SURFACE MOUNT top hat

RF Transformer

SYTX2-52-5WX+

50Ω 10 to 512 MHz 5 Watt 1:2 Ratio

KEY FEATURES

- High Power Handling, 5 W
- Good Insertion Loss , 1.5 dB Typ.
- Small Size, 0.50 x 0.38 x 0.20"
- Balanced Outputs
- Good Amplitude Unbalance

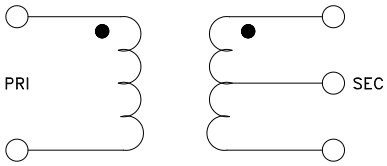


Generic photo used for illustration purposes only

APPLICATIONS

- Military Communications
- Diode Matching

CONFIGURATION A



PRODUCT OVERVIEW

Mini-Circuits' SYTX2-52-5WX+ is a high-power, surface-mount transformer with a secondary/primary impedance ratio of 1:2, covering the 10 to 512 MHz band. With proper heat sinking, the transformer is capable of handling RF input power up to 5W. It provides good insertion loss (1.5 dB) as well as good matching return loss (10 dB). Featuring core and wire construction mounted on PCB, the unit comes enclosed in a miniature, shielded package measuring just 0.50 x 0.38 x 0.20", ideal for dense circuit board layouts.

ELECTRICAL SPECIFICATIONS AT +25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Impedance Ratio			1:2		
Frequency Range		10		512	MHz
Insertion Loss (Avg.)	10 - 512	—	1.5	1.9	dB
Amplitude Unbalance	10 - 512	—	1.7	2.5	dB
Phase Unbalance	10 - 512	—	7	—	Degree
Primary Return Loss (Input)	10 - 50	7	10	—	dB
	50 - 350	16	21	—	
	350 - 512	7	10	—	

ABSOLUTE MAXIMUM RATINGS[1]

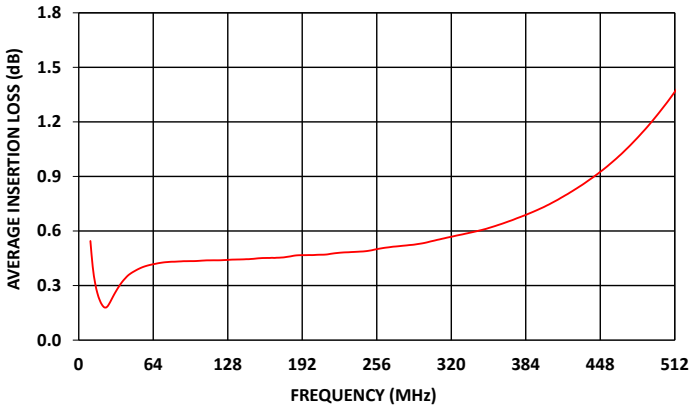
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C
Input Power[2]	5 W

1. Permanent damage may occur if any of these limits are exceeded.
2. Power rating applies only to signals within the passband.

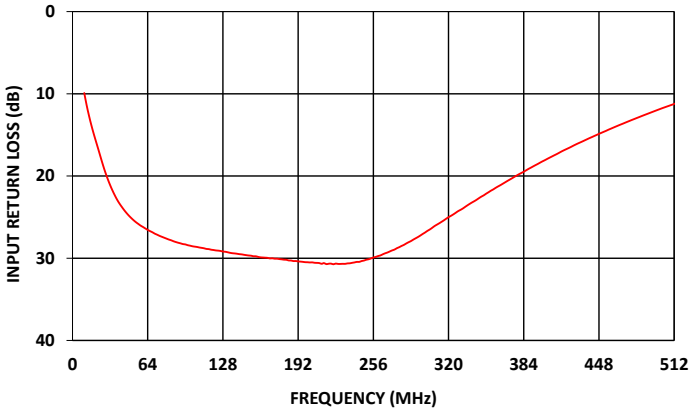
REV. OR
ECO-031318
SYTX2-52-5WX+
EDU5347
MCINU
260923

TYPICAL PERFORMANCE GRAPHS AT +25°C

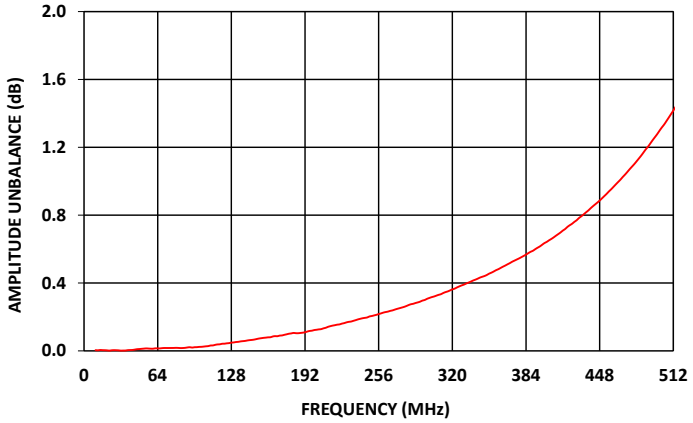
AVERAGE INSERTION LOSS



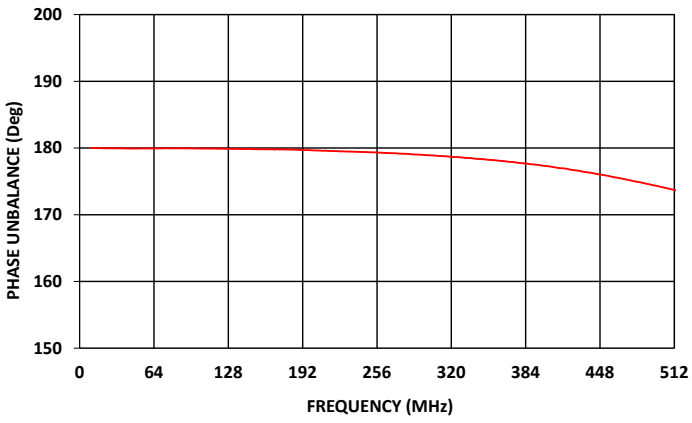
INPUT RETURN LOSS



AMPLITUDE UNBALANCE



PHASE UNBALANCE



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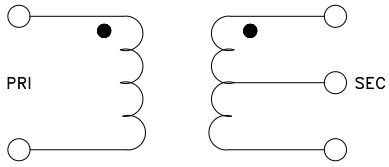
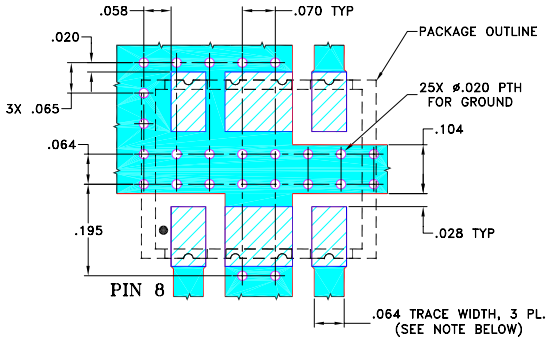


Figure 1. SYTX2-52-5WX+ Configuration

PAD DESCRIPTION

Function	Pad Number	Description
Primary Dot	5	—
Primary	8	Connects to Input
Secondary Dot	4	Connects to Output 2
Secondary	1	Connects to Output 1
GND	2,3,6,7	Connects to Ground on PCB, (See drawing PL-274)

SUGGESTED PCB LAYOUT (PL-274)



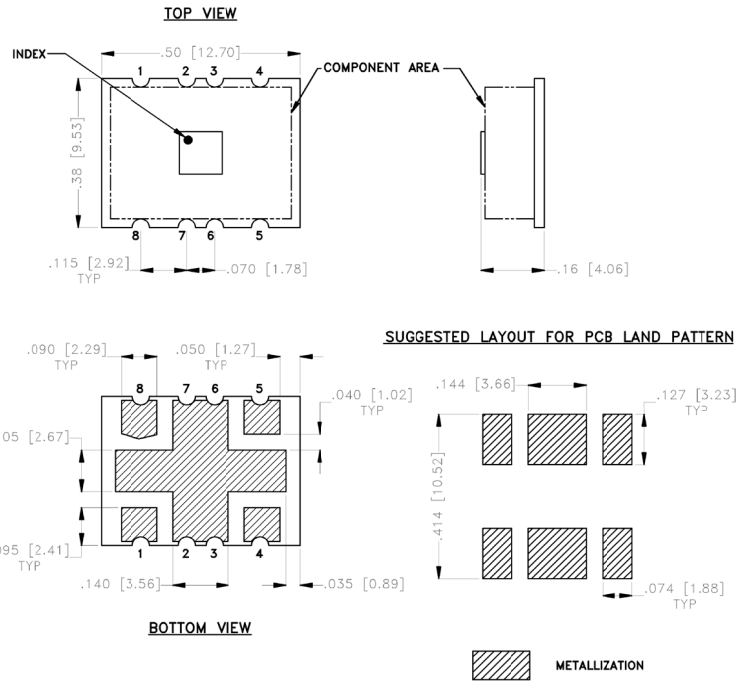
NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

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

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Figure 2. Suggested PCB Layout PL-274

CASE STYLE DRAWING



Weight: .5 grams

Dimensions are in inches [mm]. Tolerances: 2 Pl + .02 [.508]; 3 Pl + .005 [.127]

PRODUCT MARKING*: ZR

*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	AH202-8 Lead Finish: Gold over Nickel Plate
RoHS Status	Compliant
Tape and Reel	F029
Suggested Layout for PCB Design	PL-274
Evaluation Board	TB-SYTX2-525WX+ Gerber File
Environmental Rating	ENV02T4

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