



CERAMIC

Low Pass Filter

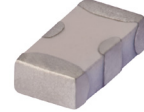
LFCN-6700AT+

Mini-Circuits

50Ω DC¹ to 6700 MHz

FEATURES

- Excellent power handling, 9 W
- Small size
- 7 sections
- Temperature stable
- Hermetically sealed
- LTCC construction
- Protected by U.S. Patent 6,943,646
- AEC-Q200 qualified component family



Generic photo used for illustration purposes only

CASE STYLE: FV1206

+RoHS Compliant

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

APPLICATIONS

- Automotive

ELECTRICAL SPECIFICATIONS^{1,2} AT +25°C

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Units	
Passband	Insertion Loss	DC-F1	DC-6700	—	—	1.2	dB
	Freq. Cut-Off	F2	7600	—	3.0	—	dB
	VSWR	DC-F1	DC-6700	—	1.3	—	:1
Stop Band	Rejection Loss	F3	9300	20	—	—	dB
		F4-F5	9500-11000	—	30	—	
	VSWR	F6	18000	—	20	—	:1
		F3-F6	9300-18000	—	20	—	

1. In Applications where DC isolation to ground is required, coupling capacitors are recommended to avoid DC leakage. Alternatively, if DC pass IN-OUT is required, Mini-Circuits' "D" suffix version of this model will support DC IN-OUT, and provide >100 MOhm isolation to ground.

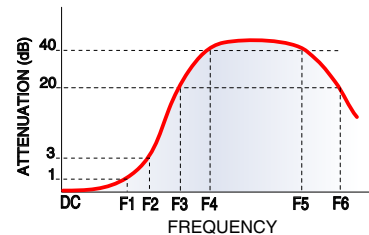
2. Measured on Mini-Circuits Characterization Test Board TB-270 using LFCN-6700+.

ABSOLUTE MAXIMUM RATINGS

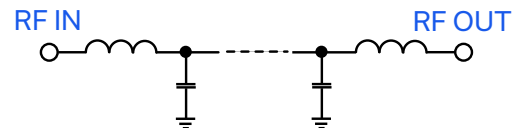
Parameter	Ratings
Operating temperature	-40°C to +105°C
Storage temperature	-40°C to +105°C
RF Power Input ³	9 W max. at +25°C

3. Passband rating, derate linearly to 3 W at +105°C ambient. Permanent damage may occur if any of these limits are exceeded.

TYPICAL FREQUENCY RESPONSE



FUNCTIONAL SCHEMATIC



REV. OR
NPO-005312
LFCN-6700AT+
MCL NY
250609

Mini-Circuits

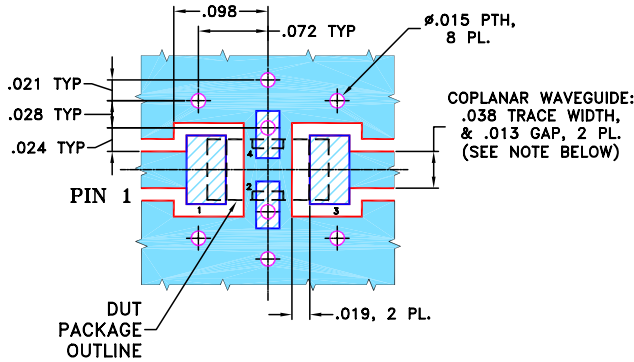


PIN CONNECTIONS

RF IN	1
RF OUT	3
GROUND	2,4

PRODUCT MARKING: R8

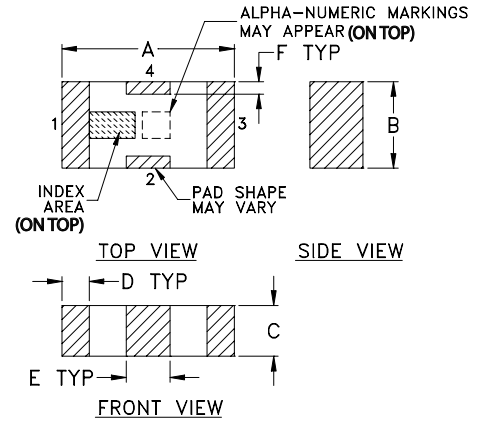
DEMO BOARD MCL P/N: TB-270
SUGGESTED PCB LAYOUT (PL-137)



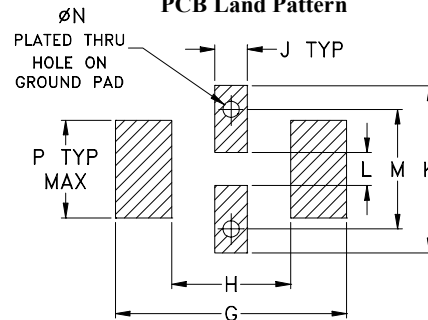
- NOTES:**
1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH THICKNESS .020" ± .0015". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH & GAP MAY NEED TO BE MODIFIED.
 2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

OUTLINE DRAWING



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

OUTLINE DIMENSIONS (Inches mm)

A	B	C	D	E	F	G	
.126	.063	.037	.020	.032	.009	.169	
3.20	1.60	0.94	0.51	0.81	0.23	4.29	
H	J	K	L	M	N	P	wt
.087	.024	.122	.024	.087	.012	.071	grams
2.21	0.61	3.10	0.61	2.21	0.30	1.80	.020

TAPE & REEL INFORMATION: F71



CERAMIC

Low Pass Filter

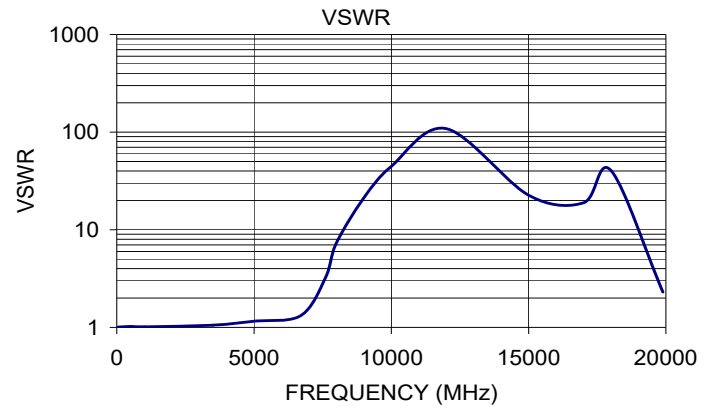
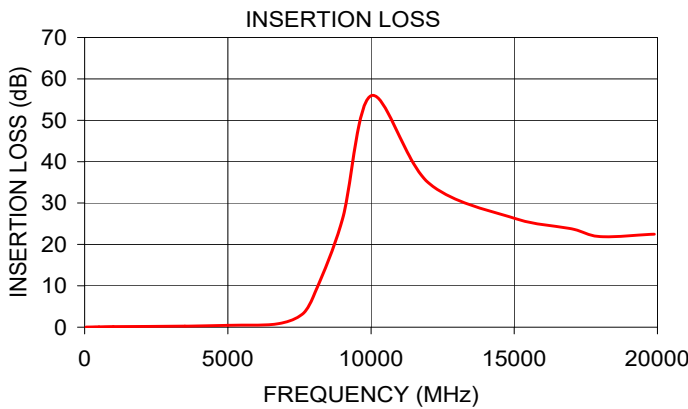
LFCN-6700AT+

Mini-Circuits

50Ω DC¹ to 6700 MHz

TYPICAL PERFORMANCE DATA AT +25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
50.00	0.03	1.01
500.00	0.08	1.02
1000.00	0.15	1.01
3500.00	0.25	1.05
5000.00	0.47	1.16
6700.00	0.79	1.32
7600.00	3.12	3.22
8000.00	7.62	7.34
9000.00	26.00	21.20
10000.00	55.95	44.55
12000.00	34.91	108.58
15000.00	26.32	22.58
17000.00	23.79	18.90
18000.00	21.88	40.41
19890.00	22.46	2.30

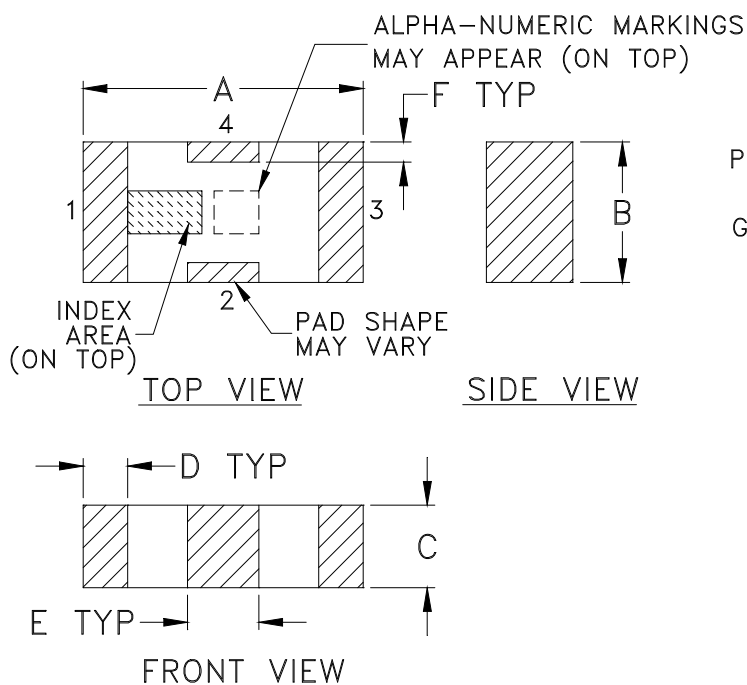


NOTES

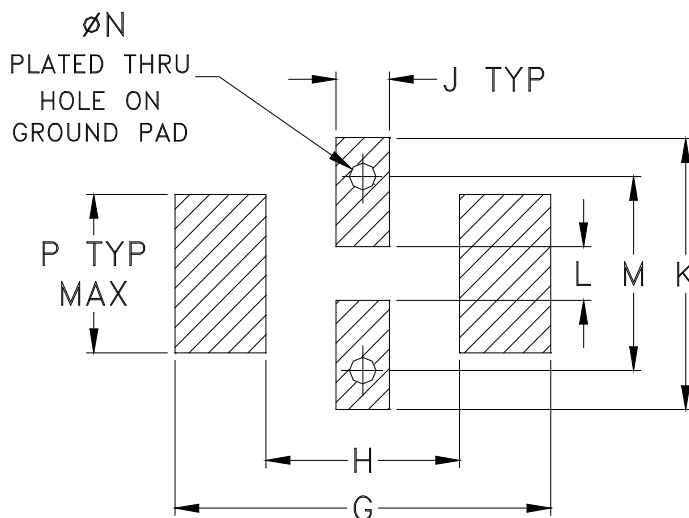
- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's 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/terms/viewterm.html



Outline Dimensions



PCB Land Pattern



Suggested Layout,
Tolerance to be within $\pm .002$

CASE #	A	B	C	D	E	F	G	H	J	K	L	M	N	P	WT. GRAM
FV1206	.126 (3.20)	.063 (1.60)	.037 (0.94)	.020 (0.51)	.032 (0.81)	.009 (0.23)	.169 (4.29)	.087 (2.21)	.024 (0.61)	.122 (3.10)	.024 (0.61)	.087 (2.21)	.012 (0.30)	.071 (1.80)	.020

Dimensions are in inches (mm). Tolerances: 2 Pl. $\pm .01$; 3 Pl. $\pm .005$

Notes:

- Open style, ceramic base.
- Termination finish: **as shown below or indicated on Data Sheet.**
For RoHS Case Styles: Tin plate over Nickel plate. All models, (+) suffix.
For RoHS-5 Case Styles: Tin-Lead plate. All models, no (+) suffix.



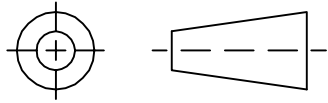
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

RF/IF MICROWAVE COMPONENTS

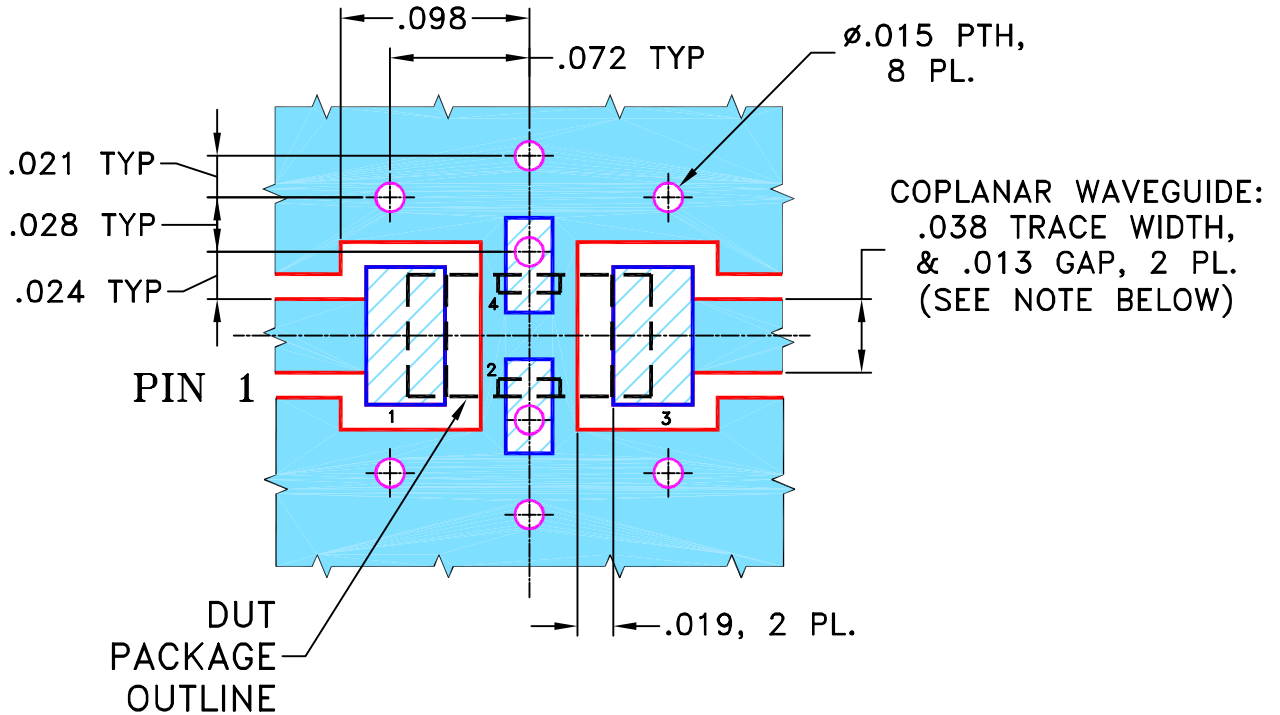
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M88634	NEW RELEASE	08/28/03	GF	ABD
A	M102713	ADDED "...WITH SMOBC"	01/17/06	MMG	IL

SUGGESTED MOUNTING CONFIGURATION
FOR FV1206 CASE STYLE, "nx" PIN CONNECTION

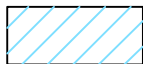


- NOTES:**
1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS R04350B WITH THICKNESS .020" ± .0015".
 COPPER: 1/2 OZ. EACH SIDE.
 FOR OTHER MATERIALS TRACE WIDTH & GAP MAY NEED TO BE MODIFIED.

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

UNLESS OTHERWISE SPECIFIED

INITIALS

DATE

DIMENSIONS ARE IN INCHES

DRAWN

GF

08/27/03

TOLERANCES ON:

CHECKED

AV

08/28/03

2 PL DECIMALS ±

APPROVED

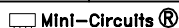
ABD

08/28/03

3 PL DECIMALS ± .005

ANGLES ±

FRACTIONS ±



Mini-Circuits®

13 Neptune Avenue
 Brooklyn NY 11235

PL, nx, FV1206, LFCN/HFCN, TB-270

THIS DOCUMENT AND ITS CONTENTS ARE THE PROPERTY OF MINI-CIRCUITS. EXCEPT FOR USE EXPRESSLY GRANTED, IN WRITING, TO ITS VENDORS, VENDEE AND THE UNITED STATES GOVERNMENT, MINI-CIRCUITS RESERVES ALL PROPRIETARY DESIGN, USE, MANUFACTURING AND REPRODUCTION RIGHTS THERETO. THESE CONTENTS SHALL NOT BE USED, DUPLICATED OR DISCLOSED TO ANY OUTSIDE PARTY, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION OF MINI-CIRCUITS.

SIZE

CODE IDENT

DRAWING NO:

REV:

A

15542

98-PL-137

A

FILE: 98PL137

SCALE:

10:1

SHEET:

1 OF 1

ASHEETA1.DWG REV:A DATE:01/12/95