SURFACE MOUNT

RF Transformer

RTX1-182-75+

75Ω 45 to 1800 MHz

KEY FEATURES

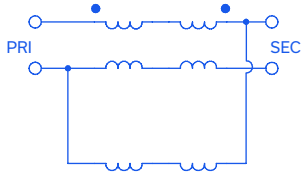
- Low Cost/Lead and RoHS solder systems
- Wideband 45 to 1800 MHz
- Balanced Transmission line

Generic photo used for illustration purposes only

APPLICATIONS

- Balanced to unbalanced transformation
- Push Pull Amplifiers
- CATV
- DOCSIS® 4.0 Systems

CONFIGURATION K



PRODUCT OVERVIEW

Mini-Circuits' RTX1-182-75+ is a 75Ω surface-mount transmission line transformer covering a wide frequency range from 45 to 1800 MHz. The transformer provides low insertion loss. It achieves low phase and amplitude unbalance and excellent input return loss performance. Featuring core and wire construction on a 5-pad printed laminate base with gold over nickel termination finish, the unit measures 0.20 x 0.17 x 0.14", accommodating dense circuit board layouts.

ELECTRICAL SPECIFICATIONS[1] AT +25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Impedance Ratio			1		
Frequency Range		45		1800	MHz
Insertion Loss (Avg.)	45 – 1200	–	0.6	1.0	dB
	1200 – 1800	–	0.9	1.5	
Amplitude Unbalance	45 – 1200	–	0.3	1.0	dB
	1200 – 1800	–	0.6	1.6	
Phase Unbalance	45 - 1800	–	–	12	Degree
Primary Return Loss (Input)	45 – 1200	18	23	–	dB
	1200 – 1800	16	22	–	

ABSOLUTE MAXIMUM RATINGS[1]

Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C
Input Power	1 W
DC Current	30 mA

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

REV. OR
ECO-023874
RTX1-182-75+
MCL NY
241209

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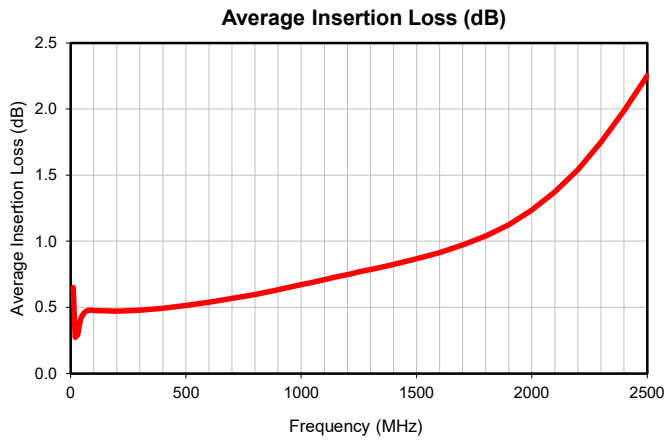
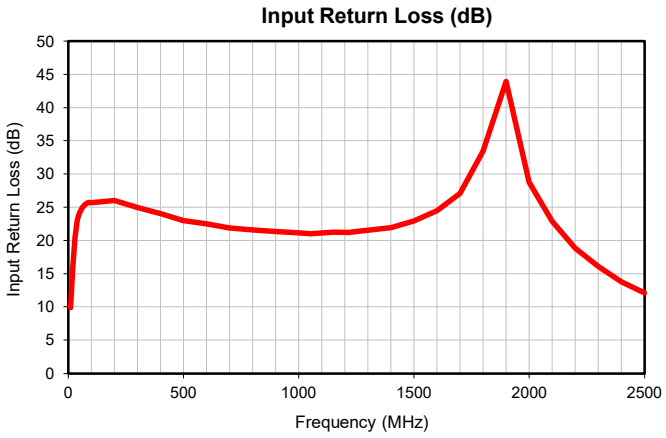
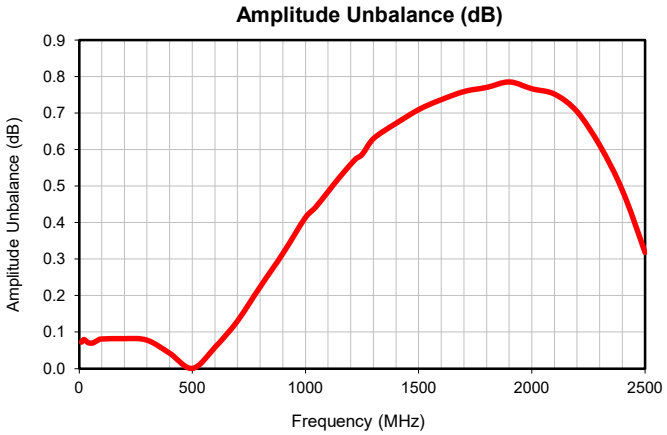
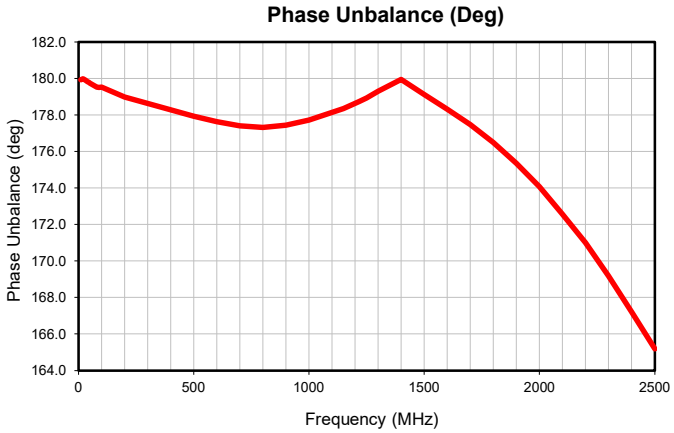
TYPICAL PERFORMANCE GRAPHS









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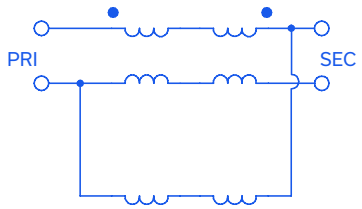
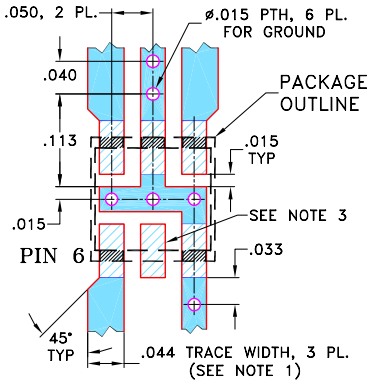


Figure 1. RTX1-182-75+ Configuration

PAD DESCRIPTION

Function	Pad Number
Primary Dot	4
Primary	5
Secondary Dot	1
Secondary	3
Not Connected	2

SUGGESTED PCB LAYOUT (PL-244)



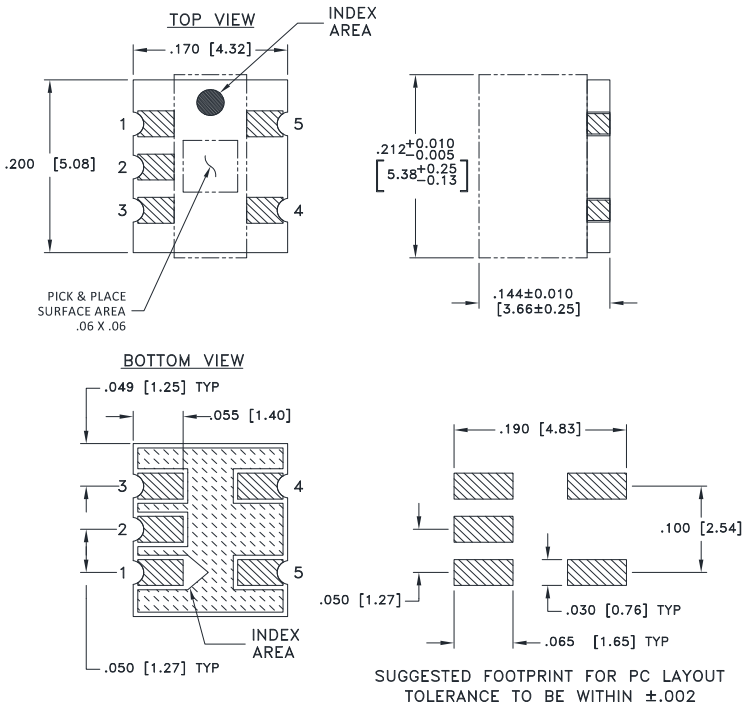
1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. ON EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
3. THIS PAD IS NOT REQUIRED FOR AT224 CASE STYLE.

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

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Figure 2. Suggested PCB Layout PL-244

CASE STYLE DRAWING



Weight: .2 grams

Dimensions are in inches [mm]. Tolerances: 2 Pl.±.01; 3 Pl. ±.005

PRODUCT MARKING*: N/A

*Marking may contain other features or characters for internal lot control.

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ADDITIONAL DETAILED INFORMATION IS AVAILABLE ON OUR DASHBOARD CLICK HERE

Performance Data & Graphs	Data Graphs S-Parameter (S3P Files) Data Set (.zip file) De-embedded to device pads
Case Style	TT3628 Pad Finish: Gold over nickel
RoHS Status	Compliant
Tape and Reel	F017
Suggested Layout for PCB Design	PL-244
Evaluation Board	TB-RTX1-182-75+ Gerber File
Environmental Rating	ENV02T1

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-Circuits' 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