

High Pass Filter

50Ω 4250 to 10000 MHz

Maximum Ratings

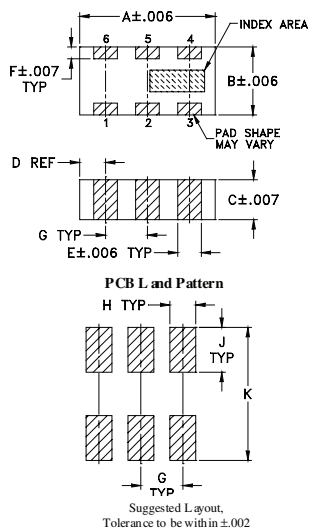
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input*	7W max. at 25°C
*Passband rating, derate linearly to 3W at 100°C ambient.	

Pin Connections

RF IN	1**
RF OUT	3**
GROUND	2,4,5,6

**RF IN & RF OUT can be interchanged

Outline Drawing

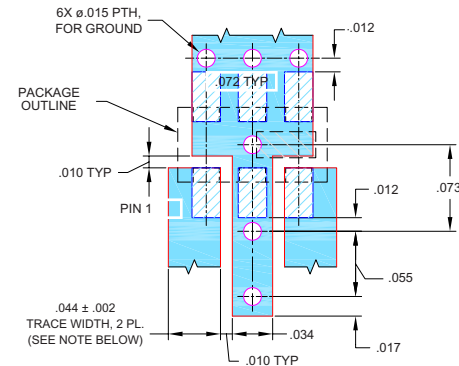


Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	wt.
.126	.063	.035	.024	.022	.012	.039	.042	.024	.123	grams
3.20	1.60	0.89	0.61	0.56	0.30	0.99	1.07	0.61	3.12	.02

Demo Board MCL P/N: TB-285

Suggested PCB Layout(PL-158)



NOTES:

- TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH 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

Features

- Low Cost
- Small size
- 5 sections
- Temperature stable
- Excellent power handling, 7W
- DC block in/out, breakdown voltage, 1kV typ.
- Hermetically sealed
- Patent pending

Application

- Sub-harmonic rejection and DC blocking
- Transmitters/Receivers

HFCN-3800TR5K+

This is HFCN-3800+
Reel Qty. 5000 pcs.



CASE STYLE: FV1206-1
Price: Contact Sales Dept.

**+ RoHS compliant in accordance
with EU Directive (2002/95/EC)**

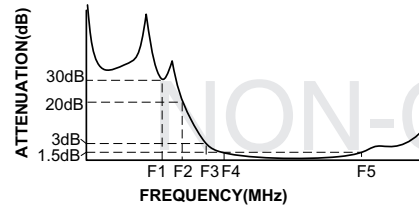
The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

High Pass Filter Electrical Specifications¹ (T_{AMB} = 25°C)

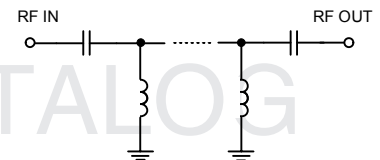
STOPBAND (MHz)		fco, MHz Nom.	PASSBAND (MHz)		VSWR Typ.		POWER INPUT (W)	NO. OF SECTIONS
(Loss>30dB) Typ. DC-F1	(Loss>20dB) Min. DC-F2	(Loss 3dB) Typ. F3	(Loss<1.5dB) Max. F4-F5	(Loss<2dB) Max.	Stopband	Frequency (MHz) 1.5:1	Max.	
DC-3100	DC-3200	3800	4500-9000	4250-10000	20:1	3950-10000	7	5

1. For Applications requiring DC voltage to be applied to the input or output, use HFCN-3800D (DC Resistance to ground is 100 Mohms min.)

Typical Frequency Response



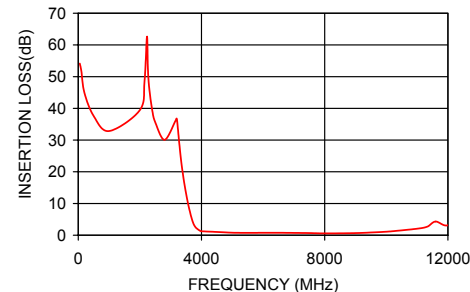
Electrical Schematic



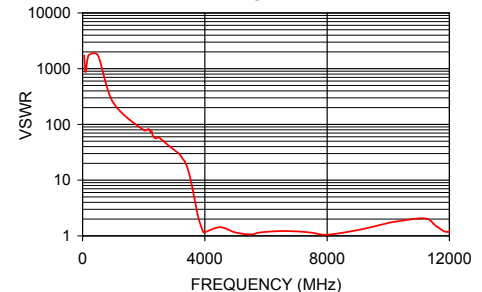
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
50	54.14	1737.18
500	37.58	1737.18
1500	32.52	108.58
3100	33.38	31.60
3200	36.68	28.03
3400	19.19	18.90
3550	10.63	9.33
3800	2.59	2.00
3950	1.41	1.16
4250	1.14	1.45
4500	1.02	1.43
7000	0.72	1.22
9000	0.68	1.28
10000	1.13	1.70
11330	2.71	1.96
12000	3.15	1.70

HFCN-3800TR5K+ INSERTION LOSS



HFCN-3800TR5K+ VSWR



Mini-Circuits®
ISO 9001 ISO 14001 CERTIFIED

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

ALL NEW
minicircuits.com

REV. OR
M121048
EDR-6982/4
HFCN-3800TR5K+
RAV
090205
page 1 of 1

Ceramic High Pass Filter

HFCN-3800TR5K+

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS @ +25° C (dB)	INPUT RETURN LOSS @ +25° C (dB)	OUTPUT RETURNLOSS @ +25° C (dB)
40	53.47	0.00	0.00
50	54.77	0.01	0.01
100	51.24	0.00	0.02
200	45.63	0.01	0.01
500	38.20	0.01	0.04
1000	33.57	0.07	0.03
1500	33.33	0.14	0.14
2000	41.16	0.22	0.20
2500	35.39	0.30	0.35
3000	30.82	0.50	0.56
3100	33.87	0.58	0.61
3200	36.48	0.60	0.71
3400	18.78	0.98	1.09
3500	13.18	1.42	1.47
3550	11.01	1.73	1.88
3800	2.99	7.68	8.00
3950	1.52	15.93	17.39
4000	1.29	20.01	23.14
4250	1.03	20.69	21.33
4500	0.96	21.31	21.11
5000	0.81	33.92	27.51
5500	0.83	19.44	19.03
6000	0.88	16.09	15.74
6500	0.89	15.26	14.94
7000	0.83	15.94	15.65
7500	0.74	18.02	17.73
8000	0.64	21.50	22.44
8500	0.61	23.57	25.79
9000	0.67	19.17	18.72
9500	0.89	14.88	14.03
10000	1.20	11.79	11.27
10500	1.65	9.96	9.20
11000	2.25	9.38	8.15
11330	3.27	10.92	7.43
11500	4.38	16.35	6.89
12000	4.23	17.83	12.86
12500	5.61	7.05	5.14
13000	3.36	8.15	6.61
13500	2.67	15.70	9.92
14000	4.78	8.59	6.82
14500	12.44	2.97	3.68

REV. X1

HFCN-3800TR5K+

090921

Page 1 of 1



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED RoHS compliant

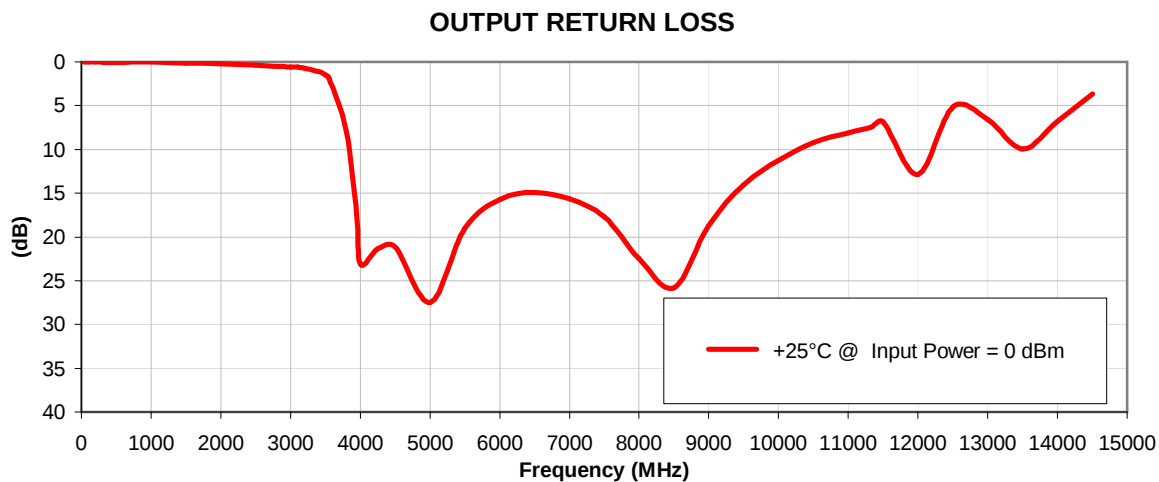
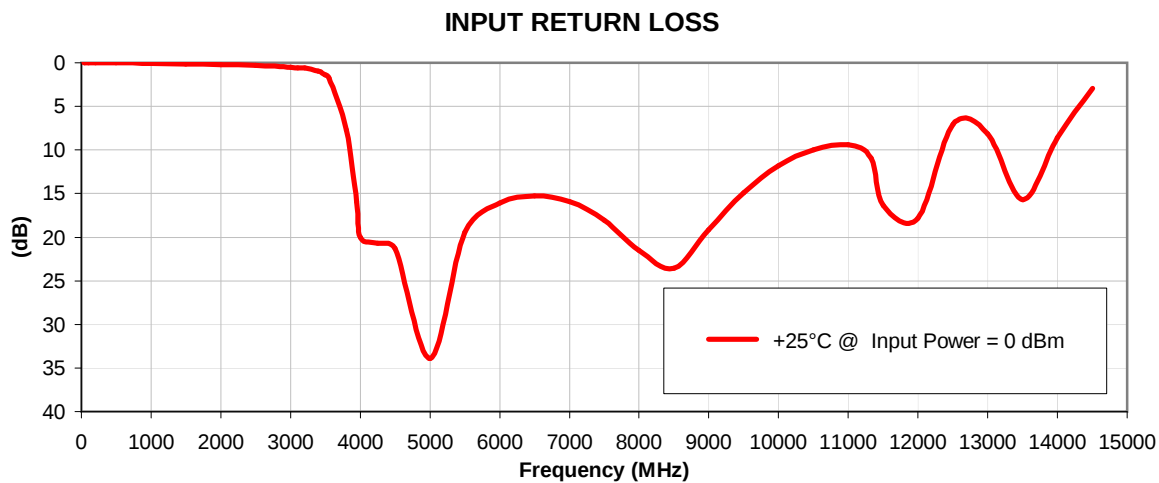
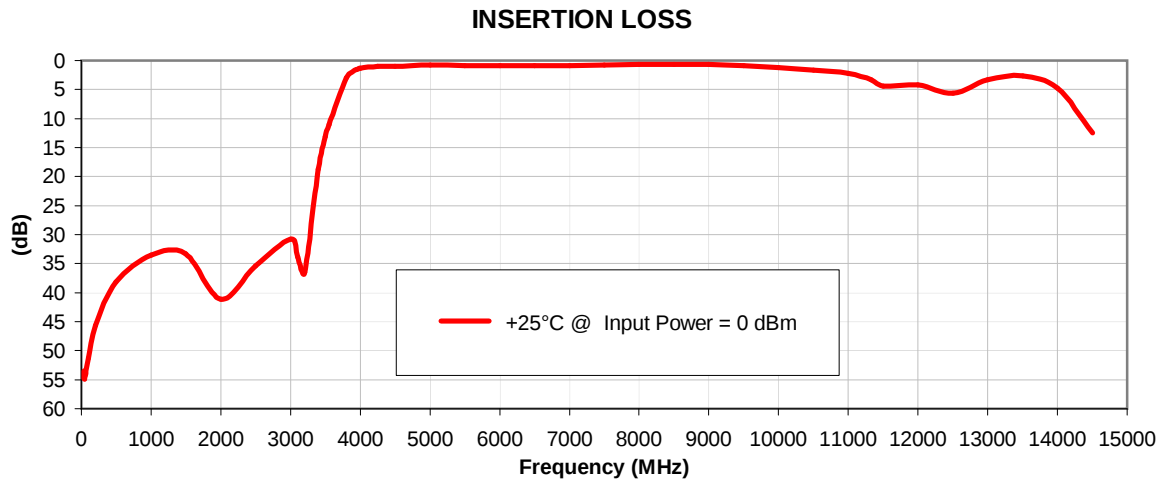
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661



The Design Engineers Search Engine finds the model you need, Instantly • For detailed performance specs & shopping online see



Typical Performance Curves



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
FV1206-1	.126 (3.20)	.063 (1.60)	.035 (0.89)	.024 (0.61)	.022 (0.56)	.011 (0.28)	.039 (0.99)	.024 (0.61)	.042 (1.07)	.123 (3.12)	-- --	-- --	-- --	-- --	.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

Tape & Reel Packaging

TR-F75

DEVICE ORIENTATION IN T&R

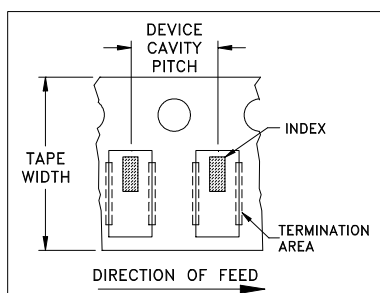


ILLUSTRATION 1

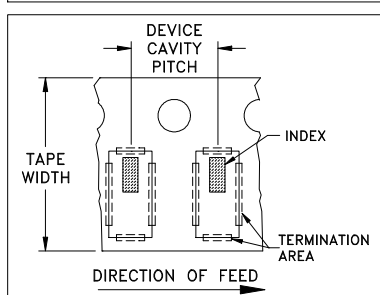


ILLUSTRATION 2

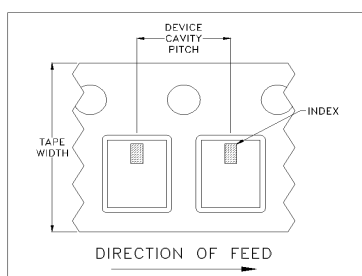


ILLUSTRATION 3

Applicable Case Styles
FV1206-1
FV1206-3

Applicable Case Styles
FV1206-4
FV1206-5
FV1206-6
FV1206-7
FV1206-9
JC0603C-1

Applicable Case Styles
NL1008C-6
FV1206-12
NL1008C-9
NL1008C-10

Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel	
8	4	7	Small quantity standards (see note)	20
				50
				100
				200
				500
				1000
			Standard	3000

Note: Please consult individual model data sheet to determine device per reel availability.

Mini-Circuits carrier tape materials provide protection from ESD (Electro-Static Discharge) during handling and transportation. Tapes are static dissipative and comply with industry standards EIA-481/EIA-541.

Go to: www.minicircuits.com/pages/pdfs/tape.pdf

Mini-Circuits ISO 9001 & ISO 14001 Certified

Mini-Circuits®

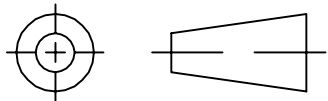
Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

Mini-Circuits ISO 9001 & ISO 14001 Certified

INTERNET <http://www.minicircuits.com>

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

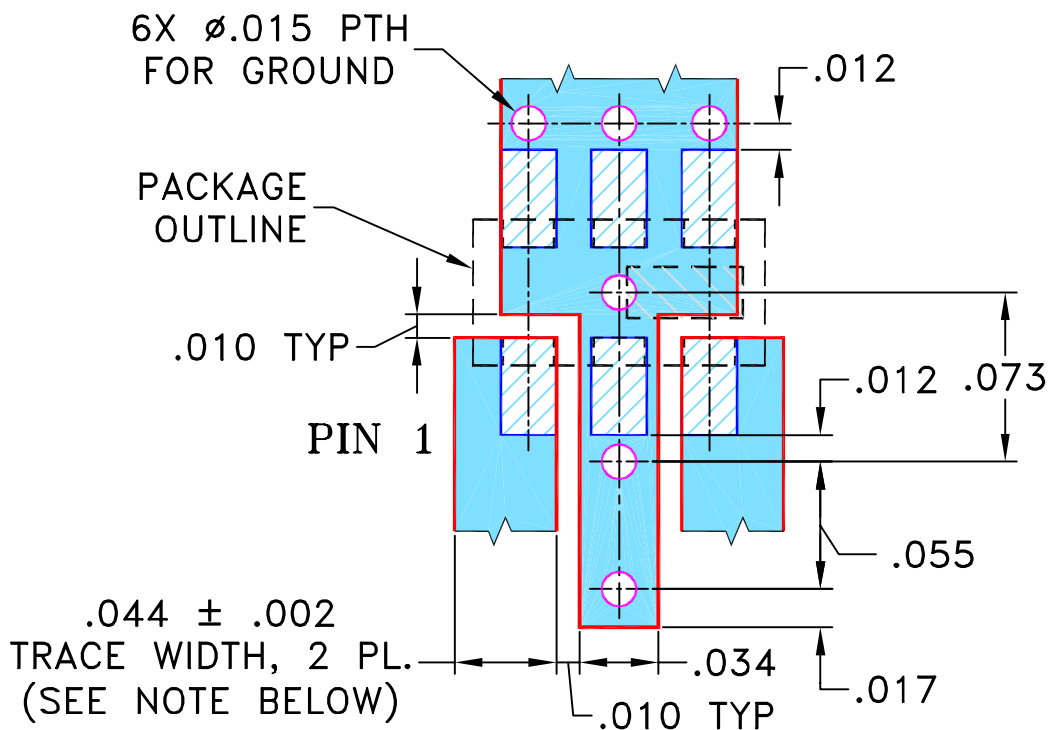
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M92199	NEW RELEASE	05/24/04	AV	ABD
A	M99247	ADD GROUND PTH	06/05	RZ	RZ
A	R60782	ADD GROUND PTH	06/05	RZ	RZ
B	M102713	ADDED "...WITH SMOBC"	01/12/06	GF	IL

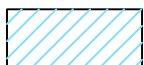
SUGGESTED MOUNTING CONFIGURATION
FOR FV1206-1 CASE STYLE, "pr" PIN CONNECTION.



- NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH 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

TOLERANCES ON:

2 PL DECIMALS ±

3 PL DECIMALS ± .005

ANGLES ±

FRACTIONS ±

DRAWN

AV

05/03/04

CHECKED

IL

05/24/04

APPROVED

ABD

05/24/04

Mini-Circuits®

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.

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



Mini-Circuits®

13 Neptune Avenue
Brooklyn NY 11235

PL, pr, FV1206-1, HFCN, TB-285

SIZE

A

CODE IDENT

15542

DRAWING NO:

98-PL-158

REV:

B

FILE:

98PL158

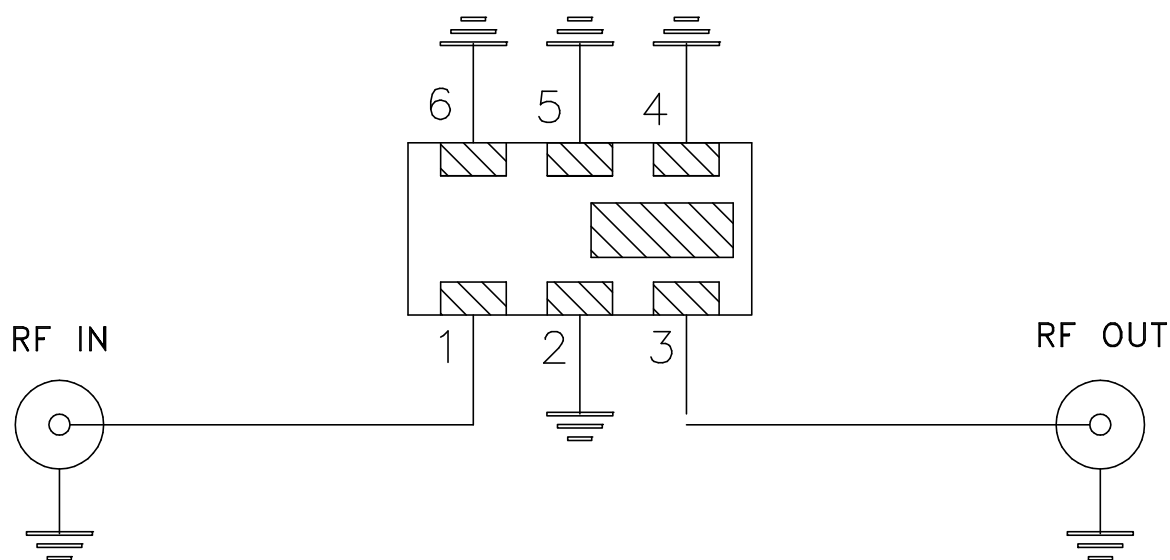
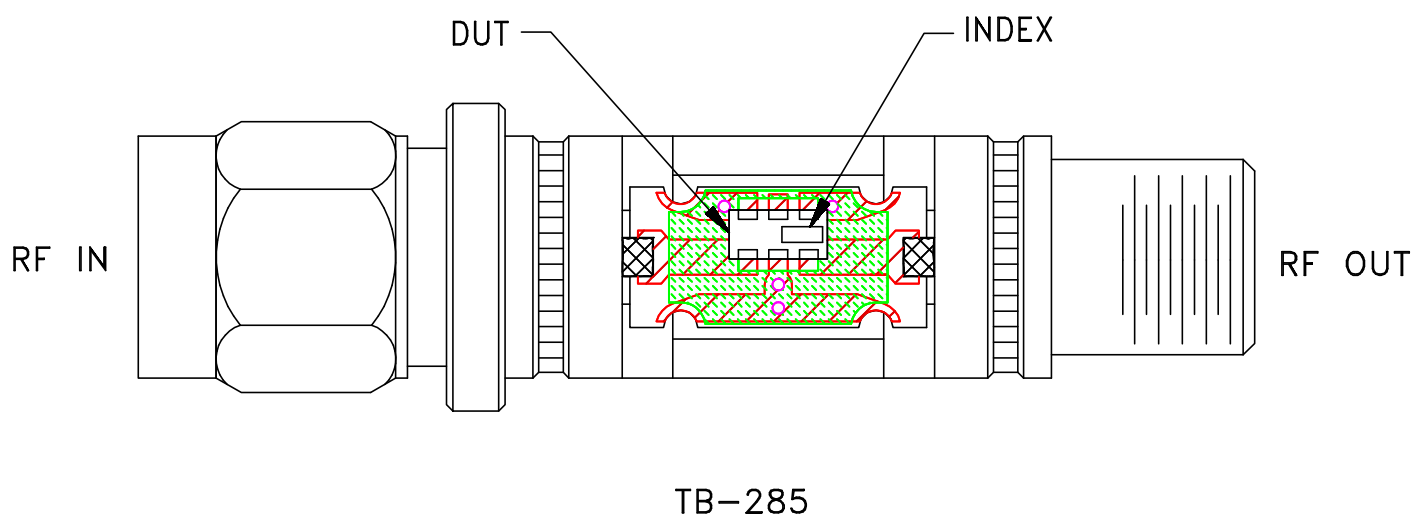
SCALE:

12:1

SHEET:

1 OF 1

Evaluation Board and Circuit



Schematic Diagram

Notes:

1. SMA Female connectors.
2. PCB Material: Rogers R04350 or equivalent,
Dielectric Constant=3.5, Thickness=.020 inch.

 **Mini-Circuits®**



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-55° to 100°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Humidity	90 to 95% RH, 240 hours, 50°C	MIL-STD-202, Method 103, Condition A, Except 50°C and end-point electrical test done within 12 hours
Solder Reflow Heat	Sn-Pb Eutetic Process: 225°C peak Pb-Free Process 245° - 250°C peak	J-STD-020, Table 4-1, 4-2 and 5-2, Figure 5-1
Solderability	10X Magnification	J-STD-002, Para 4.2.5, Test S, 95% Coverage
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes	MIL-STD-202, Method 213, Condition A