min	0.04	0.06	0.08	0.1	0.09	0.15	0.20	0.30	0.30	0.35	0.65	1.2	2.4	3.6
	Max	0.10	0.10	0.20	0.25	0.20	0.35	0.45	0.70	0.75	0.85	1.6	3.0	6.2	9.1
D20	Min	0.06	0.08	0.15	0.15	0.15	0.25	0.30	0.45	0.45	0.55	1.0	1.9	3.9	5.6
	Max	0.10	0.15	0.25	0.30	0.30	0.50	0.60	0.95	1.0	1.2	2.2	3.9	8.2	12
D25	Min	0.15	0.20	0.25	0.30	0.30	0.45	0.50	0.85	0.85	1.0	1.9	3.6	7.5	11
	Max	0.25	0.35	0.50	0.65	0.60	1.0	1.1	1.9	1.9	2.2	4.3	8.2	16	24
D30	Min	0.15	0.20	0.35	0.40	0.35	0.60	0.65	1.1	1.1	1.3	2.7	4.7	9.1	15
	Max	0.30	0.40	0.65	0.75	0.70	1.2	1.4	2.2	2.2	2.7	5.1	9.1	18	27
D35	Min	0.20	0.25	0.40	0.45	0.45	0.70	0.80	1.3	1.4	1.6	3.0	5.6	12	18
	Max	0.55	0.75	1.2	1.4	1.3	2.2	2.4	3.9	4.3	5.1	9.1	18	36	51
D50	Min	0.50	0.60	0.95	1.1	1.1	1.7	2.0	3.3	3.3	3.9	7.5	15	30	43
	Max	1.3	1.7	2.7	3.0	3.0	4.7	5.6	9.1	9.1	11	20	39	82	120
D70	Min	0.95	1.2	1.9	2.4	2.2	3.6	4.3	6.8	6.8	8	15	30	56	91
	Max	2.0	2.7	3.9	4.7	4.3	7.5	8.2	13	15	16	33	62	120	180
D90	Min	1.2	1.5	2.4	3.0	2.7	4.3	5.1	8.2	8.2	10	20	36	68	110
	Max	3.0	3.9	6.2	7.5	6.8	12	13	22	22	27	51	91	180	270

*Recommended for commercial use only. Please contact an inside sales representative for additional information.

SLC - Di-Cap®

Di-Cap® Designer Kits 160 Capacitors, 10 Each of 16 Values

Part Number	Capacitor Width	10 Capacitors of each value								
		Dielectric	pF	Tol.	pF	Tol.	pF	Tol.	pF	Tol.
D10XXKITA5PX	.010"	Class I, see codes on Page 4	0.1	B	0.6	C	1.5	C	2.7	D
			0.4	B	1	C	2.2	D	3.3	D
		Class II, see codes on Page 4	3.9	D	5.6	M	8.2	M	20	M
			4.7	D	6.2	M	10	M	33	M
D15XXKITA5PX D20XXKITA5PX	.015" .020"	Class I, see codes on Page 4	0.1	B	0.6	C	1.5	C	3.3	D
			0.4	B	1.0	C	2.2	C	5.6	D
		Class II, see codes on Page 4	6.8	K	10	K	20	M	50	M
			8.2	K	15	K	33	M	100	M
D25XXKITA5PX D30XXKITA5PX	.025" .030"	Class I, see codes on Page 4	0.4	B	1.5	C	3.3	D	8.2	K
			0.6	C	2.2	C	4.76	D	10	K
			1.0	C	2.7	C	5.6	D	20	K
		Class II, see codes on Page 4	33	M	50	M	100	M	180	M

DLI reserves the right to substitute values as required.
Customer may request particular cap value and material for sample kits.

DLI Class II Dielectrics								DLI Class III Dielectrics			pF	Case Size
BF*	BD	BG*	BC	BE	BL	BJ	BN	BT*	BU	BV		
1.2	1.8	2.4	3.6	3.3	5.6	9.1	12	12	22	36	Min	D10
2.2	3.6	4.3	6.2	6.2	10	16	22	22	43	68	Max	
1.8	3.0	3.6	5.1	5.1	8.2	13	18	18	36	56	Min	D12
4.7	7.5	9.1	13	13	20	33	47	47	91	130	Max	
2.7	4.3	5.6	7.5	7.5	12	20	27	27	51	82	Min	D15
6.8	11	13	20	18	30	51	68	68	130	200	Max	
4.3	6.2	8.2	12	12	18	30	43	43	75	120	Min	D20
9.1	13	18	27	24	39	68	91	91	180	270	Max	
8	12	16	22	22	36	56	82	82	150	240	Min	D25
18	27	36	51	51	82	130	180	180	330	510	Max	
10	16	20	30	30	47	75	100	100	200	300	Min	D30
22	33	43	62	62	91	160	220	220	390	620	Max	
16	27	33	47	47	75	120	160	160	300	510	Min	D35
39	62	75	110	110	180	270	390	390	750	1200	Max	

DLI Class II Dielectrics								DLI Class III Dielectrics			pF	Case Size
BF*	BD	BG*	BC	BE	BL	BJ	BN	BT*	BU	BV		
1.8	3.0	3.6	5.6	5.1	8.2	13	18	18	36	56	Min	D15
4.3	6.8	9.1	13	13	20	33	47	47	82	130	Max	
2.7	4.3	5.6	8	8	13	20	30	30	56	82	Min	D20
6.2	9	12	18	16	27	47	62	62	120	180	Max	
5.6	8	11	16	15	24	39	56	56	100	160	Min	D25
12	18	24	33	33	51	82	120	120	220	360	Max	
6.8	11	15	20	20	33	51	68	68	130	220	Min	D30
13	22	27	43	39	62	100	130	130	270	430	Max	
9.1	13	18	24	24	39	62	91	91	160	270	Min	D35
24	39	51	75	75	120	180	270	270	510	750	Max	
22	33	43	62	62	100	160	220	220	390	620	Min	D50
56	91	120	160	160	270	430	560	560	1100	1800	Max	
43	68	91	120	120	200	330	430	430	820	1300	Min	D70
91	130	180	270	240	390	680	910	910	1600	2700	Max	
51	82	110	150	150	240	390	510	510	1000	1600	Min	D90
130	220	270	390	390	620	1000	1300	1300	2700	4300	Max	

SLC - Bar Cap®

Bar Caps are specifically designed for MMIC circuits requiring multiple capacitor applications, such as Multiple Decoupling or RF Bypassing Networks. Multiple capacitor array devices have become an integral circuit component due to their High Q and low inductance.

Description

Multiple Decoupling/Blocking Capacitors in a Single Array

- Can be integrated into IC package to reduce bond wire lengths and improve performance
- Single insertion reduces complexity and costs
- Simplified assembly

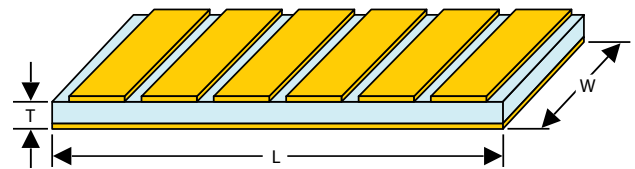
Functional Applications

- RF Bypass • DC Blocking for GaAs IC's • Decoupling



Bar Cap® Dimensions

Case size	No. Caps	W Width		L Length		Nom Pad Size	
		Inches (± 0.003)	mm (± 0.076)	Inches (±0.005)	mm (±0.127)	Inches	mm
E20	3	0.02	0.508	0.065	1.651	0.02	0.508
	4			0.085	2.159		
	6			0.125	3.175		
E25	3	0.025	0.635	0.065	1.651	0.025	0.635
	4			0.085	2.159		
	6			0.125	3.175		
E30	3	0.03	0.762	0.065	1.651	0.03	0.762
	4			0.085	2.159		
	6			0.125	3.175		
E40	3	0.04	1.016	0.065	1.651	0.04	1.016
	4			0.085	2.159		
	6			0.125	3.175		



Ultra High K, UX Dielectric 25 Volt Bar Cap® Capacitance Ranges (pF)

Case Size	No. Caps	Each Cap (pF) T Thickness	
		0.006"	0.010"
E20	3	340	-
	4		
	6		
E25	3	420	270
	4		
	6		
E30	3	500	320
	4		
	6		
E40	3	690	430
	4		
	6		

Class III, BU Dielectric 100 Volt Bar Cap® Capacitance Ranges (pF)

Case Size	No. Caps	Each Cap (pF) T Thickness
		0.007" (0.178mm)
E20	3	80
	4	
	6	
E25	3	100
	4	
	6	
E30	3	120
	4	
	6	
E40	3	150
	4	
	6	

Part Number Identification

E	40	BU	151	Z	1	P	X	4	
Product E = Bar Capacitors	Case Size 20 25 30 40	Material See material tables on Page 4.	Capacitance (pF) 800 = 80 pF 101 = 100 pF 121 = 120 pF 151 = 150 pF Consult an inside sales rep. for custom solutions.	Tolerance Z = +80% -20%	Voltage 2 = 25V 5 = 50V	Termination P = Ni / Au M = Au	Test Level Y or X See test level definitions on Page 6.	Capacitor Quantity In mils 3 4 6 Etc.	Packaging D = Black Dotted E = Repopulated T = Tape and Reel Leave blank for generic waffle pack. See packaging definitions on Page 7.

*Custom Solutions are available; however additional tooling costs may apply. Please contact the sales office for more information.

SLC - Gap Cap®

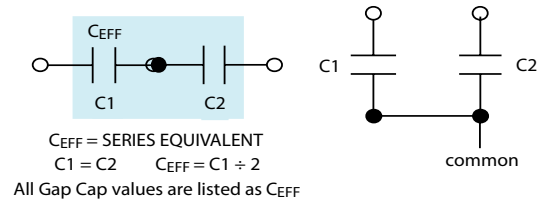
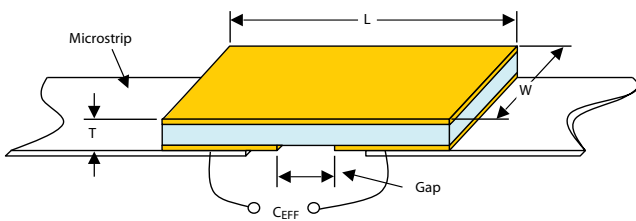
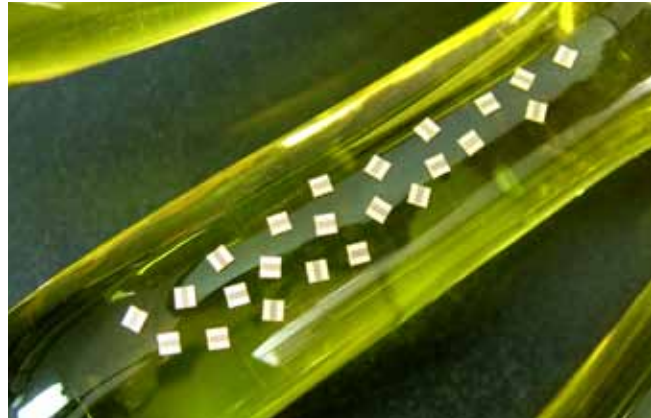
Series Configured Capacitors for Microwave Applications.
 Gap Caps are designed for DC Blocking and RF Bypassing. The low insertion loss and high resonant frequencies make it an ideal device for this type of application. This product's unique configuration eliminates the need for wirebonding, therefore reducing performance variations.

Description

- Consistent performance
- Coplanar waveguide
- Gap Cap configuration eliminates wirebonding

Functional Applications

- DC Blocking
- RF Bypass
- Elimination of wirebond



Gap Cap Designer Kits 160 Capacitors, 10 Each of 16 Values

Part Number	Capacitor Width	10 Capacitors of each value								
		Dielectric	pF	Tol.	pF	Tol.	pF	Tol.	pF	Tol.
G10XXKITAPX05	.010"	Class I, see codes on Page 4	0.05	A	0.2	A	0.4	A	0.6	C
			0.14	A	0.3	A	0.5	B	0.8	C
		Class II, see codes on Page 4	1	C	2.2	D	5.6	M	10	M
			1.5	C	4.7	M	8.2	M	15	M
G15XXKITAPX08 G20XXKITAPX10	.015" .020"	Class I, see codes on Page 4	0.08	A	0.4	A	0.6	B	1.5	D
			0.2	A	0.5	B	1	C	2.2	D
		Class II, see codes on Page 4	3.3	D	5.6	M	8.2	M	15	M
			4.7	M	6.8	M	10	M	20	M
G25XXKITAPX10	.025"	Class I, see codes on Page 4	0.4	A	0.77	B	1.5	C	3.3	D
			0.5	B	1	C	2.2	D	4.7	D
		Class II, see codes on Page 4	5.6	M	8.2	M	15	M	33	M
			6.8	M	10	M	20	M	51	M

DLI reserves the right to substitute values as required.
 Customer may request particular cap value and material for sample kits.

Part Number Identification

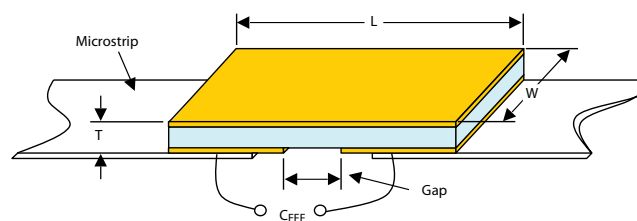
G	10	BU	100	K	5	P	X	10	
Product G = GAP Cap®	Case Size 10 15 20 25 30 35 50	Material See material tables on Page 4.	Capacitance (pF) R01 = 0.01 pF OR5 = 0.5 pF 1R0 = 1.0 pF 5R1 = 5.1 pF 100 = 10 pF 511 = 510 pF Refer to Capacitance range tables for available values. Consult an inside sales rep. for custom solutions.	Tolerance A = ± 0.05pF B = ± 0.10pF C = ± 0.25pF D = ± 0.5pF F = ± 1% G = ± 2% J = ± 5% K = ± 10% L = ± 15% M = ± 20% Z = +80% -20%	Voltage 2 = 25V 5 = 50V	Termination P = Ni / Au M = Au	Test Level Y, X, A, B, D and E. See test level definitions on page 6.	Gap Width In mils 5 8 10 15	Packaging D = Black Dotted E = Repopulated T = Tape and Reel Leave blank for generic waffle pack. See packaging definitions on Page 7.

SLC - Gap Cap®

Ultra High K, UX Dielectric

25 Volt Single Gap Cap® Cap. Ranges (pF)

Case Size		Available Thicknesses	
		0.006"	0.010"
G10	Min	40	—
	Max	60	—
G15	Min	90	60
	Max	120	70
G20	Min	150	90
	Max	200	120
G25	Min	190	140
	Max	250	160
G30	Min	265	180
	Max	300	190
G35	Min	310	200
	Max	350	250
G50	Min	500	380
	Max	800	550



25 Volt Gap Cap® Capacitance Ranges (pF)

Case Size	Std. Gap	pF	DLI Class I Dielectrics													
			PI	PG	AH	CF	NA	CD	NG	CG	DB	NP	NR	NS	NU	NV
G10	.005"	Min	0.02	0.02	0.04	0.04	0.04	0.06	0.07	0.15	0.15	0.15	0.25	0.50	0.95	1.4
		Max	0.03	0.05	0.08	0.09	0.08	0.10	0.15	0.15	0.25	0.25	0.30	0.60	1.2	2.4
G15	.008"	Min	0.03	0.04	0.06	0.08	0.07	0.15	0.15	0.25	0.25	0.30	0.50	0.90	1.8	2.7
		Max	0.07	0.10	0.15	0.15	0.15	0.25	0.30	0.50	0.55	0.65	1.2	2.2	4.3	6.8
G20	.010"	Min	0.04	0.05	0.08	0.10	0.09	0.15	0.20	0.30	0.30	0.35	0.65	1.2	2.4	3.6
		Max	0.10	0.15	0.25	0.30	0.25	0.45	0.55	0.90	0.90	1.1	2.0	3.9	7.5	11
G25	.020"	Min	0.05	0.07	0.10	0.15	0.15	0.20	0.20	0.35	0.35	0.40	0.75	1.4	3.0	4.3
		Max	0.15	0.20	0.30	0.35	0.35	0.60	0.65	1.1	1.1	1.3	2.4	4.7	9.1	13
G30	.020"	Min	0.06	0.08	0.15	0.15	0.15	0.25	0.30	0.45	0.45	0.55	0.95	1.8	3.6	5.6
		Max	0.15	0.25	0.35	0.45	0.40	0.70	0.80	1.3	1.4	1.6	3.0	5.6	11	16
G35	.020"	Min	0.07	0.09	0.15	0.20	0.15	0.30	0.30	0.50	0.50	0.60	1.1	2.2	4.3	6.2
		Max	0.20	0.25	0.45	0.50	0.50	0.80	0.95	1.6	1.6	1.9	3.6	6.8	13	20

50 Volt Gap Cap® Capacitance Ranges (pF)

Case Size	Std. Gap	pF	DLI Class I Dielectrics														
			LA	PI	PG	AH	CF	NA	CD	NG	CG	DB	NP	NR	NS	NU	NV
G10	.005"	Min	0.01	0.02	0.02	0.03	0.03	0.03	0.04	0.05	0.08	0.08	0.09	0.20	0.35	0.65	0.95
		Max	0.01	0.02	0.03	0.05	0.06	0.05	0.09	0.10	0.15	0.15	0.20	0.40	0.80	1.6	2.4
G15	.008"	Min	0.02	0.03	0.03	0.05	0.06	0.05	0.08	0.10	0.15	0.20	0.35	0.65	1.3	2.0	
		Max	0.02	0.05	0.06	0.10	0.10	0.10	0.15	0.20	0.35	0.35	0.40	0.80	1.5	3.0	4.7
G20	.010"	Min	0.02	0.03	0.04	0.06	0.07	0.07	0.15	0.15	0.20	0.25	0.45	0.85	1.7	2.7	
		Max	0.04	0.08	0.10	0.15	0.20	0.15	0.30	0.35	0.60	0.60	0.70	1.3	2.4	5.1	7.5
G25	.020"	Min	0.03	0.04	0.05	0.08	0.09	0.08	0.15	0.20	0.30	0.30	0.35	0.60	1.1	2.2	3.3
		Max	0.09	0.15	0.20	0.30	0.35	0.35	0.55	0.65	1.1	1.1	1.3	2.4	4.7	9.1	13
G30	.020"	Min	0.03	0.05	0.07	0.10	0.15	0.15	0.20	0.20	0.35	0.35	0.40	0.75	1.4	3.0	4.3
		Max	0.10	0.15	0.25	0.35	0.45	0.40	0.70	0.80	1.3	1.3	1.6	3.0	5.6	11	16
D35	.020"	Min	0.04	0.06	0.07	0.15	0.15	0.15	0.20	0.25	0.40	0.40	0.50	0.90	1.6	3.3	5.1
		Max	0.10	0.20	0.25	0.45	0.5	0.45	0.80	0.95	1.5	1.6	1.9	3.6	6.2	13	20
G50	.020"	Min	0.04	0.07	0.09	0.15	0.20	0.20	0.30	0.30	0.50	0.50	0.60	1.2	2.2	4.3	6.2
		Max	0.20	0.35	0.50	0.75	0.90	0.85	1.4	1.6	2.7	2.7	3.3	6.2	11	22	33

*Recommended for commercial use only. Please contact an inside sales representative for additional information.

SLC - Gap Cap®

25 Volt Gap Cap® Dimensions

Style	G Gap (Nom.)		W Width		L Length (Max)		T Thickness Range*	
	Inches	mm	Inches	mm	Inches	mm	Inches (±0.001)	mm (± 0.025)
G10	0.005	0.127	0.010 +0 -0.003	0.254 +0 -0.076	0.030	0.762	0.004	0.102
G15	0.008	0.203	0.015 +0 -0.003	0.381 +0 -0.076	0.040	1.016	0.004	0.102
G20	0.010	0.254	0.020 +0 -0.003	0.508 +0 -0.076	0.050	1.270	0.004	0.102
G25	0.020	0.508	0.025 +0 -0.003	0.635 +0 -0.076	0.060	1.524	0.004	0.102
G30	0.020	0.508	0.030 +0 -0.003	0.762 +0 -0.076	0.060	1.524	0.004	0.102
G35	0.020	0.508	0.035 ±0.005	0.889 ±0.127	0.060	1.524	0.004	0.102
G50	0.020	.0508	0.05 ±0.010	1.270 ±0.254	0.080	2.032	0.006	0.152

*UX thickness only available in .006" and .010".

50 Volt Gap Cap® Dimensions

Style	G Gap (Nom.)		W Width		L Length (Max)		T Thickness Range	
	Inches	mm	Inches	mm	Inches	mm	Inches (±0.001)	mm (± 0.025)
G10	0.005	0.127	0.010 +0 -0.003	0.254 +0 -0.076	0.030	0.762	0.006	0.152
G15	0.008	0.203	0.015 +0 -0.003	0.381 +0 -0.076	0.040	1.016	0.006	0.152
G20	0.010	0.254	0.020 +0 -0.003	0.508 +0 -0.076	0.050	1.270	0.006	0.152
G25	0.020	0.508	0.025 +0 -0.003	0.635 +0 -0.076	0.080	2.032	0.006	0.152
G30	0.020	0.508	0.030 +0 -0.003	0.762 +0 -0.076	0.080	2.032	0.006	0.152
G35	0.020	0.508	0.035 ±0.005	0.889 ±0.127	0.080	2.032	0.006	0.152
G50	0.020	.0508	0.05 ±0.010	1.270 ±0.254	0.080	2.032	0.006	0.152

	DLI Class II Dielectrics								DLI Class III Dielectrics			pF	Std. Gap	Case Size
	BF*	BD	BG*	BC	BE	BL	BJ	BN	BT*	BU	BV			
0.70	1.1	1.4	2.0	2.0	3.3	5.1	7.5	7.5	15	22	Min	.005"	G10	
1.7	2.7	3.6	5.1	4.7	7.5	13	18	18	33	51	Max			
1.4	2.2	2.7	3.9	3.9	6.2	10	15	15	27	43	Min	.008"	G15	
3.3	5.1	6.8	10	9.1	15	24	33	33	62	100	Max			
1.7	2.7	3.6	5.1	5.1	8.2	13	18	18	33	51	Min	.010"	G20	
5.6	9.1	11	16	16	24	43	56	56	110	160	Max			
2.2	3.3	4.3	6.2	6.2	10	16	22	22	43	68	Min	.020"	G25	
6.8	11	13	20	20	30	51	68	68	130	200	Max			
2.7	4.3	5.6	8.2	7.5	12	20	27	27	51	82	Min	.020"	G30	
8.2	13	16	24	24	39	62	82	82	160	240	Max			
3.3	5.1	6.2	9.1	9.1	15	24	33	33	62	100	Min	.020"	G35	
10	16	20	27	27	43	75	100	100	180	300	Max			

	DLI Class II Dielectrics								DLI Class III Dielectrics			pF	Std. Gap	Case Size
	BF*	BD	BG*	BC	BE	BL	BJ	BN	BT*	BU	BV			
0.50	0.75	0.95	1.4	1.4	2.2	3.6	5.1	5.1	9.1	15	Min	.005"	G10	
1.1	1.8	2.4	3.3	3.3	5.1	8.2	12	12	22	36	Max			
0.95	1.5	2.0	3.0	2.7	4.3	7.5	10	10	20	30	Min	.008"	G15	
2.2	3.6	4.7	6.8	6.2	10	16	22	22	43	68	Max			
1.3	2.0	2.7	3.9	3.6	6.2	10	13	13	24	39	Min	.010"	G20	
3.6	5.6	7.5	11	10	16	27	39	39	68	110	Max			
1.7	2.7	3.3	4.7	4.7	7.5	12	18	18	33	51	Min	.020"	G25	
6.8	11	13	20	20	30	51	68	68	130	200	Max			
2.2	3.3	4.3	6.2	6.2	10	16	22	22	43	68	Min	.020"	G30	
8.2	13	16	24	24	36	62	82	82	160	240	Max			
2.4	3.9	5.1	7.5	6.8	11	18	24	24	47	75	Min	.020"	G35	
10	15	20	27	27	43	68	100	100	180	300	Max			
3.3	5.1	6.2	9.1	9.1	15	24	33	33	62	100	Min	.020"	G50	
16	27	33	51	47	75	120	160	160	330	510	Max			

SLC - Bi-Cap[®]

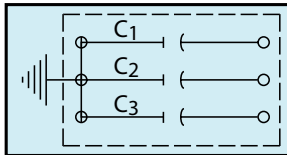
Description

Binary Tunable Caps for SLC Hybrids.

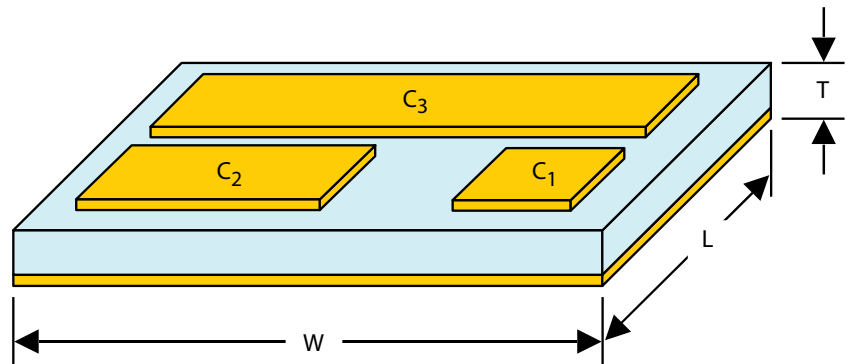
- Small size is compatible with microwave geometries
- Ideal for prototype circuits

Functional Applications

- Matching Networks
- Tank Circuits
- Dielectric resonator tuning/coupling



$C_1 = 1$
 $C_2 = 2 \times C_1$
 $C_3 = 4 \times C_1$
 (4 pad - $C_4 = 8 \times C_1$)
 Pads may be used singularly or in combination to tune circuit.



Bi-Cap[®] Dimensions and Part Numbers

Part Number	No. Caps	Each Cap (pF)	L & W Length & Width		T Thickness		B Border		Voltage Rating (Volts)
			Inches (±.001)	mm (±.025)	Inches (±.001)	mm (±.025)	Inches (±.002)	mm (±.051)	
F15CGR08M5PX3	3	.080, .15, .3	0.015	0.381	0.004	0.102	0.002	0.0051	50
F15NR0R1M1PX3	3	.1, .2, .4	0.015	0.381	0.006	0.152	0.002	0.0051	100
F20CG0R1M1PX3	3	.1, .2, .4	0.020	0.508	0.006	0.152	0.002	0.0051	100
F20NR0R2M1PX3	3	.2, .4, .8	0.020	0.508	0.006	0.152	0.002	0.0051	100
F25CFR08M5PX3	3	.080, .15, .3	0.025	0.635	0.004	0.102	0.002	0.0051	50
F25CG0R2M1PX3	3	.2, .4, .8	0.025	0.635	0.006	0.152	0.002	0.0051	100
F25NR0R4M1PX3	3	.4, .8, 1.6	0.025	0.635	0.006	0.152	0.002	0.0051	100
F35CF0R1M1PX3	3	.1, .2, .4	0.035	0.889	0.006	0.152	0.002	0.0051	100
F35CG0R4M1PX3	3	.1, .2, .4	0.035	0.889	0.006	0.152	0.002	0.0051	100
F40NR0R5M1PX4	4	.5, 1, 2, 4	0.040	1.016	0.0075	0.191	0.002	0.0051	100

*Custom Solutions are available; however additional tooling costs may apply. Please contact an inside sales representative for more information.

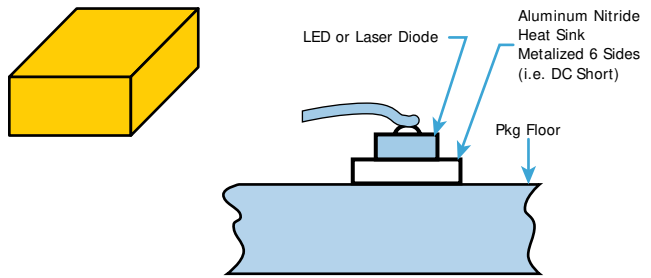
Part Number Identification

F	15	NR	OR1	M	1	P	X	3	
Product F = Binary Capacitors	Case Size 15 20 25 35 40	Material See material tables on Page 4.	Capacitance (pF) Lowest Value in Series is Part Number R08 = .080 pF OR1 = .1 pF OR2 = .2 pF OR4 = .4 pF OR5 = .5 pF Consult an inside sales rep. for custom solutions.	Tolerance M = ±20%	Voltage 2 = 25V 5 = 50V 1 = 100V	Termination P = Ni / Au M = Au	Test Level Y or X See test level definitions on Page 6.	Pad Quantity 3 4	Packaging D = Black Dotted E = Repopulated T = Tape and Reel Leave blank for generic waffle pack. See packaging definitions on Page 7.

SLC - Heatsinks, Standoffs & Submounts

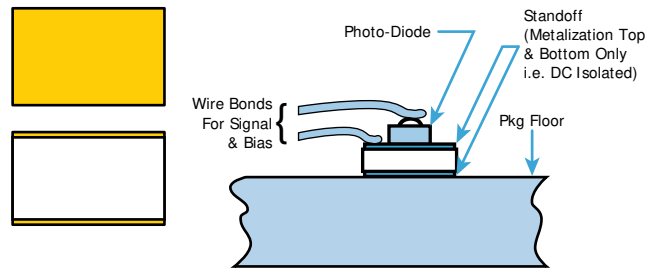
Heatsinks

- Heatsinks are fully metallized on all sides and are used to dissipate and absorb heat
- Heatsinks allow for high thermal conductivity and are electrically conductive (DC short)
- Typically used with LED's or laser diodes



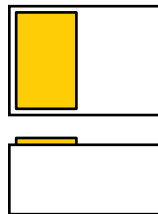
Standoffs

- A Standoff is much like a Heatsink however it is typically metallized on only the top and bottom surfaces
- Each device is custom tailored to the customer's specifications and is typically used with LED's or Photo Diodes (works as a photo detector, light is allowed in through fibers)



Submounts

- Submounts are ceramic LED package bases which minimize thermal resistance between LED junctions and adjacent components
- By reducing junction temperatures, an LED will produce increased efficiency, brightness, color and reliability
- Each device is custom tailored to the customer's specifications



Material Specifications

Material Code	Relative ϵ_r^* @ 5 GHz	TCC† Loss ppm/ °C	Coefficient of Tangent* % Max	Thermal Thermal Expansion ppm/ °K	Conductivity W/ m-°K
AG	8.85 ± 0.35 (@ 1MHz)	Aluminum Nitride	0.10	4.6	140-180
PI	9.9 ± 0.15 (@ 1MHz)	Alumina 99.6%	0.01	6.5 - 7.5	27

*Unless otherwise specified K dielectric measurement at approximately 5 GHz. †For the temperature range -55 to 125°C. **Material only provided metallized.

Surface Finish

Code	Roughness R_a	Material Process
X	>50 μ in.	As-Fired
Y	20 μ in.	Machined
Z	<5 μ in.	Polished
S	Special	Drawing required

Metallization

Code	Description
M	300 Angstroms TiW, 100 μ in. min. Au
P	75 μ in. min. Nickel, 100 μ in. min. Au
E	Metallized and etched per Customer drawing
T	300 Angstroms min. TiW, 50 μ in. min. NiV, 300 μ in. min. Au-Sn
D	SPECIAL, DLI Design per Customer Requirements

MLC - Dielectric Material & Case Sizes

AH	DLI Series	Case Size Footprint in. (mm)	Cap Value Range (pF)	Cap (pF)	Typical ESR			Series Resonance (MHz)	Working Voltage (Max)	
					150 MHz	500 MHz	1 GHz			
TCC (ppm/°C) (-55° to +125°C) Porcelain (P90) +90 ± 20	C11AH	.055 x .055 (1.40 x 1.40)	0.1 to 100	1	0.067	0.08	0.136	9200	250	
				10	0.044	0.071	0.104	3000		
				100	0.032	0.055	0.086	1000		
	C17AH	.110 x .110 (2.79 x 2.79)	0.1 to 1000	1	0.059	0.063	0.114	9064	1000	
				10	0.039	0.06	0.085	3100		
				1000	0.024	0.05	0.074	1290		
	C18AH	.110 x .110 (2.79 x 2.79)	0.1 to 1000	10	0.059	0.094	0.138	3100	1000	
				100	0.028	0.069	0.109	1290		
				1000	0.023	0.063	–	400		
	C22AH	.220 x .250 (5.84 x 6.35)	1 to 2700	10	0.074	0.207	0.249	2480	2500	
				100	0.048	0.116	0.19	1000		
				1000	0.028	0.14	–	320		
				2700	0.027	–	–	214		
						10MHz	30MHz	100MHz		
	C40AH	.380 x .380 (9.65 x 9.65)	1 to 5100	15	0.066	0.033	0.027	2100	7200	
100				0.018	0.026	0.052	680			
1000				0.009	0.017	0.033	210			
5100				0.008	0.016	0.033	95			

CF	DLI Series	Case Size Footprint in. (mm)	Cap Value Range (pF)	Cap (pF)	Typical ESR			Series Resonance (MHz)	Working Voltage max				
					150 MHz	500 MHz	1 GHz						
TCC (ppm/°C) (-55° to +125°C) Porcelain (NP0) 0 ± 15	C06CF	.063 x .030 (1.60 x 0.80)	0.1 to 47	1	0.182	0.276	0.428	10300	250				
				10	0.095	0.159	0.243	3200					
				47	0.081	0.127	0.173	1400					
	C11CF	.055 x .055 (1.40 x 1.40)	0.1 to 100	1	0.073	0.089	0.146	9900	250				
				10	0.049	0.075	0.107	3100					
				100	0.040	0.073	0.111	970					
	C17CF	.110 x .110 (2.79 x 2.79)	0.1 to 1000	1	0.073	0.082	0.124	9060	1000				
				10	0.065	0.098	0.136	3100					
				100	0.041	0.070	0.102	1300					
	C18CF	.110 x .110 (2.79 x 2.79)	0.1 to 1000	1000	0.034	0.073	–	400	1000				
				1	0.068	0.086	0.158	9060					
				10	0.058	0.087	0.118	3100					
	C22CF	.220 x .250 (5.84 x 6.35)	1 to 2700	1000	0.041	0.068	–	1000	1000				
				10	0.072	0.113	0.164	2480					
				100	0.047	0.079	0.119	1000					
C40CF	.380 x .380 (9.65 x 9.65)	1 to 5100	1000	0.036	0.067	–	320	2500					
			2700	0.035	–	–	214						
									10MHz	30MHz	100MHz		
			10	0.121	0.054	0.037	2100		7200				
100	0.044	0.038	0.045	680									
1000	0.032	0.036	0.038	210									
5100	0.011	0.016	0.040	95									

NA	DLI Series	Case Size Footprint in. (mm)	Cap Value Range (pF)	Cap (pF)	Typical ESR			Series Resonance (MHz)	Working Voltage max
					150 MHz	500 MHz	1 GHz		
TCC (ppm/°C) (-55° to +125°C) Ceramic (NP0) N30 ± 15	C11NA	.055 x .055 (1.40 x 1.40)	0.1 to 100	1	0.091	0.166	0.235	8796	250
				10	0.064	0.117	0.166	2994	
				100	0.046	0.083	0.117	1019	
	C17NA	.110 x .110 (2.79 x 2.79)	0.1 to 1000	1	0.047	0.086	0.121	10360	1000
				10	0.033	0.061	0.085	3238	
				100	0.024	0.043	0.060	1012	
				1000	0.017	0.030	0.043	316	

MLC - Dielectric Material & Case Sizes

UL	DLI Series	Case Size Footprint in. (mm)	Cap Value Range (pF)	Cap (pF)	Typical ESR			Series Resonance (MHz)	Working Voltage max
					150 MHz	500 MHz	1 GHz		
TCC (ppm/°C) (-55° to +125°C) Ceramic (NP0) 0 ± 30	C04UL	.040 x .020 (1.0 x 0.5)	0.1 to 10	1	0.081	0.095	0.148	9820	200
				5	0.038	0.057	0.088	3930	
				10	0.036	0.058	0.087	2650	
	C06UL	.060 x .030 (1.60 x 0.80)	0.1 to 47	5	0.052	0.072	0.107	1750	250
				15	0.028	0.041	0.064	1010	
				47	0.023	0.043	0.070	570	
	C07UL	.110 x .070 (2.79 x 1.72)	0.1 to 100	5.6	0.053	0.086	0.129	5000	250
				10	0.029	0.041	0.066	3960	
				30	0.017	0.023	0.036	2540	
	C08UL	.080 x .050 (2.0 x 1.27)	0.1 to 100	100	0.051	0.078	0.126	6000	250
				9.5	0.041	0.060	0.094	4620	
				11	0.041	0.064	0.103	4340	
	C11UL	.055 x .055 (1.40 x 1.40)	0.1 to 100	100	0.066	0.084	0.125	7530	250
				10	0.037	0.057	0.086	3800	
				100	0.022	0.042	0.081	1430	
	C17UL	.110 x .110 (2.79 x 2.79)	0.1 to 1000	10	0.040	0.056	0.082	2940	1000
				100	0.021	0.035	0.057	910	
				470	0.016	0.029	-	420	

DLI MLC Dielectric Materials

Dielectric Code	Temperature Coefficient -55°C to +125°C	Dissipation Factor @ 1 MHz (% Maximum)	Insulation Resistance (MΩ)	
			@ +25°C	@ +125°C
AH	P90 ± 20 ppm/°C	0.05	See Notes below	See Notes below
CF	0 ± 15 ppm/°C	0.05		
UL	0 ± 30 ppm/°C	0.05		
BL*	± 15%	2.50	>10 ⁴	>10 ³
NA	N30 ± 15 ppm/°C	0.05	>10 ⁶	>10 ⁵

*Broadband Blocks only.

Notes: Insulation Resistance (Per MIL-PRF-55681 & MIL-PRF-55681/4)

High Frequency Capacitors (C11, C17 & C18)

@ +25°C: 10⁶ MΩ (0.1pF to 470pF) / 10⁵ MΩ (510pF to 1000pF)

@ +125°C: 10⁵ MΩ (0.1pF to 470pF) / 10⁴ MΩ (510pF to 1000pF)

All other Case sizes (C04, C06, C07, C08, C22, C40)

@ +25°C: 10⁵ MΩ

@ +125°C: 10⁴ MΩ

ESR and Resonance data is of typical performance and can vary from lot to lot. Consult factory for additional case size data.

Temperature Coefficient of Capacitance

