SURFACE MOUNT

RF Transformer

TC2-112G2+

50Ω 2 to 1100 MHz

FEATURES

- Suitable for tin/lead and RoHS solder systems
- Wideband, 2 to 1100 MHz
- Good return loss
- Sted-down autotransformer
- Aqueous washable



Generic photo used for illustration purposes only

CASE STYLE: AT224-3

+RoHS Compliant
The +Suffix identifies RoHS Compliance.
See our website for methodologies and qualifications

APPLICATIONS

- Cellular

ELECTRICAL SPECIFICATIONS AT +25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Impedance Ratio (Primary/Secondary)			50/25		
Frequency Range		2		1100	MHz
Insertion Loss*	10-800 2-1100		1.0 2.0		dB

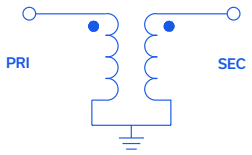
*Insertion Loss is referenced to mid-band loss, 0.4 dB typ.
Stepdown, 50 ohm primary, 1.5 pF across secondary

MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	250mW
DC Current	30 mA

Permanent damage may occur if any of these limits are exceeded.

CONFIG. D



REV. B
ECO-022233
TC2-112G2+
MCL NY
240626

RF Transformer

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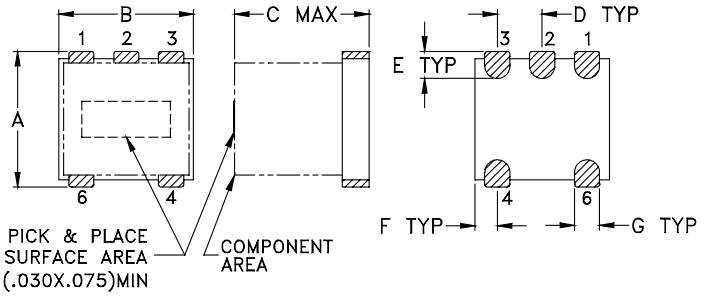
50Ω 2 to 1100 MHz

PIN CONNECTIONS

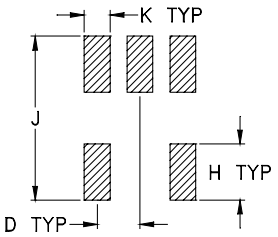
Function	Pin Number
PRIMARY DOT	6
PRIMARY	3
SECONDARY DOT	1
SECONDARY	3

PRODUCT MARKING: N/A

OUTLINE DRAWING



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

OUTLINE DIMENSIONS (inch / mm)

A	B	C	D	E	F
.150	.150	.150	.050	.030	.025
3.81	3.81	3.81	1.27	0.76	0.64

G	H	J	K		wt
.028	.065	.190	.030		grams
0.71	1.65	4.83	0.76		0.10

TAPE & REEL INFORMATION: F17

SURFACE MOUNT

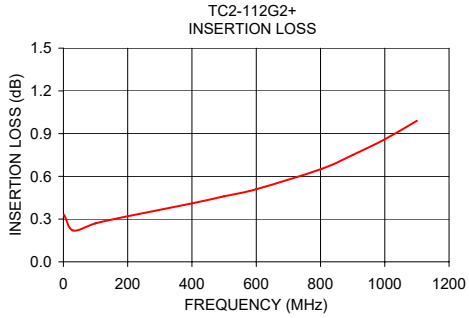
RF Transformer

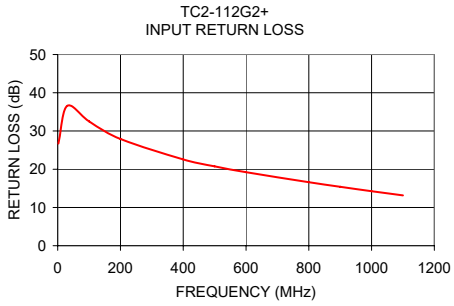
TC2-112G2+

50Ω 2 to 1100 MHz

TYPICAL PERFORMANCE DATA

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)
2.00	0.33	26.71
30.00	0.22	36.55
100.00	0.27	32.51
200.00	0.32	27.91
400.00	0.41	22.57
500.00	0.46	20.75
600.00	0.51	19.23
800.00	0.65	16.60
900.00	0.75	15.41
1000.00	0.86	14.26
1100.00	0.99	13.17





NOTES

A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/terms/viewterm.html

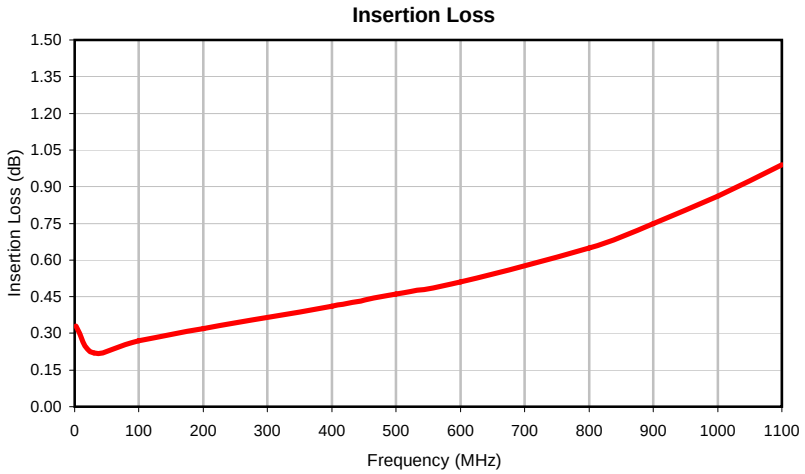
RF Transformer TC2-112G2+

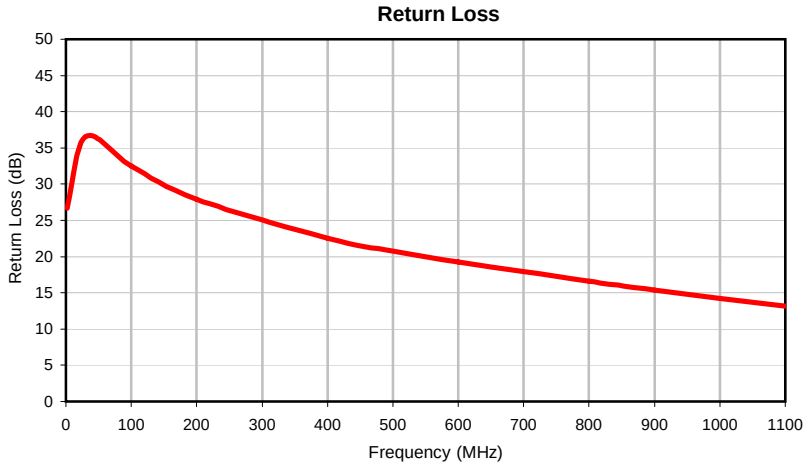
Typical Performance Data

FREQUENCY MHz	INSERTION LOSS (dB)	RETURN LOSS (dB)
2.00	0.33	26.71
30.00	0.22	36.55
100.00	0.27	32.51
200.00	0.32	27.91
400.00	0.41	22.57
500.00	0.46	20.75
600.00	0.51	19.23
800.00	0.65	16.60
900.00	0.75	15.41
1000.00	0.86	14.26
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Typical Performance Data

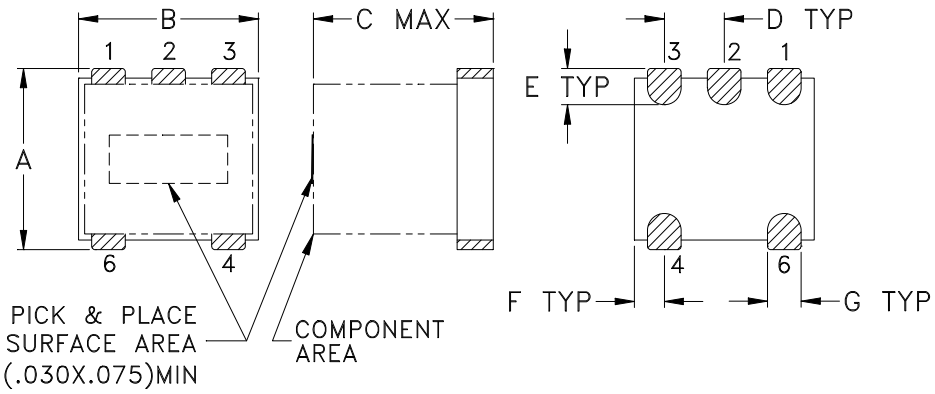




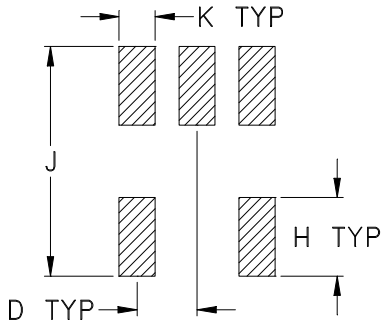
Case Style AT

Outline Dimensions

AT224-3



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

CASE #	A	B	C	D	E	F	G	H	J	K	L	WT. GRAMS
AT224-3	.150 (3.81)	.150 (3.81)	.150 (3.81)	.050 (1.27)	.030 (0.76)	.025 (0.64)	.028 (0.71)	.065 (1.65)	.190 (4.83)	.030 (0.76)	-- --	.10

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

Notes:

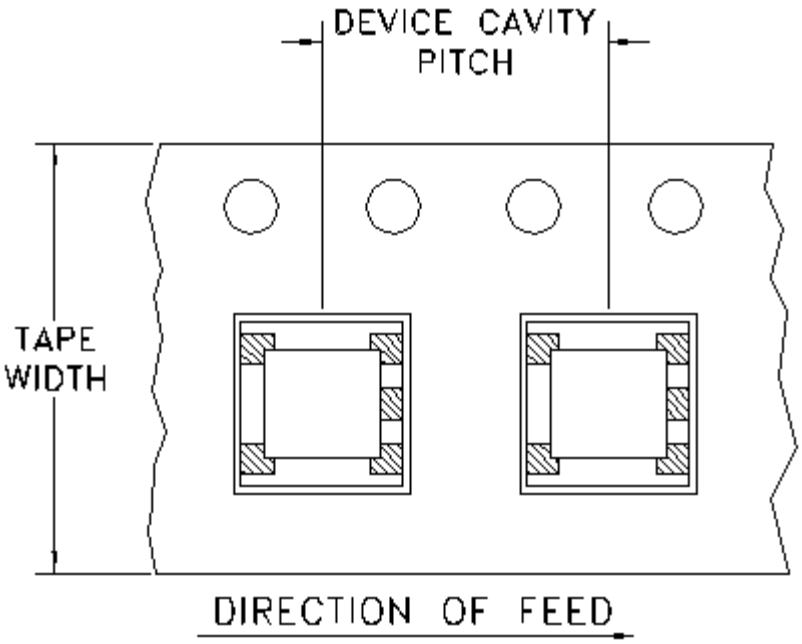
1. Open style, ceramic base.
2. Termination finish: 3.15-5.12 µ inch (.08-.130 microns) Gold over 78–236 µ inch (1.98-6.0 microns) Nickel plate.

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RF/IF MICROWAVE COMPONENTS

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Tape & Reel Packaging TR-F17

DEVICE ORIENTATION IN T&R



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

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

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