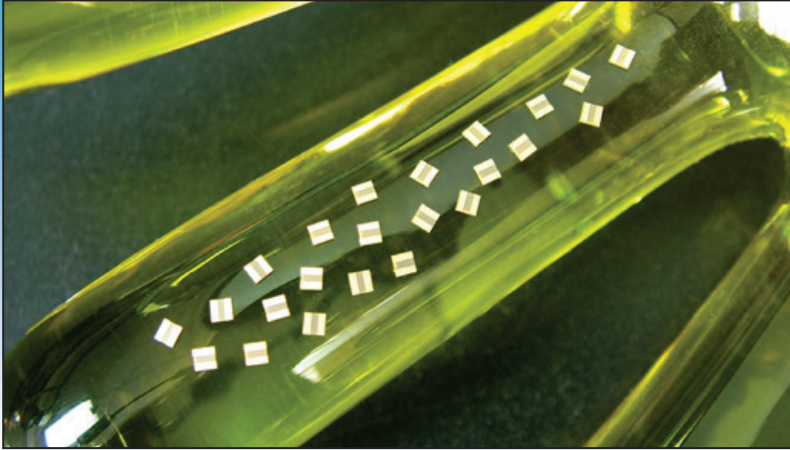


Gap Cap[®] Single Layer Capacitor



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

Applications

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

Benefits

- Eliminates wire-bonding
- Coplanar waveguide
- Low insertion loss

Test Level Codes

Commercial Level

Y	1% AQL 2-Side Visual
X	100% 4-Side Visual 1% AQL Electrical (CAP/DF/IR & DWV)

High Reliability

A	MIL-PRF-49464 Group A <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • MIL-PRF-49464 Group A • Immersion • Low Voltage Humidity • Life
		D	• Customer Defined
		E	• 6-Side Visual

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

Part Number Identification

G	10	BU	100	K	5	P	X	10	
Product G = Gap Capacitors	Case Size 10 15 20 25 30 35 40	Material See material tables.	Capacitance (pF) R01 = 0.01pF R05 = 0.5pF R10 = 1.0pF SR1 = 5.1pF 100 = 10pF 511 = 510pF 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.	Capacitor Quantity In mils 5 8 10 15	Packaging D = Black Dotted E = Repopulated T = Tape and Reel Leave blank for generic waffle pack.



DLI•JohansonMFG•Novacap•Syfer•Voltronics

www.dilabs.com

North America

Knowles (Cazenovia)
Phone: +1 315 655 8710
KCCSales@knowles.com

Europe

Knowles (UK) Ltd
Phone: +44 1603 723300
SyferSales@knowles.com

Far East

Knowles Capacitors
Phone: +86 512 62588258-6243
KCAsiaSales@knowles.com

Dimensions - 25 Volt Gap Cap

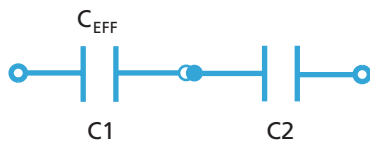
Style	Gap (Nominal)	Dimensions		
		Width	Length	Thickness
G10	0.005" (0.127mm)	0.010" +0/-0.003" (0.254mm +0/-0.076mm)	0.030" Max. (0.762mm Max.)	0.004" ±0.001" (0.102mm ± 0.025mm)
G15	0.008" (0.203mm)	0.015" +0/-0.003" (0.381mm +0/-0.076mm)	0.040" Max. (1.016mm Max.)	
G20	0.010" (0.254mm)	0.020" +0/-0.003" (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.)

*UX thickness 0.006" (0.152mm)

Dimensions - 50 Volt Gap Cap

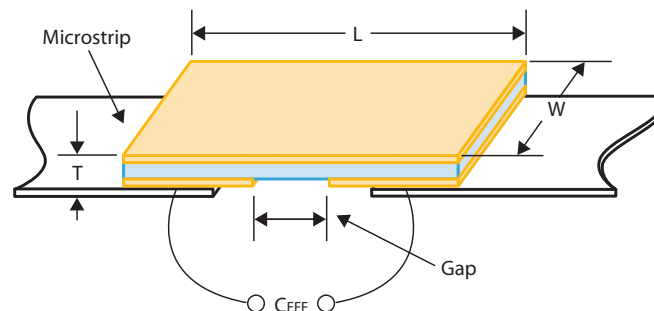
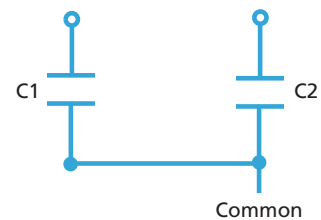
Style	Gap (Nominal)	Dimensions		
		Width	Length	Thickness
G10	0.005" (0.127mm)	0.010" +0/-0.003" (0.254mm +0/-0.076mm)	0.030" Max. (0.762mm Max.)	0.006" ±0.001" (0.102mm ± 0.064mm)
G15	0.008" (0.203mm)	0.015" +0/-0.003" (0.381mm +0/-0.076mm)	0.040" Max. (1.016mm Max.)	
G20	0.010" (0.254mm)	0.020" +0/-0.003" (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)		0.006" ±0.001" (0.102mm ± 0.064mm)

*UX thickness 0.010" (0.254mm)



$C_{EFF} = \text{SERIES EQUIVALENT}$
 $C1 = C2$ $C_{EFF} = C1 \div 2$

All Gap Cap values are listed as C_{EFF}



Capacitance values - 25 Volt Gap Cap

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

Capacitance values - 50 Volt Gap Cap

Style	G10		G15		G20		G25		G30		G35		G50	
CAPACITANCE (pF)														
MATERIAL	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
PI	0.02	0.02	0.03	0.05	0.03	0.08	0.04	0.15	0.05	0.15	0.06	0.20	0.07	0.35
PG	0.02	0.03	0.03	0.06	0.04	0.10	0.05	0.20	0.07	0.25	0.07	0.25	0.09	0.50
AH	0.03	0.05	0.05	0.10	0.06	0.15	0.08	0.30	0.10	0.35	0.15	0.45	0.15	0.75
CF	0.03	0.06	0.06	0.10	0.07	0.20	0.09	0.35	0.15	0.45	0.15	0.50	0.20	0.90
NA	0.03	0.05	0.05	0.10	0.07	0.15	0.08	0.35	0.15	0.40	0.15	0.45	0.20	0.85
CD	0.04	0.09	0.08	0.15	0.15	0.30	0.15	0.55	0.20	0.70	0.20	0.80	0.30	1.4
CG	0.08	0.15	0.15	0.35	0.20	0.60	0.30	1.1	0.35	1.3	0.40	1.5	0.50	2.7
DB	0.08	0.15	0.20	0.35	0.25	0.60	0.30	1.1	0.35	1.3	0.40	1.6	0.50	2.7
NP	0.09	0.20	0.20	0.40	0.25	0.70	0.35	1.3	0.40	1.6	0.50	1.9	0.60	3.3
NR	0.20	0.40	0.35	0.80	0.45	1.3	0.60	2.4	0.75	3.0	0.90	3.6	1.2	6.2
NS	0.35	0.8	0.65	1.5	0.85	2.4	1.1	4.7	1.4	5.6	1.6	6.2	2.2	11
NU	0.65	1.6	1.3	3.0	1.7	5.1	2.2	9.1	3.0	11	3.3	13	4.3	22
NV	0.95	2.4	2.0	4.7	2.7	7.5	3.3	13	4.3	16	5.1	20	6.2	33
BD	0.75	1.8	1.5	3.6	2.0	5.6	2.7	11	3.3	13	3.9	15	5.1	27
BC	1.4	3.3	3.0	6.8	3.9	11	4.7	20	6.2	24	7.5	27	9.1	51
BE	1.4	3.3	2.7	6.2	3.6	10	4.7	20	6.2	24	6.8	27	9.1	4.7
BL	2.2	5.1	4.3	10	6.2	16	7.5	30	10	36	11	43	15	75
BJ	3.6	8.2	7.5	16	10	27	12	51	16	62	18	68	24	120
BN	5.1	12	10	22	13	39	18	68	22	82	24	100	33	160
BU	9.1	22	20	43	24	68	33	130	43	160	47	180	62	330
BV	15	36	30	68	39	110	51	200	68	240	75	300	100	510
UX			60	70	90	120	140	160	180	190	200	250	380	550