Ceramic

High Pass Filter

HFCN-2700TR5K+

50Ω 2650 to 6500 MHz

This is HFCN-2700+
Reel Qty. 5000 pcs.

CASE STYLE: FV1206
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.

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

*** RF IN & RF OUT can be interchanged*

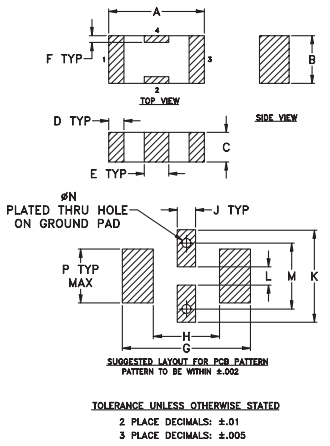
Features

- low cost
- small size
- 7 sections
- temperature stable
- excellent power handling, 7W
- hermetically sealed

Applications

- sub-harmonic rejection
- transmitters/receivers
- lab use

Outline Drawing

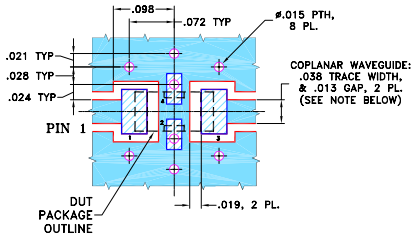


Outline Dimensions (inch / mm)

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

Demo Board MCL P/N: TB-270
Suggested PCB Layout (PL-137)

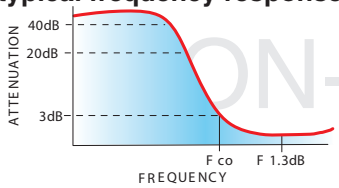


NOTES: 1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH THICKNESS .020" ± .0015". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH & GAP MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

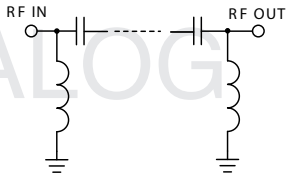
Electrical Specifications (T_{AMB}=25°C)

STOP BAND (MHz) Min.		fco, MHz Nom.	PASSBAND (MHz)		VSWR (:1) Typ.		POWER INPUT (W)	NO. OF SECTIONS
		(loss 3 dB)	(loss < 1.3 dB)	(loss < 2 dB)		Frequency (MHz)		
(loss > 40 dB)	(loss > 20 dB)	Typ.	Max.	Typ.	Stopband	1.5:1		
1500	1800	2500	3000-5700	2650-6500	20:1	2900-5500	7	7

typical frequency response

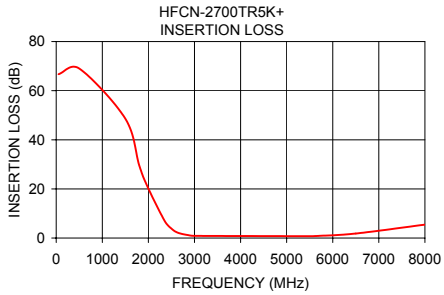


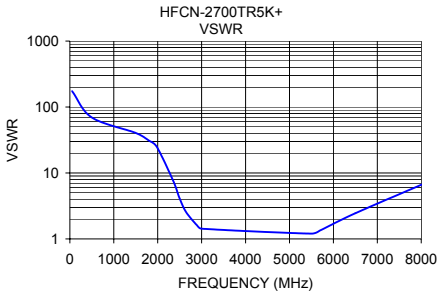
electrical schematic



Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
50.00	66.69	173.72
500.00	69.03	69.49
1500.00	48.61	40.41
1800.00	29.62	31.03
1980.00	20.93	24.83
2350.00	7.06	7.70
2500.00	3.85	4.11
2650.00	2.11	2.53
2900.00	1.04	1.59
3000.00	0.9	1.43
5500.00	0.75	1.20
5700.00	0.89	1.35
6500.00	1.85	2.45
8100.00	5.71	7.05





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ISO 9001 ISO 14001 AS 9100 CERTIFIED

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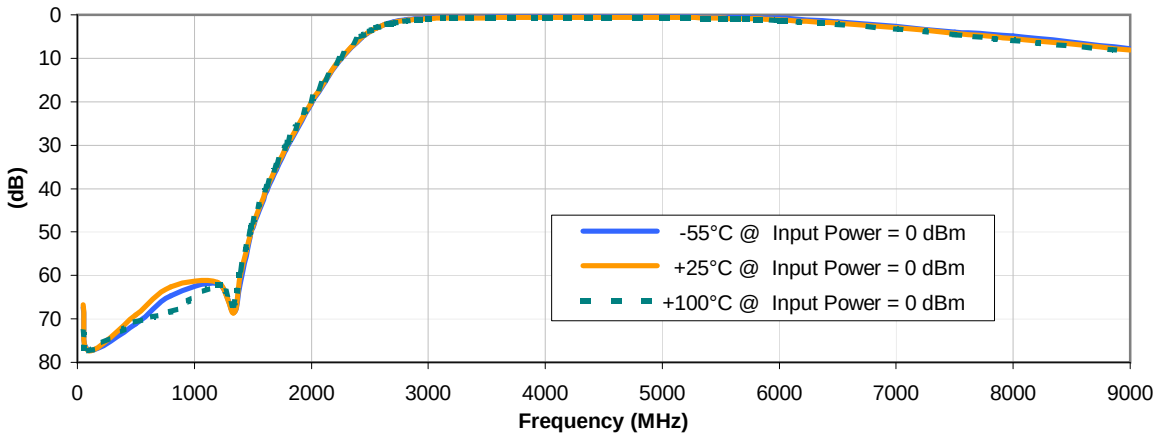
Ceramic High Pass Filter HFCN-2700TR5K+

Typical Performance Data

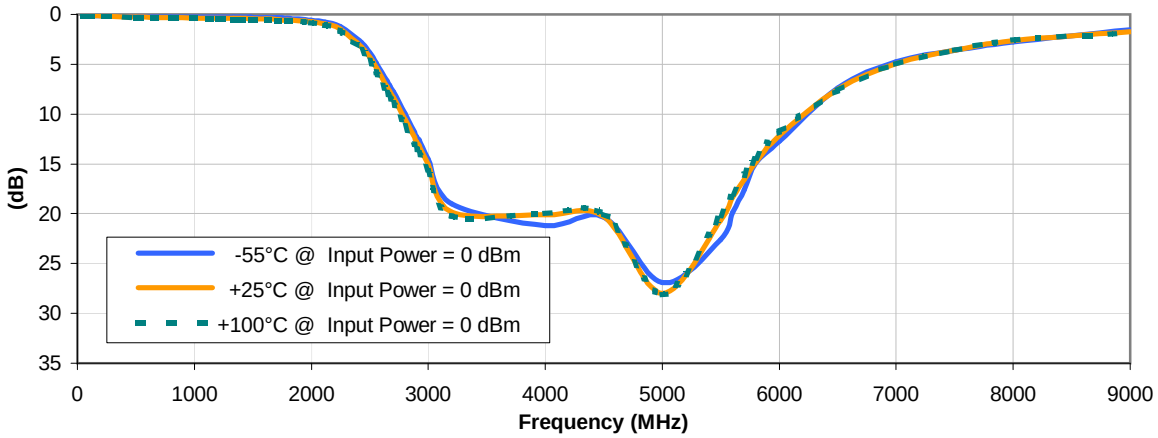
FREQ. (MHz)	INSERTION LOSS (dB)			INPUT RETURN LOSS (dB)			OUTPUT RETURNLOSS (dB)		
	@ -55° C	@ +25° C	@ +100° C	@ -55° C	@ +25° C	@ +100° C	@ -55° C	@ +25° C	@ +100° C
50	67.38	66.69	73.01	0.06	0.10	0.10	0.10	0.12	0.15
100	77.26	77.42	77.35	0.10	0.13	0.15	0.10	0.12	0.16
500	71.13	69.03	70.70	0.19	0.25	0.31	0.17	0.24	0.29
800	64.75	62.64	68.41	0.25	0.35	0.38	0.24	0.31	0.37
1200	61.85	61.62	62.17	0.27	0.38	0.46	0.26	0.34	0.41
1335	68.45	68.68	66.70	0.28	0.40	0.49	0.28	0.39	0.48
1395	61.48	59.86	58.84	0.27	0.39	0.49	0.29	0.41	0.51
1485	50.24	49.91	49.04	0.28	0.42	0.53	0.31	0.42	0.52
1500	49.03	48.61	47.69	0.29	0.43	0.54	0.30	0.43	0.51
1620	40.51	39.93	39.44	0.30	0.45	0.58	0.33	0.45	0.55
1700	35.60	35.06	34.66	0.31	0.49	0.62	0.33	0.48	0.57
1790	30.63	30.16	29.74	0.37	0.56	0.66	0.35	0.50	0.64
1800	30.08	29.62	29.21	0.40	0.56	0.67	0.37	0.53	0.63
1995	20.66	20.26	19.87	0.56	0.72	0.86	0.52	0.70	0.83
2115	15.49	15.17	14.81	0.77	0.95	1.10	0.69	0.89	1.04
2250	10.35	10.11	9.83	1.24	1.48	1.69	1.18	1.40	1.63
2430	5.29	5.16	5.03	2.85	3.25	3.57	2.78	3.14	3.45
2500	3.88	3.85	3.77	3.87	4.31	4.71	3.79	4.20	4.56
2555	3.04	3.09	3.02	4.85	5.31	5.85	4.76	5.13	5.63
2650	2.05	2.11	2.16	6.67	7.25	7.81	6.49	7.02	7.44
2670	1.91	1.99	2.03	7.10	7.70	8.27	6.93	7.45	7.90
2700	1.69	1.79	1.85	7.75	8.34	8.95	7.58	8.10	8.56
2800	1.19	1.33	1.43	9.95	10.56	11.20	9.74	10.24	10.69
2900	0.90	1.04	1.16	12.25	12.81	13.47	11.91	12.38	12.80
2920	0.86	1.01	1.11	12.61	13.18	13.85	12.29	12.77	13.20
3000	0.75	0.90	1.01	14.51	15.04	15.65	13.90	14.40	14.76
3200	0.52	0.69	0.81	19.04	19.87	20.22	17.78	18.47	18.77
4000	0.42	0.59	0.73	21.17	20.08	19.95	20.37	19.53	19.32
4500	0.51	0.64	0.79	20.35	20.31	20.03	19.09	19.59	19.30
5000	0.42	0.61	0.74	26.92	27.97	28.16	25.25	27.40	27.82
5500	0.56	0.75	0.93	22.61	20.67	20.14	24.56	21.83	20.97
5600	0.64	0.84	0.98	19.86	18.32	17.97	21.00	19.21	18.38
5700	0.57	0.89	1.05	17.61	16.54	16.13	17.97	17.16	16.40
5800	0.72	0.95	1.13	14.93	14.83	14.41	15.21	15.13	14.38
6000	0.77	1.11	1.28	12.74	12.11	11.75	13.02	12.28	11.67
6500	1.58	1.85	2.20	7.40	7.52	7.65	7.40	7.52	7.53
7000	2.67	2.91	3.20	4.75	4.92	5.00	4.63	4.83	4.93
7500	3.98	4.23	4.58	3.62	3.60	3.60	3.43	3.53	3.61
8000	4.88	5.41	5.86	2.75	2.61	2.54	2.51	2.51	2.63
9000	7.85	8.05	8.46	1.54	1.76	1.85	1.63	1.70	1.78

Typical Performance Curves

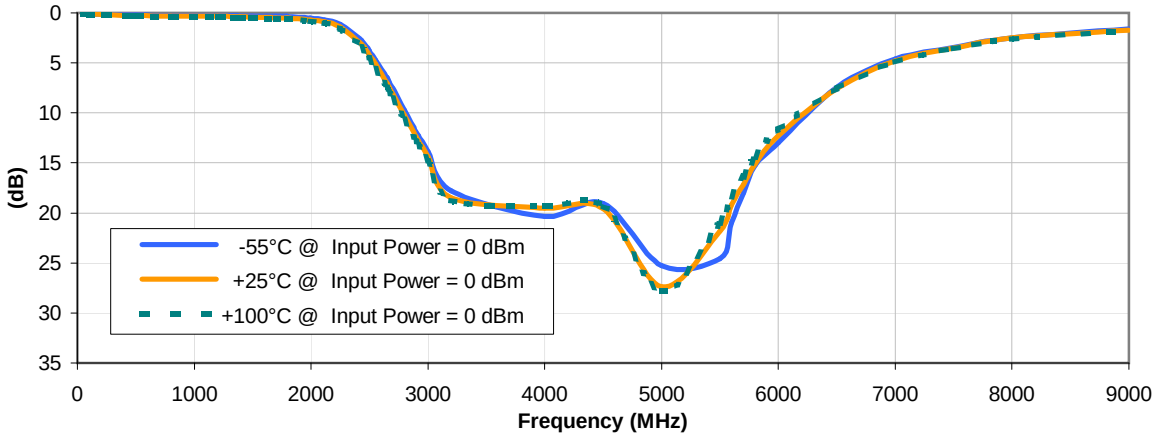
INSERTION LOSS vs. TEMPERATURE



INPUT RETURN LOSS vs. TEMPERATURE



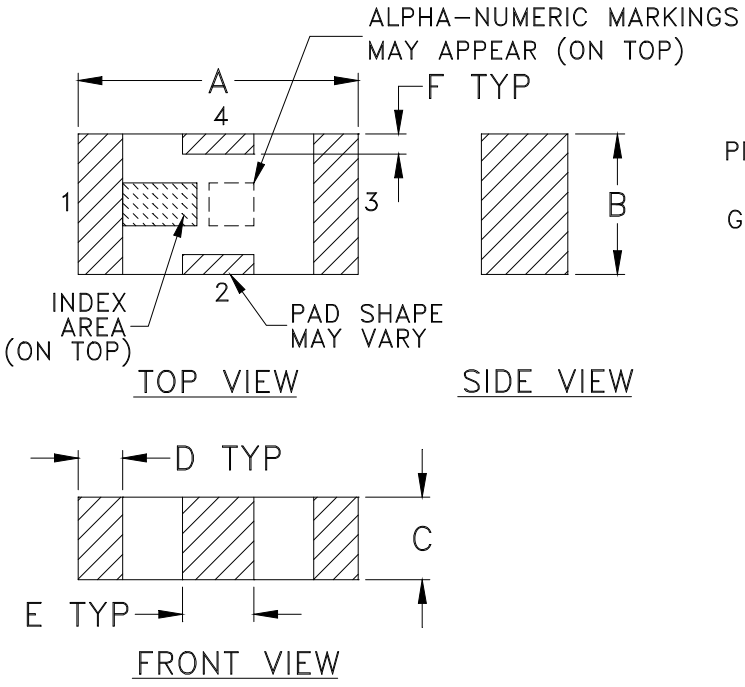
OUTPUT RETURN LOSS vs. TEMPERATURE



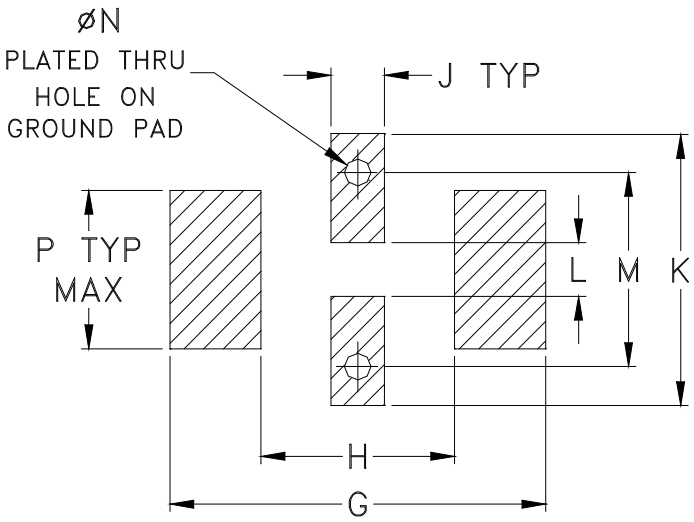
Case Style FV

FV1206

Outline Dimensions



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.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. ± .01; 3 Pl. ± .005

Notes:

1. Open style, ceramic base.
2. 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.

Tape & Reel Packaging TR-F71

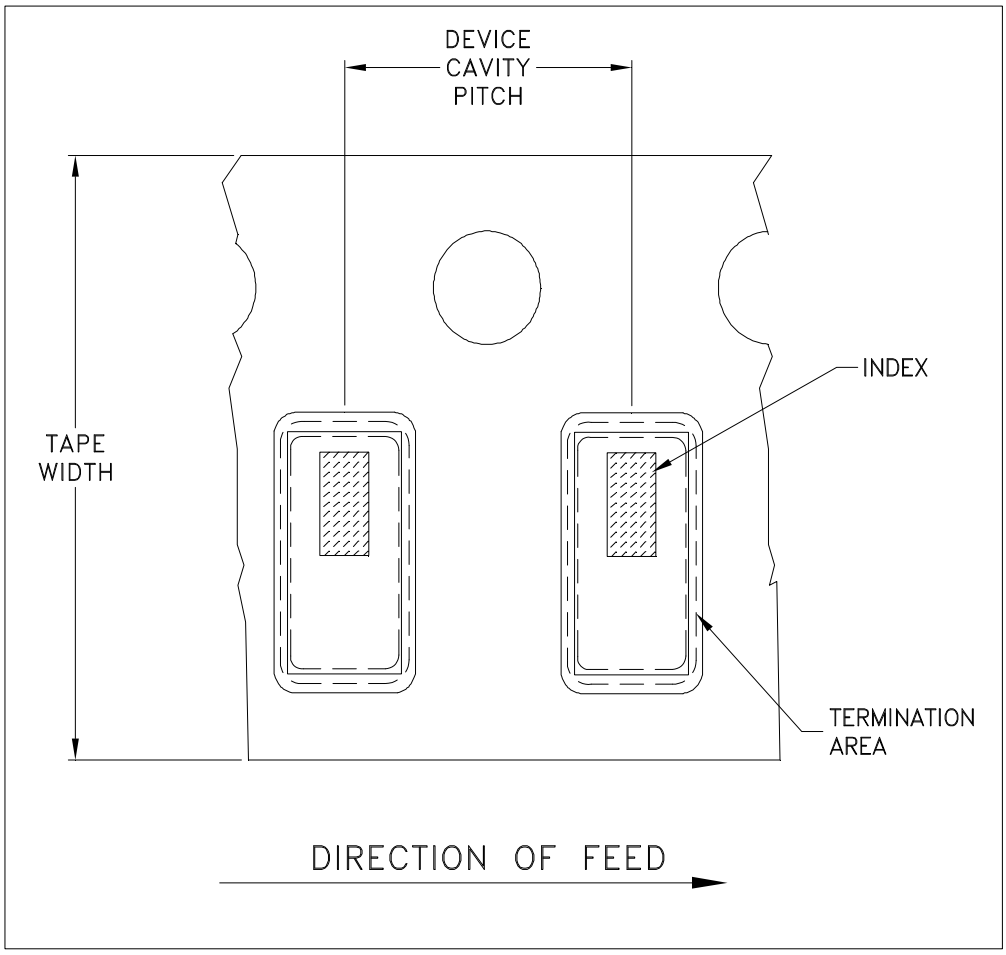


ILLUSTRATION 1

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.

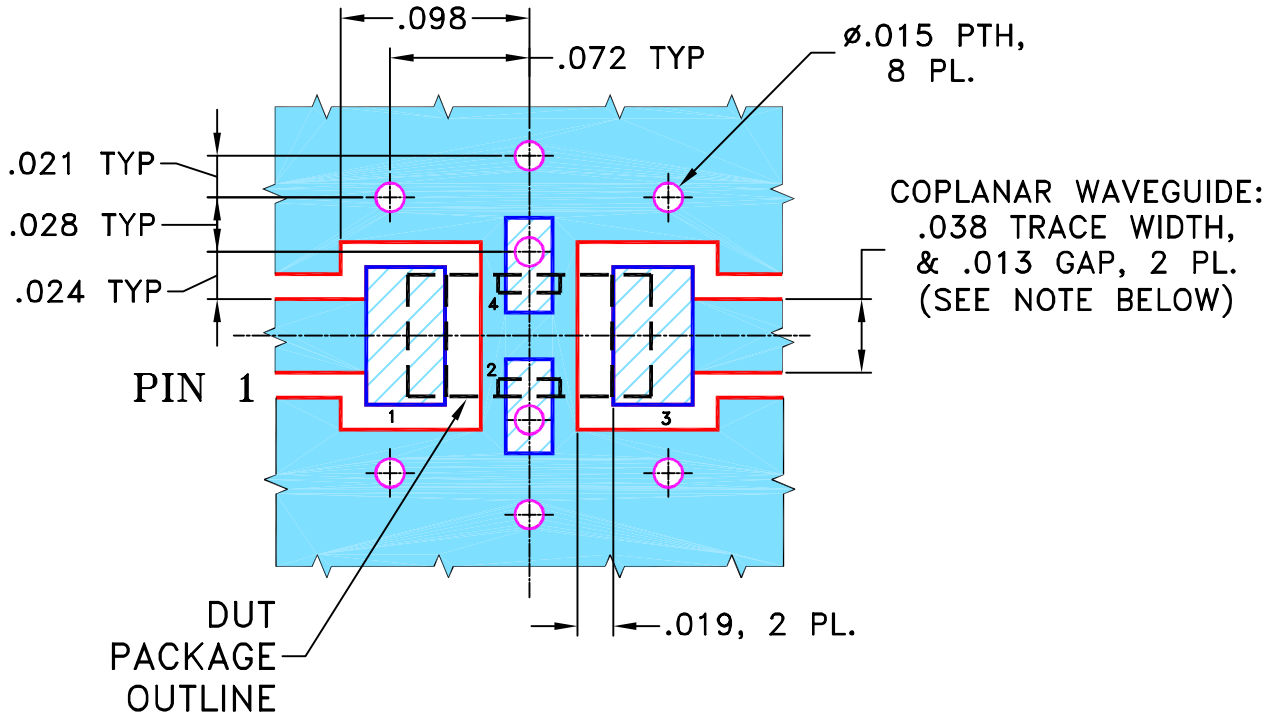
Mini-Circuits carrier tape materials provide protection from ESD (Electro-Static Discharge) during handling and transportation. Tapes are static dissipative and comply with industry standards EIA-481/EIA-541.

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

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:
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   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 ±			

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

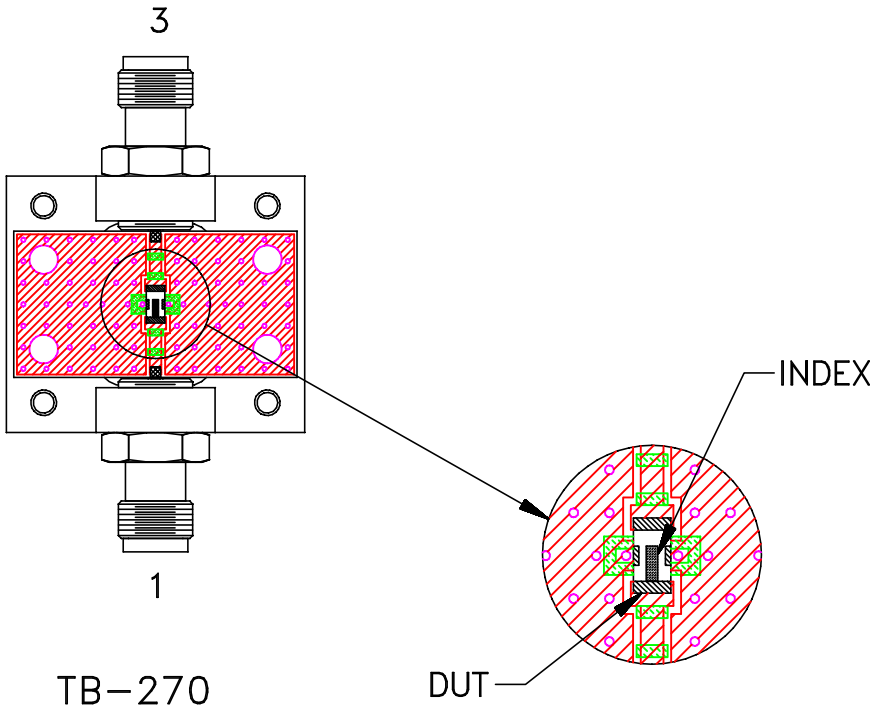
Mini-Circuits® 13 Neptune Avenue Brooklyn NY 11235

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

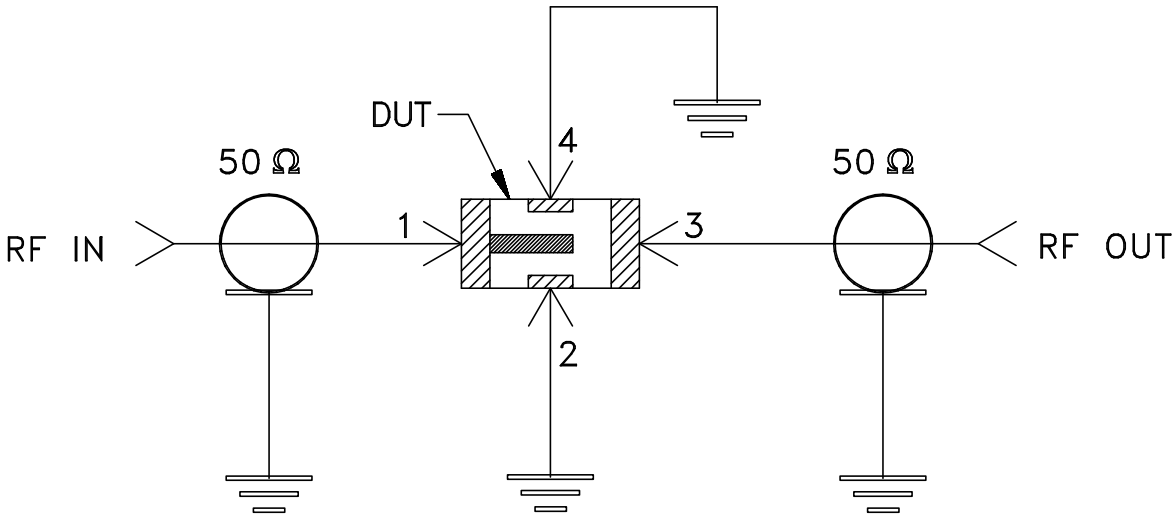
SIZE	CODE IDENT	DRAWING NO:	REV:
A	15542	98-PL-137	A

FILE:	SCALE:	SHEET:
98PL137	10:1	1 OF 1

Evaluation Board and Circuit



TB-270



Schematic Diagram

Notes:

1. SMA Female connectors.
2. PCB Material: ROGERS RO4350 or equivalent, Dielectric Constant=3.5, Thickness=.020 inch.

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Environmental Specifications ENV06

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