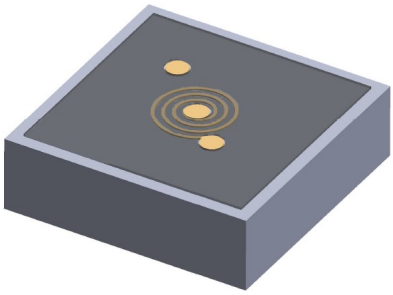
SemiGen
RF PRODUCTS | SERVICES | SOLUTIONS

SG10X Series

Description

SemiGen's Inductor Coils are manufactured using our thin film process on quartz substrates. The precision photolithography and non-chemical etching process provides clean edges to assure uniformity from coil to coil. By using quartz and applying a polyimide coating we produce a device that eliminates the need for conformal coating or staking. Inductors can be epoxied down with nonconductive epoxy and the wire bonded for connection.



Features

- Quartz substrate
- Thin film, planar structure
- Polyimide protective coating
- Wire bondable
- RoHS compliant

Applications

For use in Attenuators, Amplifiers, Switches and Filters in replacement of conventional wound coils. Operating frequency is up to 20GHz.

Absolute Maximum Ratings[1,2]

Parameter	Absolute Maximum
Operating Temperature	-55°C to +125°C
Storage Temperature	-65°C to +175°C
Moisture Sensitivity Rating	MSL 1

1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. SemiGen does not recommend sustained operation near these survivability limits.

Static Sensitivity

These electronic devices are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

Moisture Sensitivity

SemiGen attenuators are MSL 1.

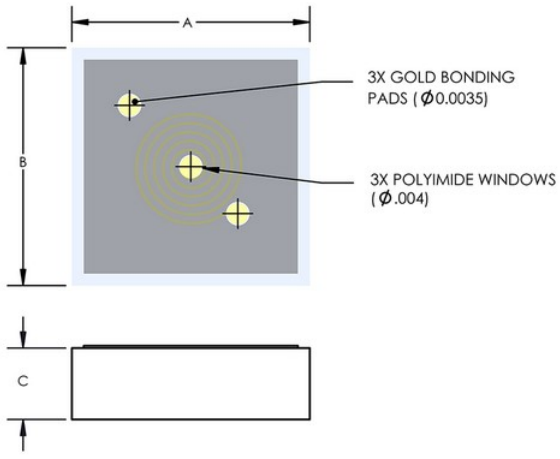
DS 19471 RevA

Available Parts

Part#	# of Turns	Series Inductance			Series Resistance		SRF	Test Frequency	Q Factor@FT		Outline
		Min	Typ	Max	DC	1GHz	Typ	(FT)	Min	Max	
		nH			Ω		GHz	GHz			
SG100	1.5	1.0	1.5	2.0	8.5	1.0	4.0	1.5	60	75	
SG101	2.5	2.0	2.3	2.6	1.0	1.4	3.6	1.5	50	60	
SG102	3.5	3.6	4.2	5.0	1.2	2.0	3.2	1.5	40	45	
SG103	4.5	5.0	7.5	9.0	1.8	3.5	2.3	1.5	37	43	
SG104	5.5	8.0	10.0	12.0	1.9	3.8	2.1	1.0	33	38	
SG105	7.5	15.0	20.0	25.0	2.4	4.3	1.9	0.5	27	33	
SG106	9.5	32.0	40.0	48.0	4.0	70.0	1.4	0.5	23	27	
SG107	12.5	80.0	90.0	100.0	9.5	22.0	1.0	0.5	18	24	
SG108	15.5	150.0	200.0	250.0	16.5	36.0	0.5	0.5	14	18	
SG109	18.5	250.0	300.0	350.0	20.0	42.0	0.3	0.5	10	15	

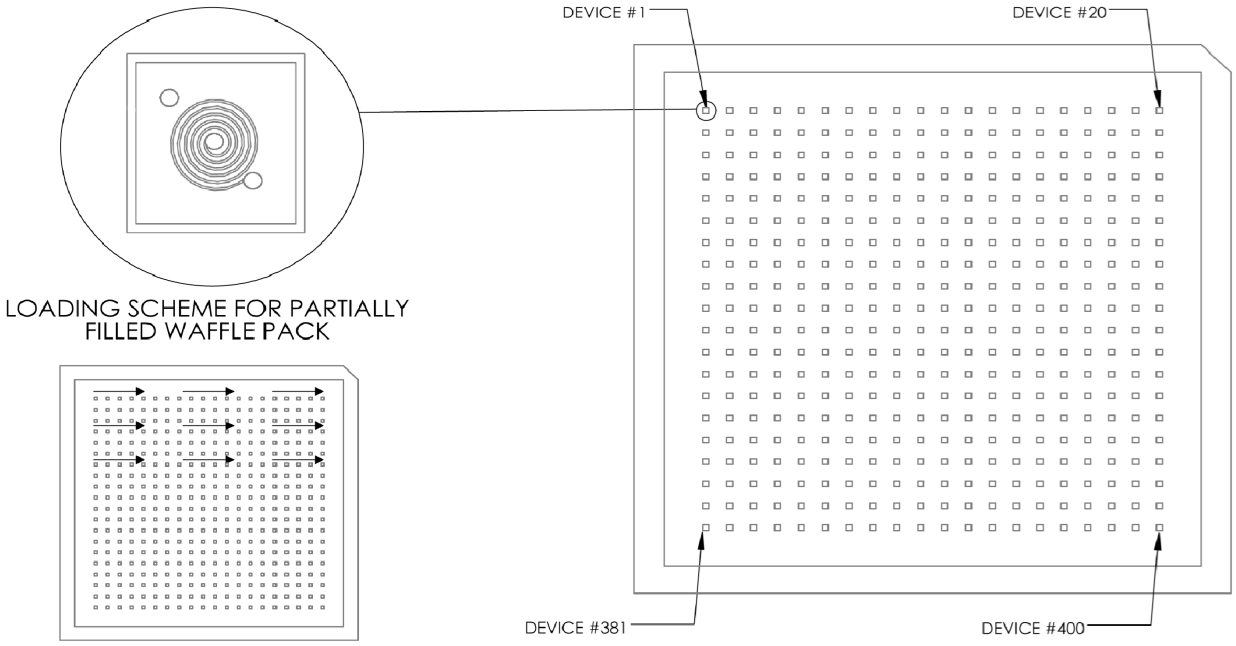
Outline

Part#	Max Dimensions (Inches)		
	A	B	C
SG100	.030	.030	.012
SG101	.030	.030	.012
SG102	.040	.040	.012
SG103	.040	.040	.012
SG104	.040	.040	.012
SG105	.045	.045	.012
SG106	.055	.055	.012
SG107	.065	.065	.012
SG108	.075	.075	.012
SG109	.085	.085	.012



ES France - Département RF & Hyperfréquences - 127 rue de Buzenval BP 26 - 92380 Garches
Tél. 01 47 95 99 60 - Fax. 01 47 01 16 22 - e-mail: hyper@es-france.com - Site Web: www.es-france.com

Device Orientation Within Packaging



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