Engineering Development Model

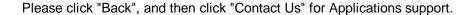
RF Transformer

TC1.5-ED13307/1

Impedance Ratio: 1.5

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.





CASE STYLE: AT224-1

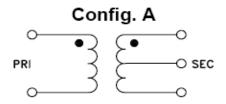
ELECTRICAL SPECIFICATIONS 50Ω @ +25°C						
Parameter		Min.	Тур.	Max.	Units	
Frequency		30		520	MHz	
Insertion Loss *	3 dB Bandwidth		30-520		MHz	
	2 dB Bandwidth		160-400		MHz	
	1 dB Bandwidth				MHz	

Note:

^{*} Insertion Loss is referenced to mid-band loss, 1.16 dB typ.

MAXIMUM RATINGS				
Operating Temperature	-40°C to 85°C			
Storage Temperature	-55°C to 100°C			

PIN CONNECTIONS				
PRIMARY DOT	3			
PRIMARY	1			
PRIMARY CT	2			
SECONDARY DOT	6			
SECONDARY	4			

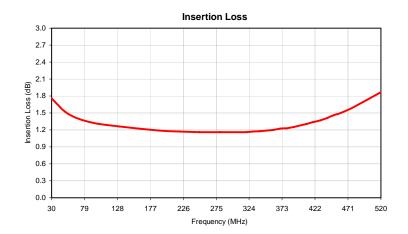


Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)
30.00	1.76	8.27
50.00	1.52	9.60
70.00	1.40	10.47
90.00	1.33	11.11
100.00	1.31	11.39
130.00	1.26	12.17
160.00	1.22	12.99
190.00	1.19	13.92
220.00	1.17	14.98
250.00	1.16	16.26
280.00	1.16	17.78
290.00	1.16	18.31
300.00	1.16	18.83
310.00	1.16	19.32
320.00	1.16	19.77
330.00	1.17	20.15
340.00	1.18	20.43
350.00	1.19	20.58
360.00	1.20	20.56
370.00	1.22	20.34
380.00	1.23	19.94
390.00	1.25	19.38
400.00	1.28	18.72
410.00	1.31	17.99
420.00	1.34	17.26
430.00	1.37	16.52
440.00	1.41	15.81
450.00	1.46	15.12
460.00	1.50	14.45
480.00	1.61	13.19
520.00	1.87	10.97

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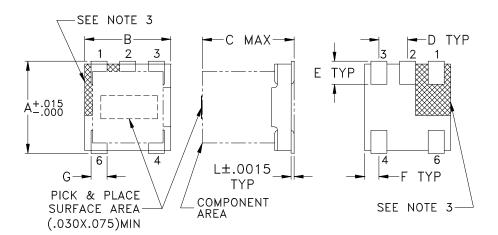
Typical Performance Data



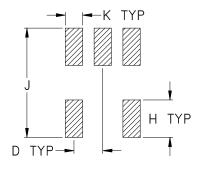


Outline Dimensions

AT224-1



PCB Land Pattern



Suggested Layout, Tolerance to be within ±.002

CASE #	A	В	C	D	Е	F	G	Н	J	K	L	WT. GRAMS
AT224-1	.150 (3.81)	.150 (3.81)	.160 (4.06)	.050 (1.27)	.040 (1.02)	.025 (0.64)	.028 (0.71)	.065 (1.65)	.190 (4.83)	.030 (0.76)	.007 (0.18)	.15

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

Notes:

- 1. Case material: Plastic.
- 2. Termination finish: Tin plate over Nickel plate.
- 3. Lead #1 identifier shall be located in the cross-hatched area shown. Identifier may be either a molded or marked feature.



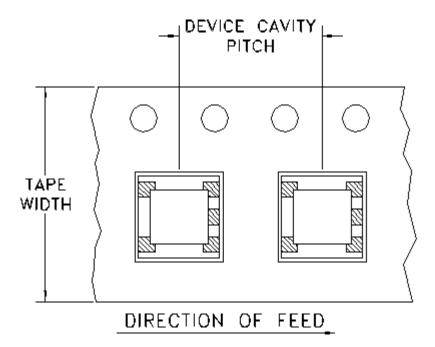


P.O. Box 350186, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site

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

Tape & Reel Packaging TR-F17

DEVICE ORIENTATION IN T&R



Tape Width, mm	ch, Device Cavity Reel Size, Pitch, mm inches		Devices per Reel			
			Small	20		
			quantity	50		
		7	standards	100		
12	8		(see note)	200		
				500		
		12	Ctondond	1000		
		13	Standard	2000		

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

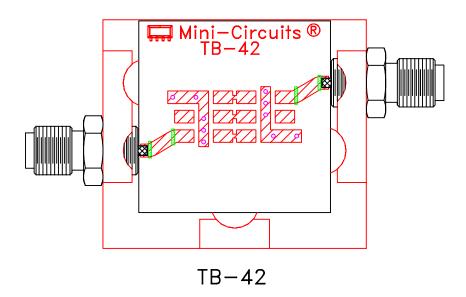


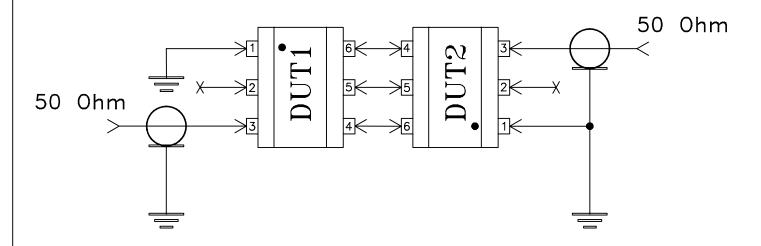


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RF/IF MICROWAVE COMPONENTS

Evaluation Board and Circuit

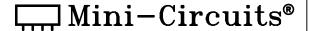




Schematic Diagram

Notes:

- 1. SMA Female connectors.
- 2. PCB Material: Rogers RO4350 or equivalent, Dielectric Constant=3.5, Thickness=.030 inch.





Environmental Specifications

ENV02T1

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	-40° to 85°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
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
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, 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
Marking Resistance to Solvents	Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C; distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C	MIL-STD-202, Method 215

ENV02T1 Rev: B

02/25/11

M130240 File: ENV02T1.pdf

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