

Ceramic

# Low Pass Filter

50Ω 4900 to 6100 MHz

## LFCG-612+



Generic photo used for illustration purposes only  
CASE STYLE: GE0805C-4

### Features

- Low loss, 1 dB typ.
- Small size 0805 (2.0 x 1.25 mm)
- Temperature stable
- LTCC construction

### Applications

- ISM band filtering
- Harmonic Rejection
- C band transmitters / receivers
- Lab use

**+RoHS Compliant**  
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications



Available Tape and Reel  
at no extra cost

Reel Size	Devices/Reel
7"	20, 50, 100, 200, 500, 1000, 4000

### Electrical Specifications<sup>1,2</sup> at 25°C

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Insertion Loss	F0 - F1	4900 - 6100	—	1.0	1.2	dB
	Freq. cut-off	F2	7500	—	3.0	—	dB
	VSWR	F0- F1	4900 - 6100	—	1.7	—	:1
Stop Band	Rejection Loss	F3	8200	—	20	—	dB
		F4 - F5	9800 - 12200	33	40	—	dB
		F6	14700 - 18300	25	33	—	dB

<sup>1</sup> In Application where DC voltage is present at either input or output port, coupling capacitors are required.

<sup>2</sup> Measured on Mini-Circuits Characterization Test Board TB-799+

### Maximum Ratings

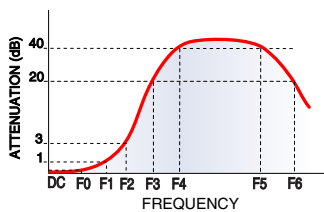
Operating Temperature	-55°C to +100°C
Storage Temperature	-55°C to +100°C
RF Power Input*	1W at 25°C

\*Passband rating, derate linearly to 0.5W at 100°C ambient  
Permanent damage may occur if any of these limits are exceeded.

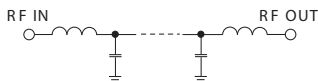
### Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
10	0.16	1.01
200	0.16	1.26
600	0.63	1.96
1000	1.39	2.90
3000	3.72	6.22
4900	0.78	1.52
6100	0.78	1.24
7500	2.55	1.64
8200	22.02	22.66
9800	43.00	53.85
12200	41.19	74.67
14700	47.48	32.13
16000	52.06	36.96
17000	56.18	124.20
18300	62.88	30.30
20000	44.34	105.03

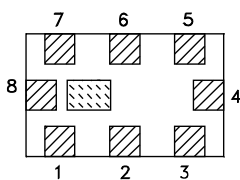
### Specification Definition



### Functional Schematic

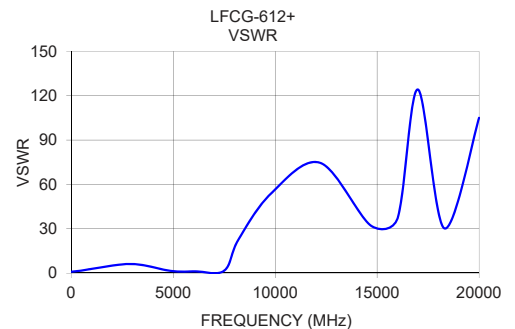
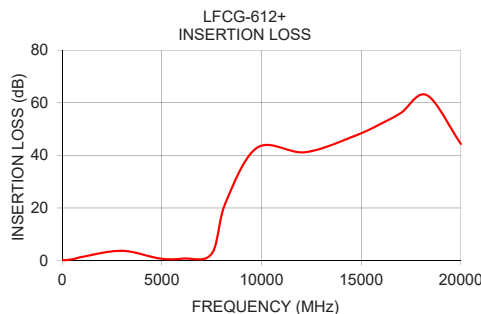


### Top View



### Pad Connections

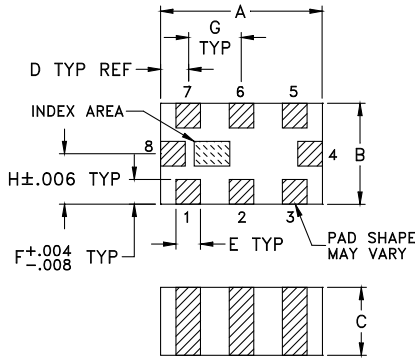
Input	8
Output	4
Ground	1,2,3,5,6,7



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## Outline Drawing



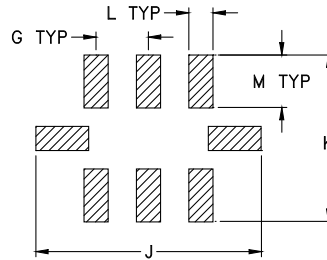
### Pad Connections

Input	8
Output	4
Ground	1,2,3,5,6,7

### Outline Dimensions (inch/mm)

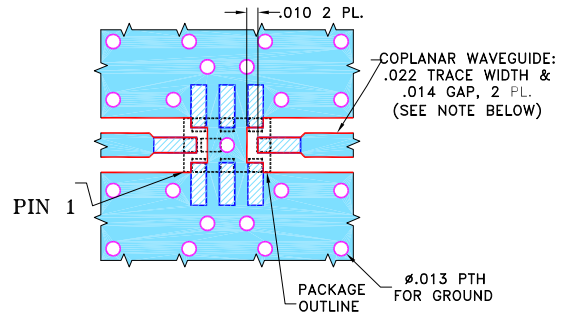
A	B	C	D	E	F	G
.079	.049	.027	.014	.012	.012	.026
2.01	1.24	0.69	0.36	0.30	0.30	0.66
H	J	K	L	M		wt
.025	.134	.110	.014	.039		grams
0.64	3.40	2.80	0.36	0.99		.008

## PCB Land Pattern



Suggested Layout,  
Tolerance to be within ±.002

## Demo Board MCL P/N: TB-799+ Suggested PCB Layout (PL-429)



### NOTES:

- COPLANAR WAVEGUIDE IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS .010" ± .001". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
  - BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER).  
 DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK.

## Additional Notes

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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