LTCC SMT

Low Pass Filter

LFCG-2275+

50Ω DC to 2275 MHz

THE BIG DEAL

- Low Insertion Loss, 0.9dB Typ.
- Good Return Loss, 15dB Typ.
- Stop Band Rejection, 45dB Typ.
- 0805 Surface Mount Footprint
- Power Handling: 4.5 Watts

Generic photo used for illustration purposes only

CASE STYLE: GE0805C-2

+RoHS Compliant
The +Suffix identifies RoHS Compliance.
See our website for methodologies and qualifications

APPLICATIONS

- ISM Applications
- Communications, Radar, and Defense Systems
- Test and Measurement Equipment
- LTE & 5G MIMO Infrastructure

PRODUCT OVERVIEW

LFCG-2275+ is a miniature low temperature co-fired ceramic (LTCC) low pass filter with a DC to 2275 MHz passband supporting a variety of applications. This model provides 0.9 dB typical insertion loss over a wide band due to its rugged monolithic construction. Housed in a tiny 0805 ceramic form factor with inspectable wrap-around terminations, the filter is ideal for dense signal chain PCB layouts where it complements MMIC size and performance. The LTCC fabrication process assures minimal RF performance variation while delivering a product that is well suited for environmental extremes of high humidity and temperature.

KEY FEATURES

Feature	Advantages
Ultra-wide stopband	The LTCC lowpass filter provides a very good stopband rejection to 10 GHz suitable for high end applications.
LTCC Construction	Provides repeatable performance in a rugged, ceramic package well suited for tough environments such as high humidity and temperature extremes.
Small size, 0805	Saves space in dense circuit board layouts and minimizes the effects of parasitics.
Wrap-around terminations	Provides excellent solderability and easy visual inspection
Rugged Power handling	Handles up to 4.5 Watts in a small 0805 package.

REV. B
ECO-016177
LFCG-2275+
EDU4468
URJ
221220

LTCC SMT

Low Pass Filter

LFCG-2275+

ELECTRICAL SPECIFICATIONS[1,2] AT 25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Insertion Loss	DC-F1	DC - 2275	—	0.9	2.0	dB
	Freq. Cut-Off	F2[note 3]	2700	—	3	—	dB
	Return Loss	DC-F1	DC - 2275	—	15	—	dB
Stop Band	Rejection	F3-F4	3300 - 4000	20	45	—	dB
		F4-F5	4000 - 7000	35	48	—	
		F5-F6	7000 - 10000	—	25	—	

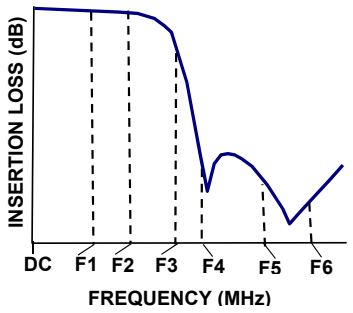
1. DC blocking capacitors are required in applications where DC voltage and/or current is present at either input or output ports. Please contact Mini-Circuits for alternatives if DC pass from IN-OUT is required.
2. Measured on Mini-Circuits Characterization Test Board TB-LFCG-2275+
3. Typically, a ±5% frequency deviation from the stated value may occur on a unit-to-unit basis.

ABSOLUTE MAXIMUM RATINGS[1]

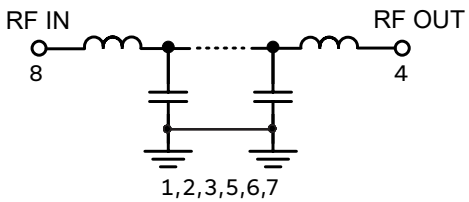
Parameter	Ratings
Operating temperature	-55°C to 125°C
Storage temperature	-55°C to 125°C
RF Power Input[2]	4.5W @25°C

1. Permanent damage may occur if any of these limits are exceeded.
2. Power rating applies only to signals within the passband. Power rating above +25°C should be derated linearly to 1W at +125°C.

TYPICAL FREQUENCY RESPONSE



FUNCTIONAL DIAGRAM



Low Pass Filter

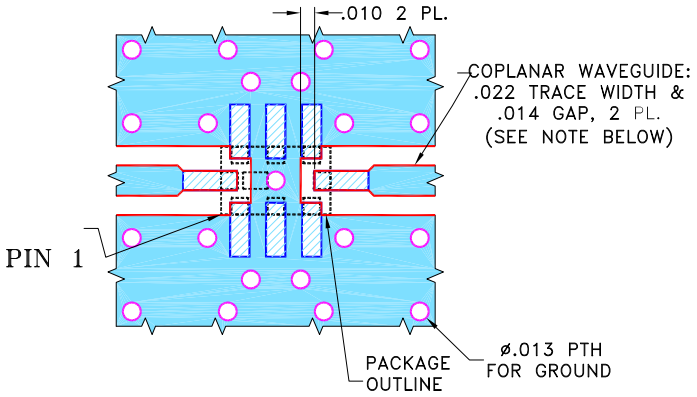
LFCG-2275+

PAD CONNECTIONS

RF IN	8
RF OUT	4
GROUND	1,2,3,5,6,7

PRODUCT MARKING: VZ

DEMO BOARD MCL P/N: TB-LFCG-2275+
SUGGESTED PCB LAYOUT (PL-429)



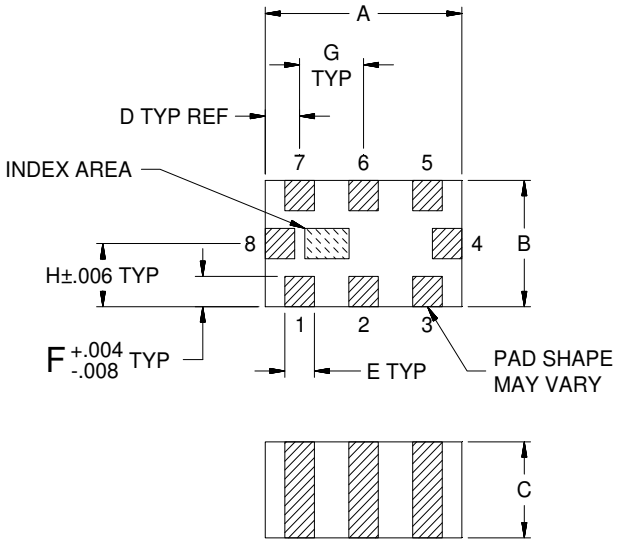
NOTES:

1. COPLANAR WAVEGUIDE IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .010" ± .001". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
2. 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.

OUTLINE DRAWING



OUTLINE DIMENSIONS (Inches / mm)

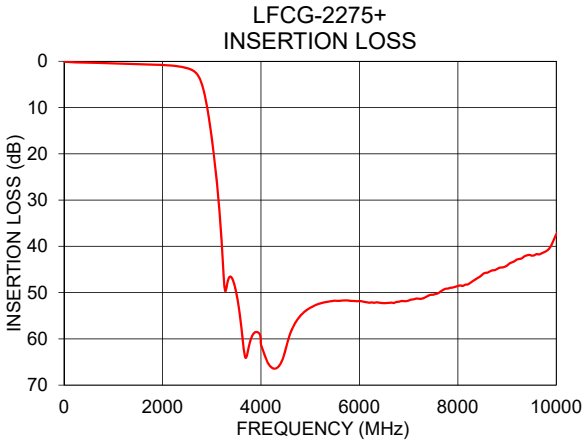
A	B	C	D	E	F	G	H	Wt.
.079	**.049**	**.037**	**.014**	**.012**	**.012**	**.026**	**.025**	grams
2.00	1.25	0.95	0.35	0.30	0.30	0.65	0.63	.008

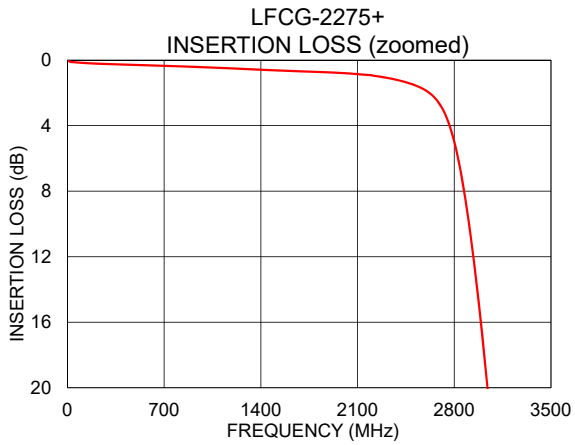
Low Pass Filter

LFCG-2275+

TYPICAL PERFORMANCE DATA AT 25°C

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)
10	0.07	46.93
100	0.17	40.39
1000	0.44	21.26
1500	0.63	17.38
2000	0.80	23.51
2275	1.03	25.34
2700	2.76	13.29
2910	10.20	3.39
3050	20.87	1.73
3150	31.61	1.33
3300	48.86	1.05
4000	61.24	0.72
5000	53.30	0.59
7000	51.72	0.49
10000	37.40	0.44





NOTES

A. 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.

B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.

C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard. Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp