

Ceramic High Pass Filter

SMT

HFCN-ED14070/2

Important Note

This model has been designed, built and tested in our engineering department. Performance data represents model capability.
At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.

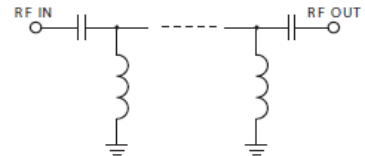
Please click "Back", and then click "Contact Us" for Applications support.



CASE STYLE : FV1206

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C							
Parameters		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Stop Band	Insertion Loss	DC-F1	DC-650	40	--	--	dB
		DC-F2	DC-850	20	--	--	dB
	Frequency cutoff	F3	1150	--	3	--	dB
	VSWR	DC-F2	DC-850	--	20	--	:1
Pass Band	Insertion Loss	F4-F6	1300-3900	--	--	1.3	dB
		F3-F7	1220-4500	--	--	2	dB
	VSWR	F4-F5	1300-3300	--	1.5	--	:1

MAXIMUM RATINGS	
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input	7W max.

Functional Schematic

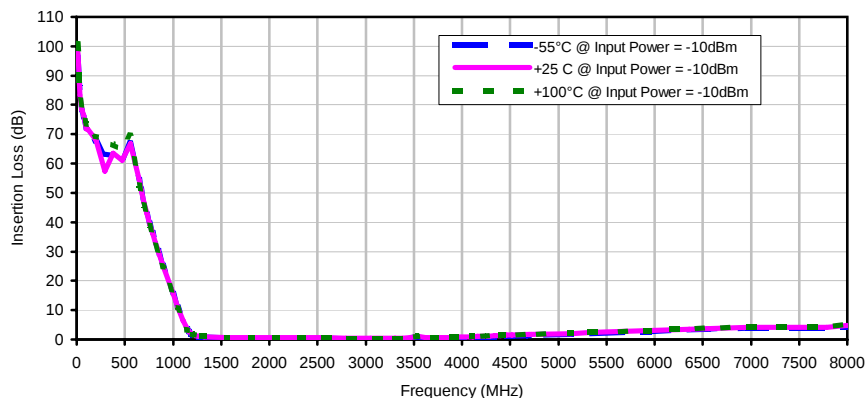
PIN CONNECTIONS	
RF IN	1
RF OUT	3
GROUND	2,4

Typical Performance Data

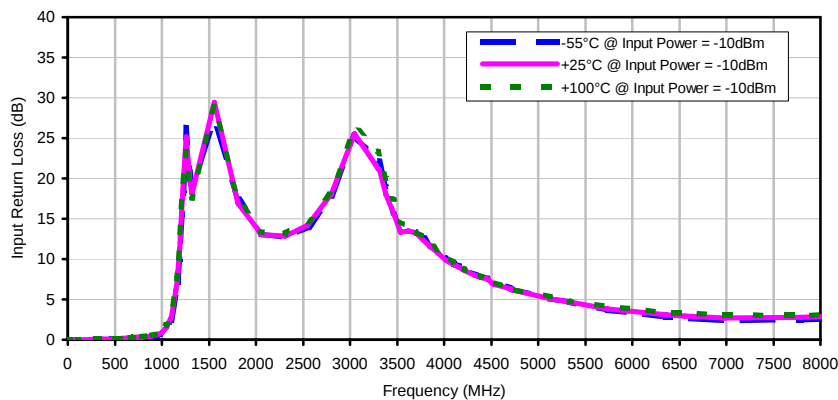
FREQUENCY (MHz)	INSERTION LOSS (dB)			INPUT RETURN LOSS (dB)			OUTPUT RETURN LOSS (dB)		
	@ -55°C	@ +25°C	@ +100°C	@ -55°C	@ +25°C	@ +100°C	@ -55°C	@ +25°C	@ +100°C
10.0	96.20	97.78	100.84	0.00	0.01	0.00	0.01	0.01	0.01
30.0	86.06	83.44	83.08	0.00	0.01	0.00	0.02	0.02	0.02
50.0	78.23	78.46	79.84	0.00	0.00	0.00	0.01	0.01	0.01
70.0	75.71	76.38	77.45	0.01	0.00	0.01	0.01	0.01	0.01
100.0	72.10	71.88	73.27	0.00	0.02	0.01	0.01	0.02	0.03
110.0	71.81	71.90	72.89	0.00	0.01	0.02	0.01	0.02	0.03
200.0	67.61	68.10	69.37	0.00	0.03	0.04	0.01	0.03	0.06
290.0	63.34	57.36	68.08	0.02	0.07	0.06	0.02	0.06	0.08
380.0	62.68	63.56	66.59	0.03	0.08	0.09	0.03	0.07	0.10
470.0	61.28	61.20	64.51	0.05	0.11	0.14	0.05	0.11	0.14
560.0	66.68	66.85	69.49	0.08	0.16	0.19	0.07	0.14	0.19
650.0	54.62	54.14	52.54	0.13	0.21	0.25	0.12	0.20	0.24
670.0	51.26	50.91	49.67	0.14	0.23	0.26	0.13	0.21	0.26
700.0	47.00	46.65	45.79	0.16	0.25	0.29	0.15	0.23	0.28
730.0	43.21	42.85	42.21	0.18	0.28	0.32	0.16	0.26	0.31
760.0	39.72	39.37	38.85	0.20	0.30	0.36	0.19	0.29	0.35
790.0	36.42	36.11	35.64	0.23	0.33	0.39	0.21	0.31	0.38
820.0	33.28	32.96	32.53	0.25	0.37	0.44	0.24	0.35	0.42
850.0	30.24	29.93	29.53	0.29	0.41	0.49	0.28	0.39	0.48
860.0	29.22	28.92	28.52	0.30	0.43	0.51	0.29	0.41	0.50
900.0	25.34	25.07	24.74	0.36	0.50	0.59	0.35	0.48	0.57
950.0	20.53	20.26	19.98	0.48	0.64	0.74	0.47	0.63	0.74
1000.0	15.78	15.50	15.24	0.69	0.91	1.04	0.70	0.90	1.04
1050.0	11.13	10.86	10.59	1.18	1.48	1.71	1.18	1.49	1.71
1100.0	6.79	6.59	6.40	2.37	2.88	3.28	2.39	2.91	3.32
1150.0	3.40	3.39	3.37	5.34	6.22	6.87	5.40	6.31	7.05
1160.0	2.91	2.94	2.96	6.29	7.27	7.95	6.37	7.37	8.18
1170.0	2.50	2.56	2.60	7.36	8.45	9.19	7.45	8.59	9.48
1190.0	1.83	1.96	2.05	10.03	11.37	12.21	10.17	11.60	12.71
1200.0	1.58	1.74	1.85	11.66	13.17	14.03	11.86	13.49	14.77
1220.0	1.23	1.43	1.56	15.63	17.53	18.34	16.18	18.40	20.25
1230.0	1.11	1.32	1.46	18.13	20.23	20.79	19.04	21.77	24.20
1260.0	0.90	1.12	1.27	26.25	25.15	23.26	32.62	28.70	26.97
1300.0	0.79	1.01	1.15	20.82	19.61	18.77	21.11	19.74	18.99
1320.0	0.77	0.98	1.12	18.79	18.10	17.56	18.96	18.15	17.63
1560.0	0.43	0.61	0.71	27.07	29.46	29.06	25.16	26.13	25.55
1810.0	0.36	0.55	0.63	17.42	16.92	17.38	17.35	16.84	17.24
2060.0	0.44	0.62	0.69	13.13	13.04	13.44	13.29	13.22	13.61
2310.0	0.45	0.62	0.70	12.70	12.82	13.21	13.00	13.16	13.49
2550.0	0.37	0.55	0.63	13.99	14.17	14.71	14.36	14.65	15.09
2800.0	0.23	0.42	0.51	17.76	18.09	18.16	18.14	18.72	18.91
3050.0	0.14	0.35	0.44	25.32	25.53	26.33	27.98	30.13	29.73
3300.0	0.17	0.42	0.46	22.48	21.22	23.37	24.15	23.10	24.56
3310.0	0.17	0.41	0.47	22.14	21.09	23.02	23.53	22.73	24.21
3380.0	0.28	0.54	0.54	18.93	18.01	20.03	21.22	20.49	21.45
3460.0	0.56	0.72	0.71	15.66	15.75	17.42	21.15	19.93	20.75
3540.0	0.81	1.09	1.00	13.56	13.32	14.68	21.70	22.70	20.86
3620.0	0.42	0.70	0.86	13.91	13.51	13.94	15.46	15.74	16.98
3700.0	0.42	0.64	0.74	13.34	13.24	13.42	14.04	14.05	14.34
3780.0	0.44	0.69	0.76	12.51	12.30	12.75	12.81	12.67	13.00
3860.0	0.45	0.72	0.80	11.70	11.48	11.92	11.68	11.53	12.04
3940.0	0.52	0.79	0.86	10.90	10.70	10.97	10.81	10.65	11.09
4020.0	0.58	0.85	0.94	10.11	9.88	10.23	10.14	9.99	10.36
4100.0	0.66	0.94	1.05	9.48	9.29	9.63	9.62	9.35	9.73
4110.0	0.67	0.96	1.05	9.42	9.26	9.59	9.51	9.32	9.60
4160.0	0.73	1.00	1.12	9.16	8.94	9.20	9.22	9.03	9.28
4220.0	0.79	1.09	1.20	8.77	8.61	8.75	8.79	8.59	8.82
4280.0	0.82	1.13	1.24	8.39	8.26	8.48	8.43	8.23	8.46
4340.0	0.91	1.21	1.33	8.04	7.93	8.16	8.18	7.99	8.30
4400.0	1.04	1.34	1.43	7.75	7.67	7.81	7.72	7.60	7.87
4460.0	1.06	1.45	1.52	7.62	7.56	7.55	7.47	7.27	7.46
4520.0	1.15	1.49	1.61	7.19	6.87	7.15	7.13	6.99	7.20
4700.0	1.31	1.65	1.76	6.41	6.31	6.42	6.52	6.40	6.65
4720.0	1.30	1.66	1.79	6.30	6.20	6.30	6.53	6.38	6.53
5130.0	1.67	2.05	2.20	5.11	5.09	5.28	5.14	5.12	5.31
5330.0	1.95	2.32	2.47	4.66	4.68	4.79	4.69	4.70	4.88
5740.0	2.46	2.85	2.89	3.69	3.84	4.11	3.73	3.86	4.05
5950.0	2.72	3.07	3.15	3.40	3.57	3.85	3.43	3.60	3.86
6360.0	3.25	3.52	3.65	2.79	3.11	3.35	2.92	3.20	3.52
6560.0	3.51	3.75	3.96	2.72	2.97	3.34	2.76	3.00	3.40
6970.0	3.93	4.19	4.23	2.36	2.72	3.09	2.42	2.83	3.14
7790.0	3.87	4.24	4.46	2.44	2.81	3.05	2.34	2.65	2.84
8000.0	4.12	4.70	5.20	2.52	2.88	3.11	2.35	2.66	2.80

Typical Performance Curves

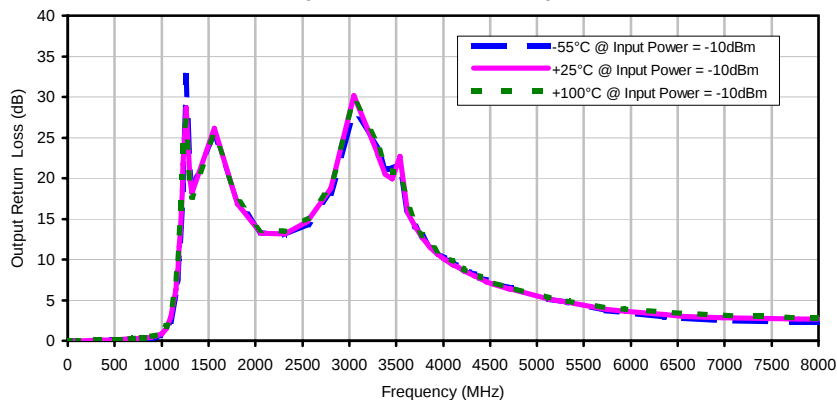
Insertion Loss vs Temperature



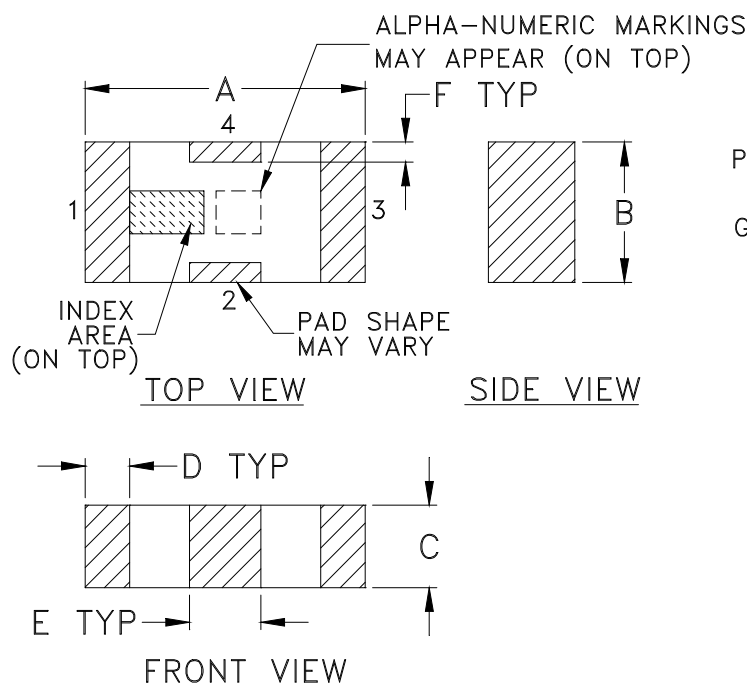
Input Return Loss vs Temperature



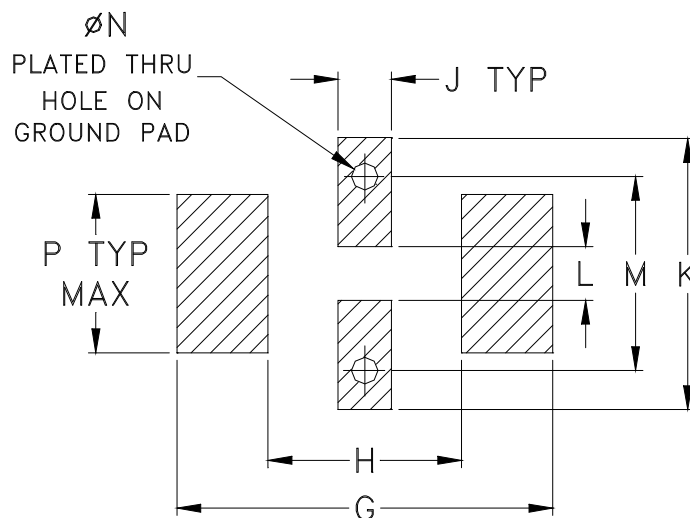
Output Return Loss vs Temperature



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



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RF/IF MICROWAVE COMPONENTS

Tape & Reel Packaging TR-F71

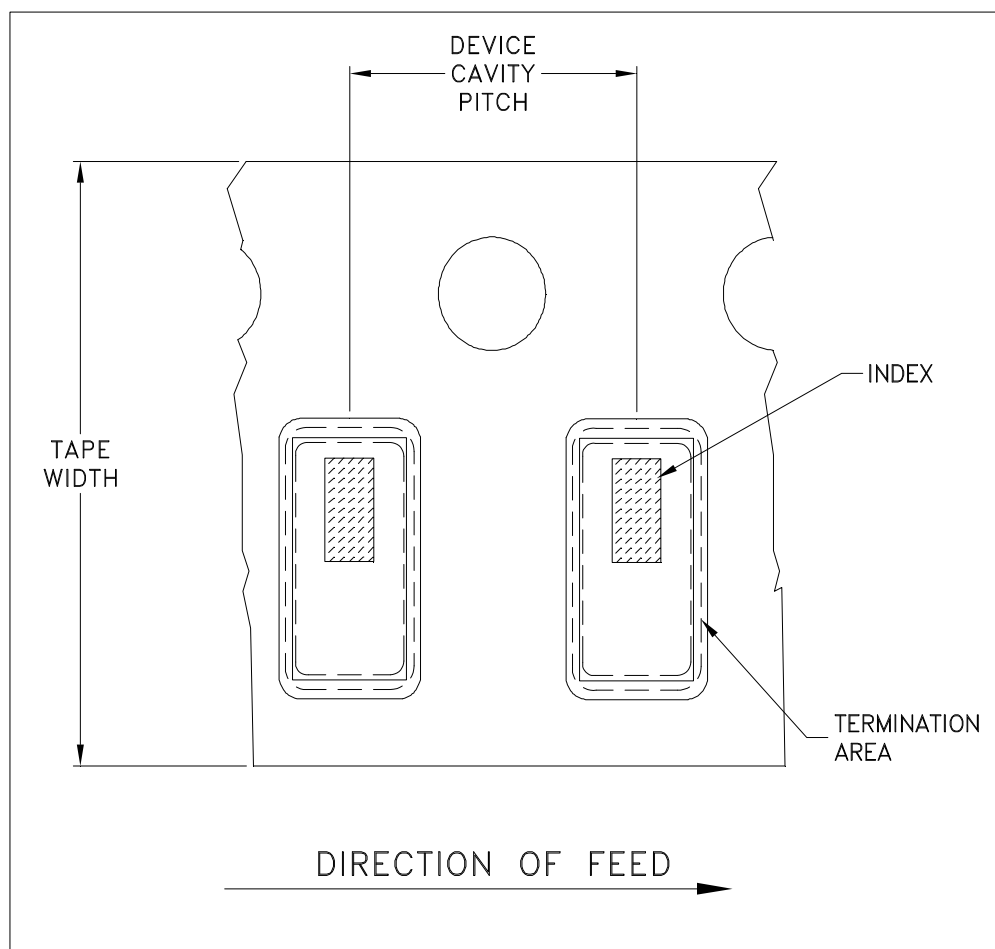


ILLUSTRATION 1

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



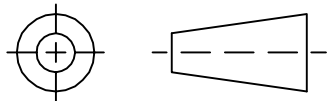
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RF/IF MICROWAVE COMPONENTS

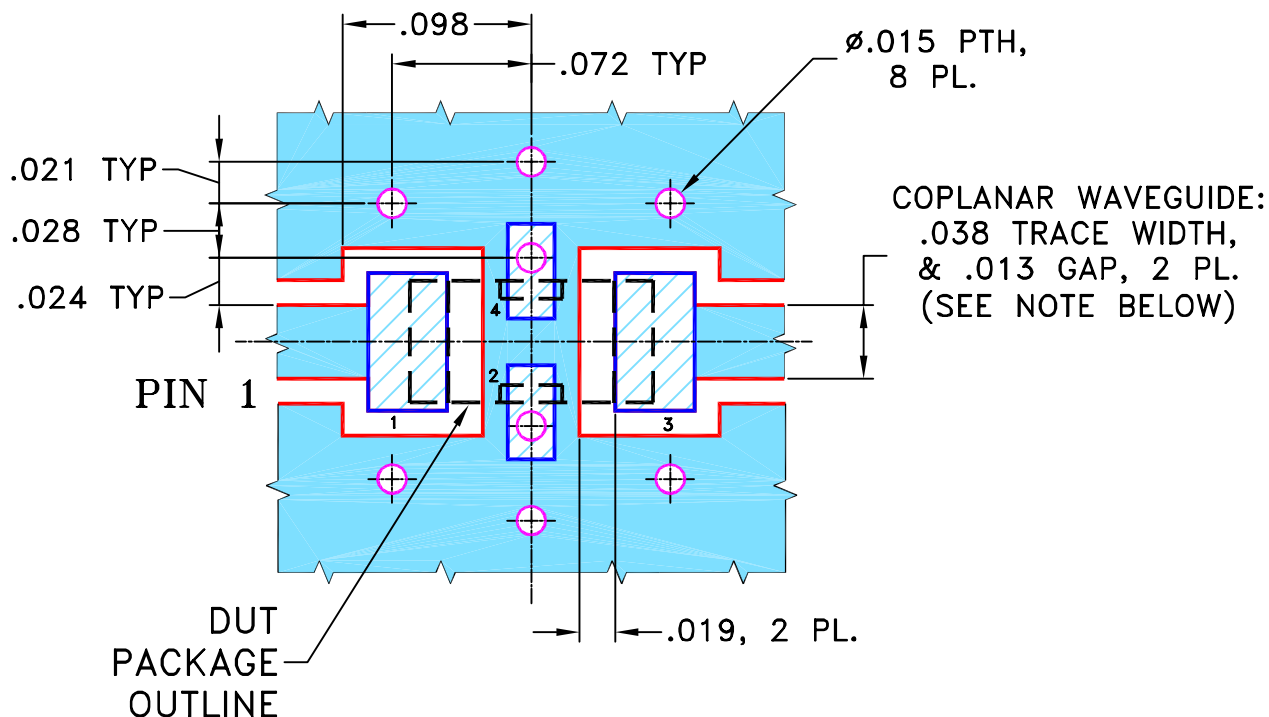
THIRD ANGLE PROJECTION



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

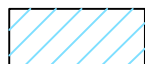


NOTES: 1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS R04350B WITH THICKNESS .020" $\pm$.0015".
COPPER: 1/2 OZ. EACH SIDE.
FOR OTHER MATERIALS TRACE WIDTH & GAP MAY NEED TO BE MODIFIED.

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

TOLERANCES ON:

2 PL DECIMALS $\pm$

3 PL DECIMALS $\pm$.005

ANGLES $\pm$

FRACTIONS $\pm$

DRAWN

GF

08/27/03

CHECKED

AV

08/28/03

APPROVED

ABD

08/28/03

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



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Brooklyn NY 11235

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

SIZE

A

CODE IDENT

15542

DRAWING NO:

98-PL-137

REV:

A

FILE: 98PL137

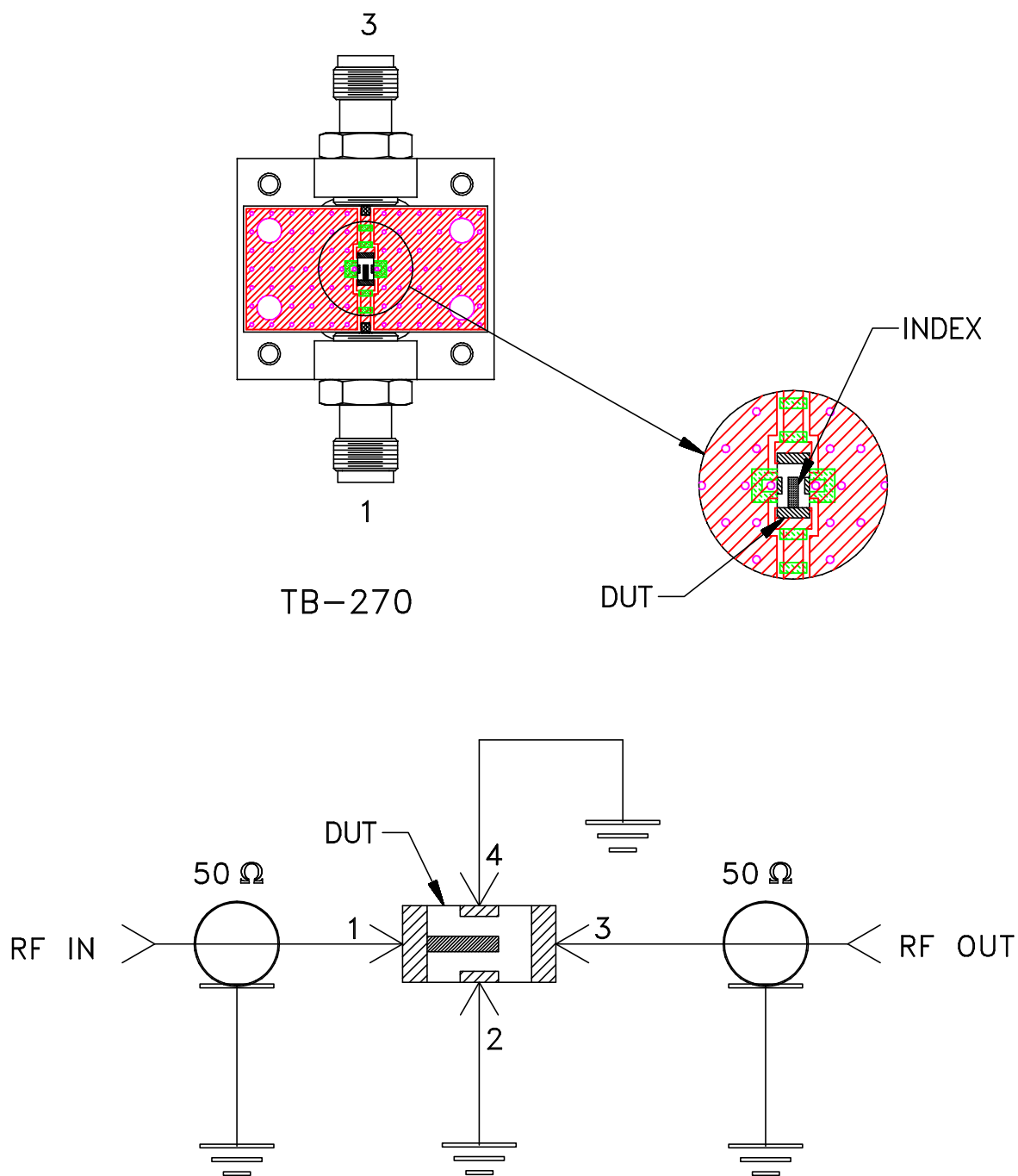
SCALE:

10:1

SHEET:

1 OF 1

Evaluation Board and Circuit



Schematic Diagram

Notes:

1. SMA Female connectors.
2. PCB Material: ROGERS RO4350 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