

Engineering Development Model

RF Transformer

TCN2-ED12817/34B1

Impedance Ratio : 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.

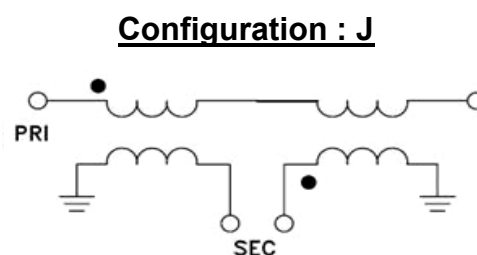
CASE STYLE: FV1206-1

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C				
Parameter	Min.	Typ.	Max.	Units
Frequency	550		1250	MHz
Insertion Loss * 1 dB Bandwidth		550 - 1250		MHz

Note: * Insertion Loss is referenced to mid-band loss, 0.66dB typ.

MAXIMUM RATINGS	
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Input RF Power **	5 W

** Derate linearly to 2.5W at 100°C



PIN CONNECTIONS	
PRIMARY DOT	5
PRIMARY	4,6
SECONDARY DOT	3
SECONDARY	1
NOT USED	2

Pads 1,3,4,6 are DC-connected internally.

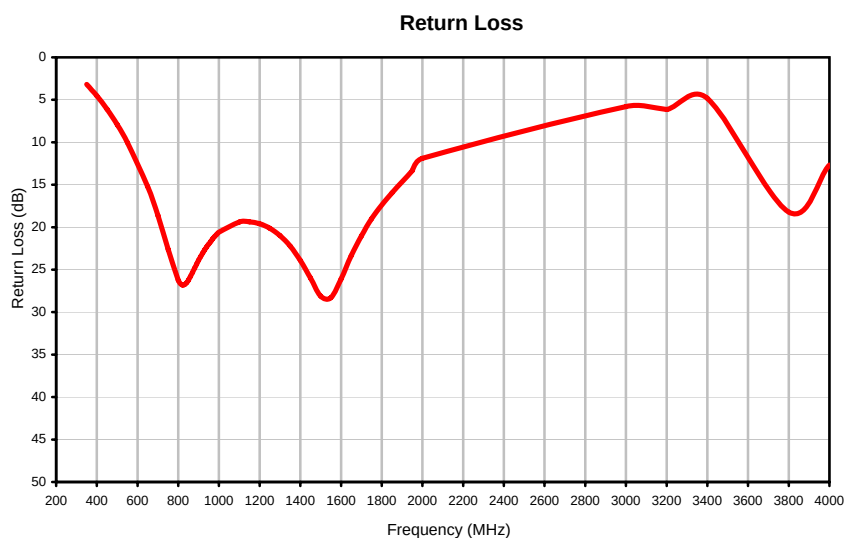
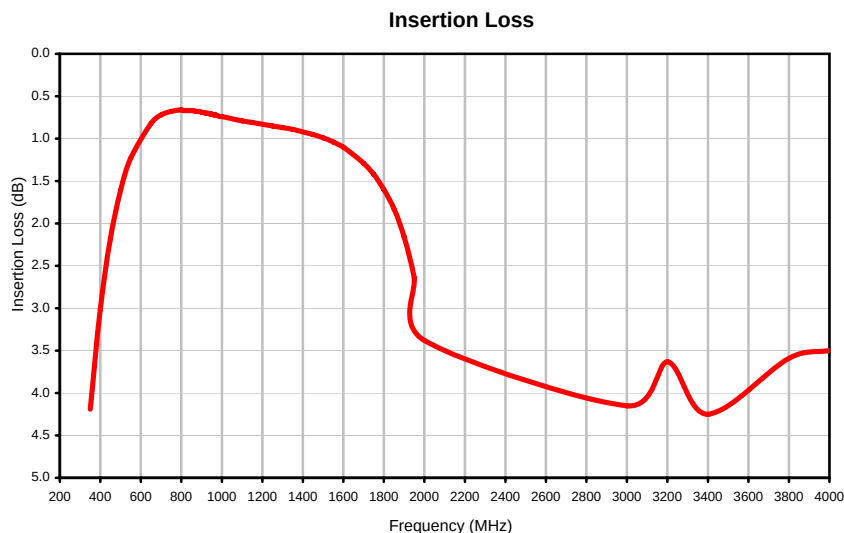
RF Transformer

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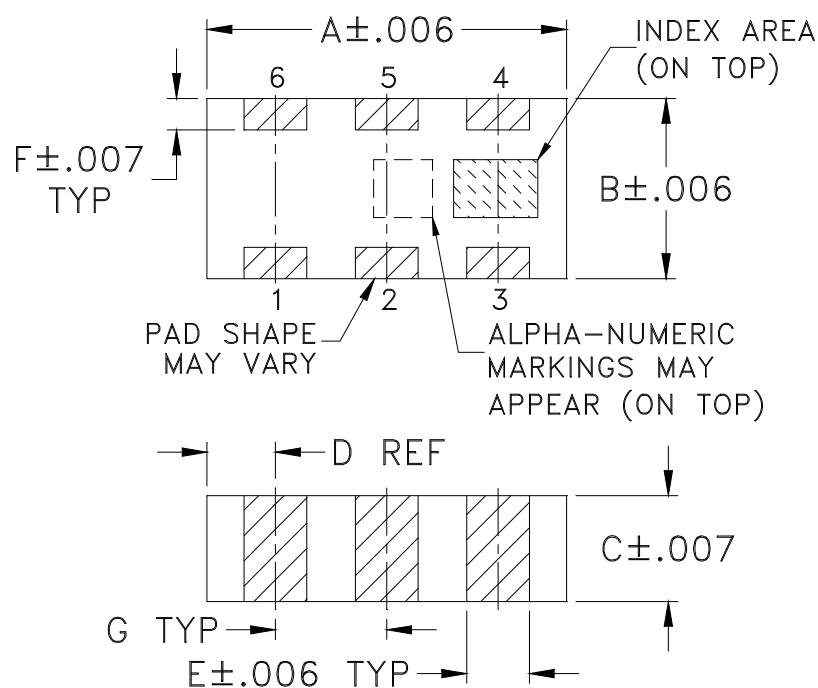
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)
350	4.19	3.18
400	3.01	4.52
450	2.18	6.10
500	1.61	7.93
550	1.23	10.03
650	0.82	15.23
700	0.72	18.61
750	0.68	22.60
800	0.66	26.25
810	0.67	26.63
820	0.67	26.80
830	0.67	26.77
840	0.67	26.57
850	0.67	26.23
860	0.67	25.81
870	0.68	25.33
880	0.68	24.83
890	0.68	24.34
900	0.69	23.89
910	0.69	23.46
920	0.70	23.05
930	0.70	22.67
940	0.71	22.31
950	0.71	21.98
960	0.72	21.66
970	0.72	21.35
980	0.73	21.07
990	0.74	20.81
1000	0.74	20.59
1100	0.79	19.39
1150	0.81	19.36
1200	0.83	19.60
1250	0.85	20.12
1300	0.87	20.98
1350	0.89	22.23
1400	0.92	23.91
1450	0.95	25.99
1500	0.99	28.11
1550	1.04	28.29
1600	1.10	26.09
1650	1.19	23.36
1700	1.29	21.02
1750	1.42	19.01
1800	1.60	17.39
1850	1.83	15.95
1900	2.16	14.66
1950	2.64	13.33
2000	3.38	11.88
3000	4.15	5.80
3200	3.63	6.14
3400	4.25	4.83
3800	3.59	18.21
4000	3.50	12.67

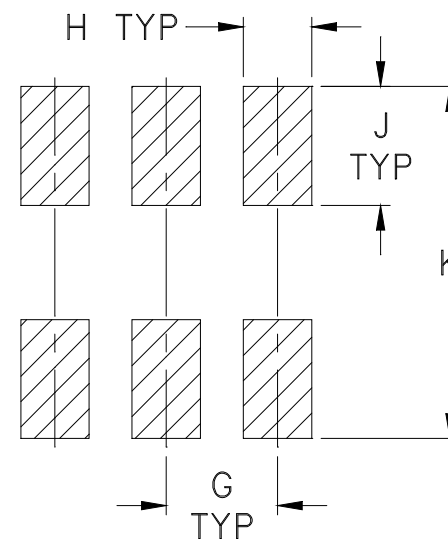
Typical Performance Curves



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



Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

RF/IF MICROWAVE COMPONENTS

DEVICE ORIENTATION IN T&R

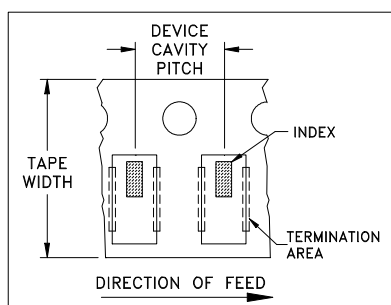


ILLUSTRATION 1

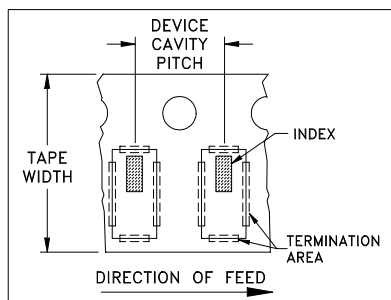


ILLUSTRATION 2

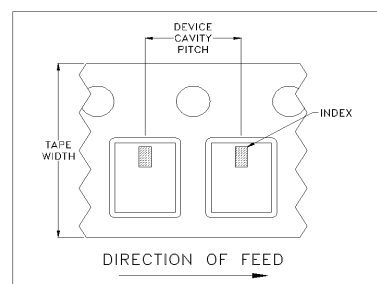


ILLUSTRATION 3

Applicable Case Styles

FV1206-1
FV1206-3

Applicable Case Styles

FV1206-4
FV1206-5
FV1206-6
FV1206-7
FV1206-9

Applicable Case Styles

FV1206-11
FV1206-12
GE0805C-18
NL1008C-6
NL1008C-7
NL1008C-9
NL1008C-10
NL1008C-12

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.

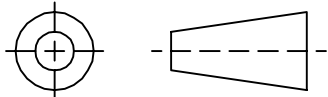
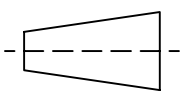
Go to: www.minicircuits.com/pages/pdfs/tape.pdf



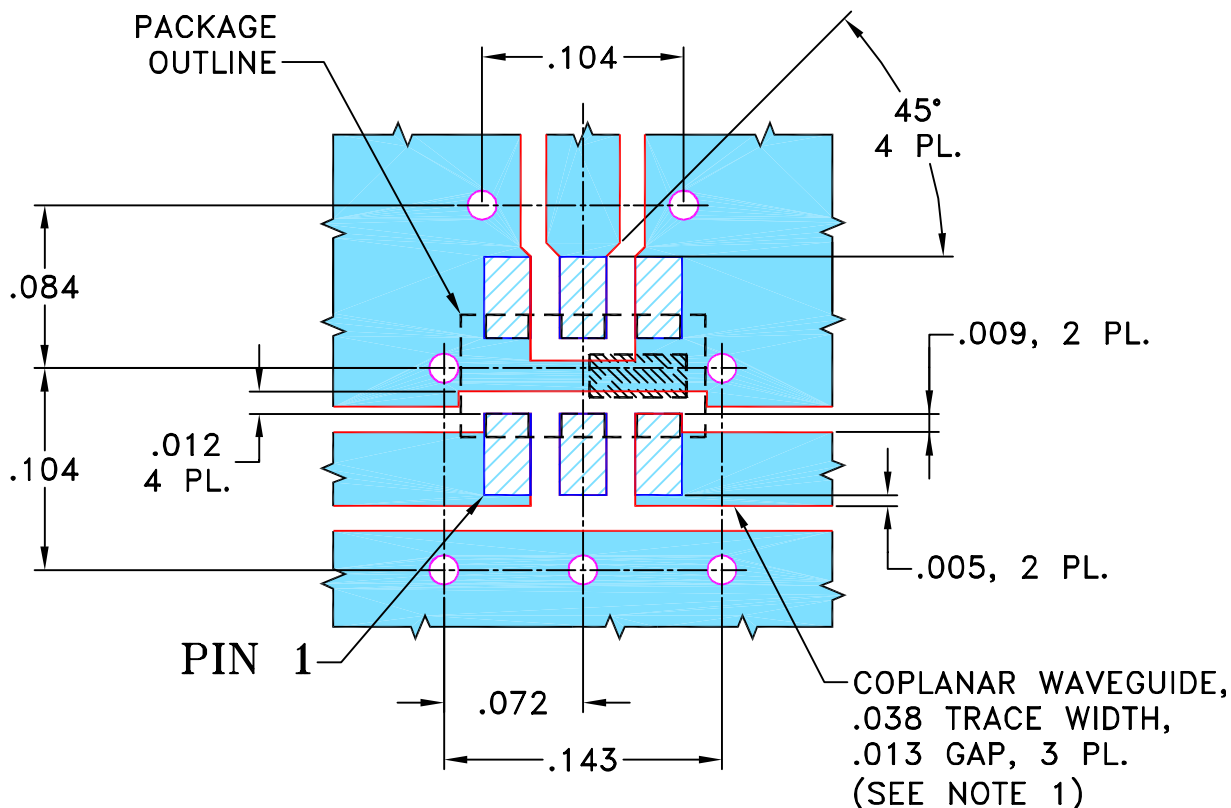
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THIRD ANGLE PROJECTION		REVISIONS				
		REV	ECN No.	DESCRIPTION	DATE	DR
		OR	M109527	NEW RELEASE	01/31/07	PW

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

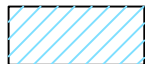


NOTES:

1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS .020" $\pm$.0015". 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.



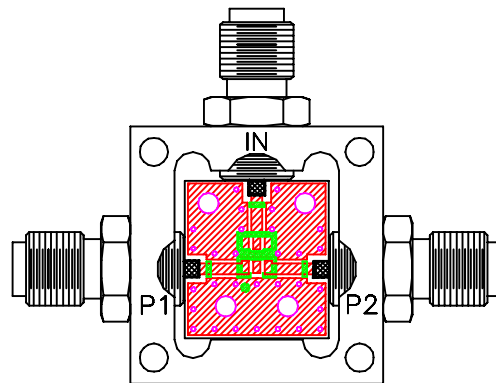
DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER).



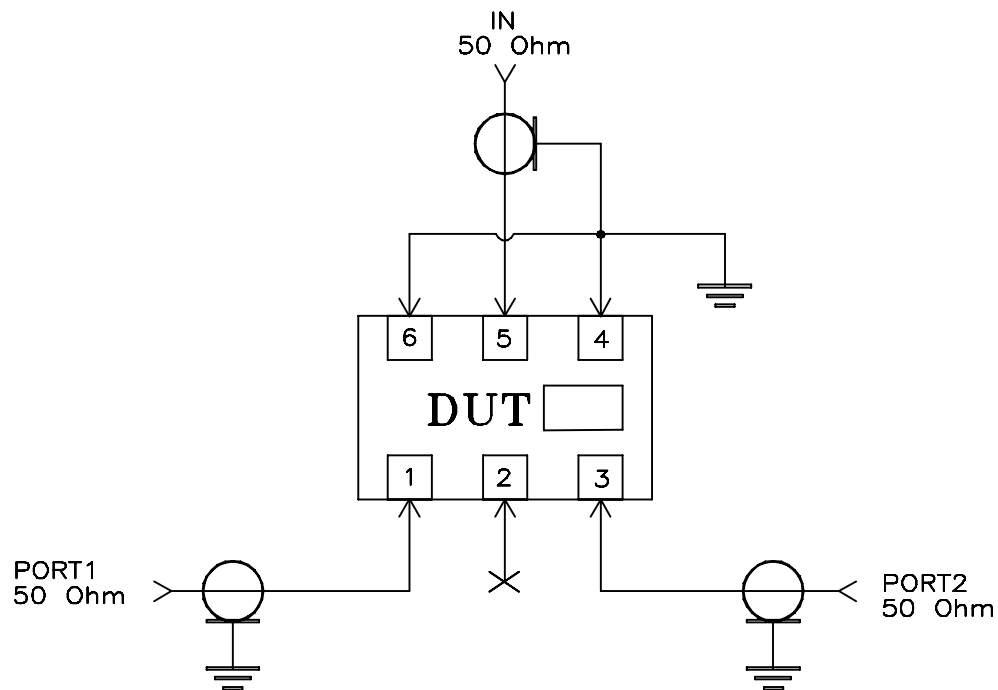
DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

UNLESS OTHERWISE SPECIFIED		INITIALS		DATE		Mini-Circuits® 13 Neptune Avenue Brooklyn NY 11235					
DIMENSIONS ARE IN INCHES		DRAWN	PW	01/29/07		PL, sa, FV1206-1, TCN, TB-417+					
TOLERANCES ON:		CHECKED	IL	01/31/07							
2 PL DECIMALS ±		APPROVED	DJ	01/31/07							
3 PL DECIMALS ± .005											
ANGLES ± 1°											
FRACTIONS ±											
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ASHEETA1.DWG REV:A DATE:01/12/95						SIZE	CODE IDENT	DRAWING NO:		REV:	
						A	15542	98-PL-265		OR	
						FILE:	98PL265	SCALE:	10:1	SHEET:	1 OF 1

Evaluation Board and Circuit



TB-417+



Schematic Diagram

Notes:

1. SMA Female connectors.
2. PCB Material: Rogers R04350 or equivalent,
Dielectric Constant=3.5, Thickness=.010 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