

SLC – Gap Cap®

DESCRIPTION

Series Configured Capacitor for Microwave Applications. Recessed metallization has been designed to minimize the potential of shorting during attachment (epoxy or solder).

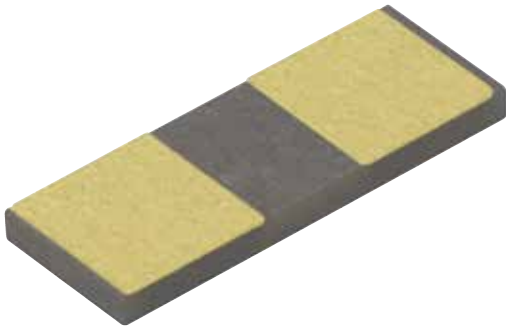
- Available from 0.2pF to 800pF
- Operating frequency up to 30GHz
- Customized solutions

FUNCTIONAL APPLICATIONS

- DC Blocking
- RF Bypassing
- Filtering
- Tuning
- Coupling

BENEFITS

- Eliminates wire bonding
- Coplanar waveguide
- Low insertion loss



TEST LEVEL CODES

Commercial Level	
X	100% 4-Side Visual 1% AQL Electrical (CAP/DF/IR & DWV)

HIGH RELIABILITY

A	MIL-PRF-49464 Group A • 100% Thermal Shock • 100% Voltage Conditioning • 100% Electrical (CAP/DF/IR & DWV) • 100% 6-Side Visual • Bond Strength • Die Shear • Temperature Coefficient	B	MIL-PRF-49464 Group B • MIL-PRF-49464 Group A • Immersion • Low Voltage Humidity • Life
		D	• Customer Defined
		E	• 1% AQL Electrical (CAP/DF/IR/DMV) • 100% 6 Sided Visual
		H	MIL-PRF-38534 Class H
		K	MIL-PRF-38534 Class K

TOLERANCE

Code	Description
A	± 0.05pF
B	± 0.1pF
C	± 0.25pF
D	± 0.50pF
K	± 10%
L	± 15%
M	± 20%
X	GMV (Guarantee Minimum Value)
Z	+80%, -20%

VOLTAGE

Code	Voltage
2	25 Volts
5	50 Volts

ORDERING INFORMATION – SLC – GAP CAP®

G	10	BU	100	K	5	P	X	05	
Product	Case Size	Material	Capacitance (pF)	Tolerance	Voltage	Termination	Test Level	Gap Width (mils)	Packaging
G = Gap-Cap®	10 15 20 25 30 35 50	See material tables on Page 5.	R01 = 0.01 pF OR5 = 0.5 pF 1R0 = 1.0 pF 5R1 = 5.1 pF 100 = 10 pF 511 = 510 pF	A = ±0.05pF B = ±0.10pF C = ±0.25pF D = ±0.5pF K = ±10% L = ±15% M = ±20% X = GMV Z = +80% -20%	2 = 25V 5 = 50V	P = TiW/NiV/Au M=TiW/Au	X A B D E H K See test level definitions on page 7.	05 08 10 15	T = Tape and Reel Leave blank for generic waffle pack. See packaging definitions on Page 8.
			Refer to Capacitance range tables for available values. Consult an inside sales rep for custom solutions.						



SLC – Gap Cap®

DIMENSIONS – 25 VOLT GAP CAP®

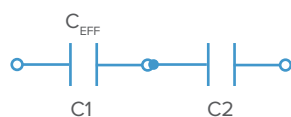
Style	Gap (Nominal)	Width	Length	Thickness
G10	0.005" (0.127mm)	0.010" + 0/-0.003" (0.254mm + 0/-0.076mm)	0.030" MAX. (0.762mm MAX.)	0.004" ± 0.001" (0.102mm ± 0.025mm)
G15	0.008" (0.203mm)	0.015" + 0/-0.003" (0.381mm + 0/-0.076mm)	0.040" MAX. (1.016mm MAX.)	
G20	0.010" (0.254mm)	0.020" + 0/-0.003" (0.508mm + 0/-0.076mm)	0.050" MAX. (1.270mm MAX.)	
G25	0.020" (0.508mm)	0.025" + 0/-0.003" (0.635mm + 0/-0.076mm)	0.060" MAX. (1.524mm MAX.)	
G30		0.030" + 0/-0.003" (0.762mm + 0/-0.076mm)		
G35		0.035" ± 0.005" (0.889mm ± 0.127mm)		
G50		0.050" ± 0.010" (1.27mm ± 0.254mm)	0.080" MAX. (2.032mm MAX.)	0.006" ± 0.001" (0.152mm ± 0.025mm)

*UX thickness 0.006" (0.152mm)

DIMENSIONS – 50 VOLT GAP CAP®

Style	Gap (Nominal)	Width	Length	Thickness
G10	0.005" (0.127mm)	0.010" + 0/-0.003" (0.254mm + 0/-0.076mm)	0.030" MAX. (0.762mm MAX.)	0.006" ± 0.001" (0.152mm ± 0.025mm)
G15	0.008" (0.203mm)	0.015" + 0/-0.003" (0.381mm + 0/-0.076mm)	0.040" MAX. (1.016mm MAX.)	
G20	0.010" (0.254mm)	0.020" + 0/-0.003" (0.508mm + 0/-0.076mm)	0.050" MAX. (1.270mm MAX.)	
G25	0.020" (0.508mm)	0.025" + 0/-0.003" (0.635mm + 0/-0.076mm)	0.080" MAX. (2.032mm MAX.)	
G30		0.030" + 0/-0.003" (0.762mm + 0/-0.076mm)		
G35		0.035" ± 0.005" (0.889mm ± 0.127mm)		
G50		0.050" ± 0.010" (1.27mm ± 0.254mm)		

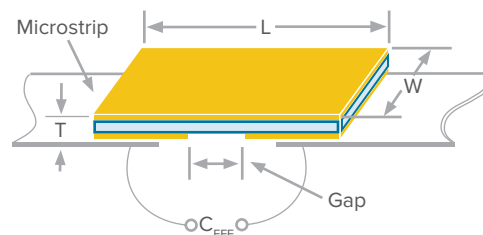
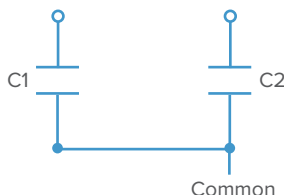
*UX thickness 0.010" (0.254mm)



$$C_{EFF} = \text{SERIES EQUIVALENT}$$

$$C1 = C2 \quad C_{EFF} = C1 \div 2$$

ALL GAP CAP VALUES ARE LISTED AS C_{EFF}



SLC – Gap Cap[®]

CAPACITANCE VALUES – 25 VOLT RATED GAP CAP[®]

STYLE	G10			G15			G20			G25			G30			G35			G50		
CAPACITANCE (pF)																					
MATERIAL	MIN.	MAX.	TOL.	MIN.	MAX.	TOL.	MIN.	MAX.	TOL.	MIN.	MAX.	TOL.	MIN.	MAX.	TOL.	MIN.	MAX.	TOL.	MIN.	MAX.	TOL.
PI	0.02	0.03	A	0.03	0.07	A	0.04	0.10	A	0.05	0.15	A	0.06	0.15	A	0.07	0.20	A	-	-	-
PG	0.02	0.05	A	0.04	0.10	A	0.05	0.15	A	0.07	0.20	A	0.08	0.25	A	0.09	0.25	A	-	-	-
AH	0.04	0.08	A	0.06	0.15	A	0.08	0.25	A	0.10	0.30	A	0.15	0.35	A	0.15	0.45	A	-	-	-
CF	0.04	0.09	A	0.08	0.15	A	0.10	0.30	A	0.15	0.35	A	0.15	0.45	A	0.20	0.50	A	-	-	-
NA	0.04	0.08	A	0.07	0.15	A	0.09	0.25	A	0.15	0.35	A	0.15	0.40	A	0.15	0.50	A	-	-	-
CD	0.06	0.10	A	0.15	0.25	A	0.15	0.45	A	0.20	0.60	B	0.25	0.70	B	0.30	0.80	B	-	-	-
CG	0.15	0.25	A	0.25	0.50	A	0.30	0.90	B	0.35	1.1	B	0.45	1.3	C	0.50	1.6	C	-	-	-
DB	0.15	0.25	A	0.25	0.55	B	0.30	0.90	B	0.35	1.1	B	0.45	1.4	C	0.50	1.6	C	-	-	-
NP	0.15	0.30	A	0.30	0.65	B	0.35	1.1	C	0.40	1.3	C	0.55	1.6	C	0.60	1.9	C	-	-	-
NR	0.25	0.60	A,B	0.50	1.2	B	0.65	2.0	C	0.75	2.4	C	0.95	3.0	D	1.1	3.6	D	-	-	-
NS	0.50	1.2	B	0.90	2.2	C,K	1.2	3.9	D,K	1.4	4.7	D,K	1.8	5.6	D,K	2.2	6.8	K	-	-	-
NU	0.95	2.4	C,K	1.8	4.3	C,K	2.4	7.5	D,K	3.0	9.1	D,K	3.6	11	K	4.3	13	K	-	-	-
NV	1.4	3.6	C,K	2.7	6.8	D,K	3.6	11	D,K	4.3	13	K	5.6	16	K	6.2	20	K	-	-	-
BD	1.1	2.7	K	2.2	5.1	K	2.7	9.1	K	3.3	11	K	4.3	13	K	5.1	16	K	-	-	-
BC	2.0	5.1	K	3.9	10	K	5.1	16	K	6.2	20	K	8.2	24	K	9.1	27	K	-	-	-
BE	2.0	4.7	K	3.9	9.1	K	5.1	16	K	6.2	20	K	7.5	24	K	9.1	27	K	-	-	-
BL	3.3	7.5	K	6.2	15	K	8.2	24	K	10	30	K	12	39	K	15	43	K	-	-	-
BJ	5.1	13	K	10	24	K	13	43	K	16	51	K	20	62	K	24	75	K	-	-	-
BN	7.5	18	K	15	33	K	18	56	K	22	68	K	27	82	K	33	100	K	-	-	-
BU	15	33	K,M	27	62	K,M	33	110	K,M	43	130	K,M	51	160	K,M	62	180	K,M	-	-	-
BV	22	51	M	43	100	M	51	160	M	68	200	M	82	240	M	100	300	M	-	-	-
UX	40	60	M	90	120	M	150	200	M	190	250	M	265	300	M	310	350	M	500	800	M

CAPACITANCE VALUES – 50 VOLT RATED GAP CAP[®]

STYLE	G10			G15			G20			G25			G30			G35			G50		
CAPACITANCE (pF)																					
MATERIAL	MIN.	MAX.	TOL.	MIN.	MAX.	TOL.	MIN.	MAX.	TOL.	MIN.	MAX.	TOL.	MIN.	MAX.	TOL.	MIN.	MAX.	TOL.	MIN.	MAX.	TOL.
PI	0.02	0.02	A	0.03	0.05	A	0.03	0.08	A	0.04	0.15	A	0.05	0.15	A	0.06	0.20	A	0.07	0.35	A
PG	0.02	0.03	A	0.03	0.06	A	0.04	0.10	A	0.05	0.20	A	0.07	0.25	A	0.07	0.25	A	0.09	0.50	A
AH	0.03	0.05	A	0.05	0.10	A	0.06	0.15	A	0.08	0.30	A	0.10	0.35	A	0.15	0.45	A	0.15	0.75	A,B
CF	0.03	0.06	A	0.06	0.10	A	0.07	0.20	A	0.09	0.35	A	0.15	0.45	A	0.15	0.50	A	0.20	0.90	A,B
NA	0.03	0.05	A	0.05	0.10	A	0.07	0.15	A	0.08	0.35	A	0.15	0.40	A	0.15	0.45	A	0.20	0.85	A,B
CD	0.04	0.09	A	0.08	0.15	A	0.15	0.30	A	0.15	0.55	A	0.20	0.70	A,B	0.20	0.80	A,B	0.30	1.4	A,B
CG	0.08	0.15	A	0.15	0.35	A	0.20	0.60	A	0.30	1.1	A	0.35	1.3	A,B	0.40	1.5	A,B	0.50	2.7	A,B
DB	0.08	0.15	A	0.20	0.35	A	0.25	0.60	A	0.30	1.1	A,B	0.35	1.3	B,C	0.40	1.6	B,C	0.50	2.7	B,C
NP	0.09	0.20	A	0.20	0.40	A	0.25	0.70	B	0.35	1.3	B	0.40	1.6	B,C	0.50	1.9	B,C	0.60	3.3	B,C
NR	0.20	0.40	A	0.35	0.80	B	0.45	1.3	B,C	0.60	2.4	B,C	0.75	3.0	D	0.90	3.6	D	1.2	6.2	D,K
NS	0.35	0.8	C,K	0.65	1.5	C,K	0.85	2.4	C,K	1.1	4.7	C	1.4	5.6	D,K	1.6	6.2	D,K	2.2	11	D,K
NU	0.65	1.6	C,K	1.3	3.0	C,K	1.7	5.1	D,K	2.2	9.1	D,K	3.0	11	K	3.3	13	K	4.3	22	K
NV	0.95	2.4	C,K	2.0	4.7	C,K	2.7	7.5	D,K	3.3	13	D,K	4.3	16	K	5.1	20	K	6.2	33	K
BD	0.75	1.8	K	1.5	3.6	K	2.0	5.6	K	2.7	11	K	3.3	13	K	3.9	15	K	5.1	27	K
BC	2.0	4.6	K	3.8	8.5	K	3.5	13.8	K	5.3	25	K	6.4	30	K	7.4	35	K	26	50	K
BE	2.0	4.6	K	3.8	8.5	K	3.5	13.8	K	5.3	25	K	6.4	30	K	7.4	35	K	26	50	K
BL	2.2	5.1	K	4.3	10	K	6.2	16	K	7.5	30	K	10	36	K	11	43	K	15	75	K
BJ	3.6	8.2	K	7.5	16	K	10	27	K	12	51	K	16	62	K	18	68	K	24	120	K
BN	5.1	12	K	10	22	K	13	39	K	18	68	K	22	82	K	24	100	K	33	160	K
BU	9.1	22	M	20	43	M	24	68	M	33	130	M	43	160	M	47	180	M	62	330	M
BV	15	36	M	30	68	M	39	110	M	51	200	M	68	240	M	75	300	M	100	510	M
UX	-	-	-	60	70	M	90	120	M	140	160	M	180	190	M	200	250	M	380	550	M

