CERAMIC

Low Pass Filter

LFCV-700-75+

75Ω 5 to 700 MHz

THE BIG DEAL

- Low loss, 0.8 dB typ.
- Return loss, 15.6 dB typ.
- High power handling, 3.5W
- Small size 1210 (3.2mm x 2.5mm)

Generic photo used for illustration purposes only

CASE STYLE: JV1210C-2

+RoHS Compliant

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

APPLICATIONS

- CATV systems
- Harmonic rejection
- Transmitters / Receivers

PRODUCT OVERVIEW

Mini-Circuits' low pass filter LFCV-700-75+ is a LTCC based 75 Ohms elliptic filter with sharp roll-off characteristics. These filters are offered in a EIA 1210 package size. The high stopband rejection (40dB typ.) enables them to clean-up the spurious signal and improve the overall rejection in the CATV systems.

KEY FEATURES

Feature	Advantages
Small size (3.2mm x 2.5mm)	Available in the size of typical resistors (or) capacitors (EIA 1210), the ultra small LFCV filter integrates an elliptic section in a simple SMT chip sized form factor.
High power handling, 3.5W	This filter can withstand upto 3.5W CW signal without damage, making this filter ideal for use in medium power transmit paths.
Temperature stability	Over a 155°C operating temperature range(-55°C to 100°C), this filter typically exhibits less than 0.2dB passband insertion loss variation.
High rejection	With 40dB typical rejection, this filter ideally suits the CATV application to enhance the system dynamic range.

REV. A
ECO-015847
LFCV-700-75+
EDU4494
URJ
221026

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ELECTRICAL SPECIFICATIONS[1,2] AT 25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Insertion Loss	F1-F2	5 - 700	—	0.8	1.0	dB
	Freq. Cut-Off	F3*	855	—	3.0	—	dB
	Return Loss	F1-F2	5 - 700	—	15.6	—	dB
Stop Band	Rejection	F4-F5	990 - 1950	30	—	—	dB
		F5-F6	1950 - 2150	25	—	—	dB

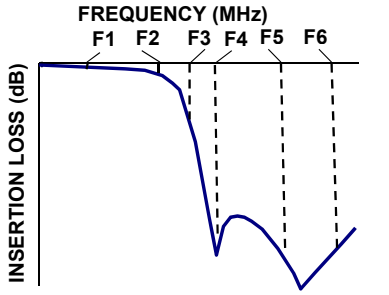
1 DC de-coupling capacitors are required in Applications where DC voltage and/or current is present at either input or output ports. Please contact Mini-Circuits for alternatives if DC pass from IN-OUT is required.
2 Measured on Mini-Circuits Characterization Test Board TB-LFCV-700-75+
* Typically, a ±5% frequency deviation from the stated value may occur on a unit-to-unit basis.

MAXIMUM RATINGS

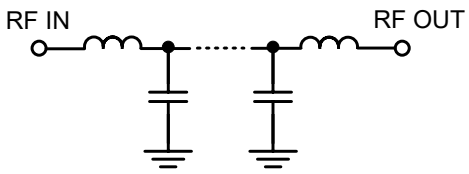
Parameter	Ratings
Operating temperature	-55°C to 100°C
Storage temperature*	-55°C to 100°C
RF Power Input**	3.5 W @25°C

* 12 month max.
**Passband rating, derate linearly to 0.9W at 100°C ambient
Permanent damage may occur if any of these limits are exceeded.

TYPICAL FREQUENCY RESPONSE



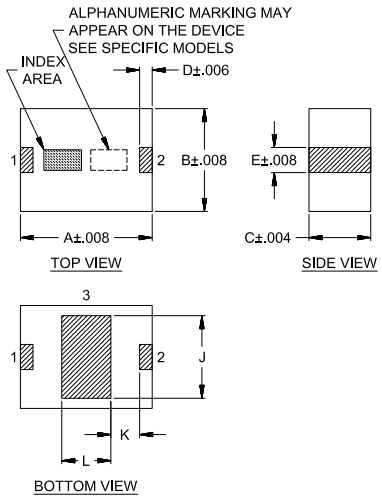
FUNCTIONAL SCHEMATIC



PAD CONNECTIONS

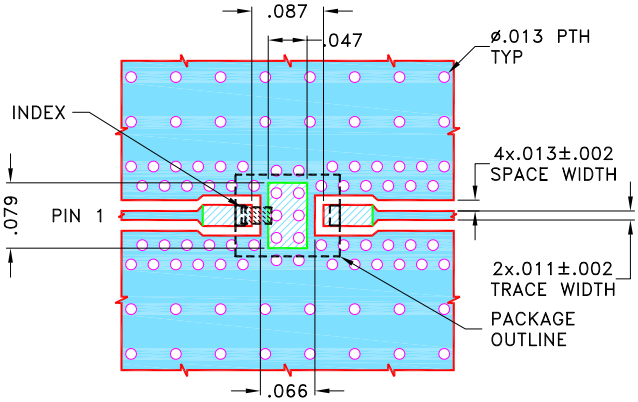
INPUT	1
OUTPUT	2
GROUND	3

OUTLINE DRAWING



PRODUCT MARKING: N/A

DEMO BOARD MCL P/N: TB-LFCV-700-75+
SUGGESTED PCB LAYOUT (PL-680)



NOTES:
1. COPLANAR WAVEGUIDE PARAMETERS ARE 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 PATTERN WITH SMOBC (SOLDER MASK OVER BARE COPPER)
DENOTES PCB COPPER PATTERN FREE OF SOLDERMASK

OUTLINE DIMENSIONS (Inches / mm)

A	B	C	D	E
.126	**.098**	**.059**	**.012**	**.024**
3.2	2.5	1.5	0.3	0.6

J	K	L	Wt.
.079	**.028**	**.047**	grams
2.0	0.70	1.2	.045

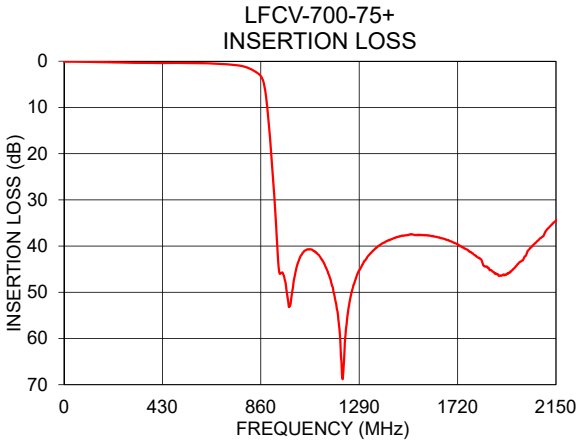
Note: Please refer to case style drawing for details

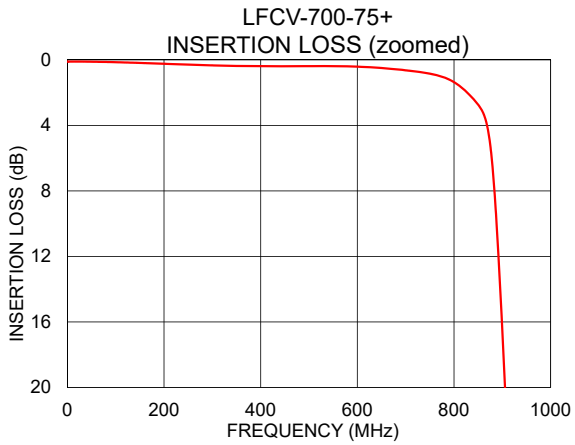
Low Pass Filter

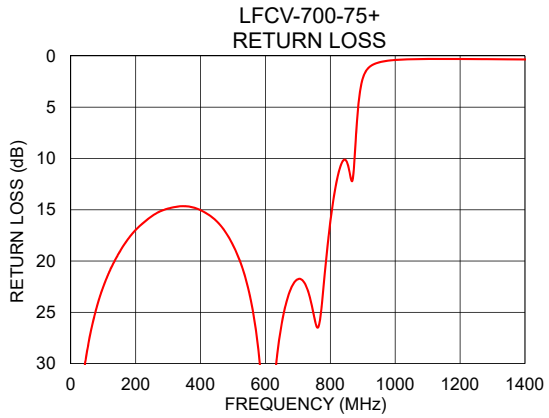
LFCV-700-75+

TYPICAL PERFORMANCE DATA AT 25°C

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)
5	0.10	50.09
10	0.10	43.68
100	0.14	22.51
500	0.38	18.47
600	0.41	38.55
700	0.63	21.79
855	2.94	10.72
910	22.89	1.46
920	30.05	1.09
990	52.49	0.42
1000	49.07	0.40
1200	56.38	0.30
1500	37.63	0.36
1950	45.55	0.30
2150	34.49	0.21







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