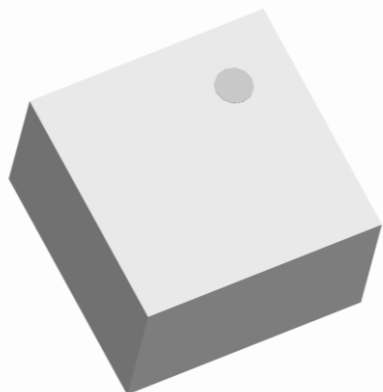


# Xinger®



## Ultra Low Profile 0404 Balun 75Ω to 75Ω Balanced

### Description

The B0922N7575AHF is a low profile, low impedance 1mm square sub-miniature wideband unbalanced to balanced transformer designed for differential inputs and output locations on modern chipsets targeted at a wide variety of markets where 900MHz to 2200MHz band coverage is required all in an easy to use surface mount package. The B0922N7575AHF is ideal for high volume manufacturing and delivers high repeatable performance against traditional baluns. The B0922N7575AHF has an unbalanced port impedance of 75Ω and a 75Ω balanced port impedance. The output ports have equal amplitude (-3dB) with 180 degree phase differential. The B0922N7575AHF is available on tape and reel for pick and place high volume manufacturing.

### Detailed Electrical Specifications: Specifications subject to change without notice.

#### Features:

- 950 – 2150 MHz
- 0.64 mm Height Profile
- 75 Ohm to 2 x 37.5 Ohm
- Low Insertion Loss
- Class Leading CMRR
- Primarily Targeted at DVB-S Applications
- Surface Mountable
- Tape & Reel
- Non-conductive Top Surface
- RoHS Compliant
- Halogen Free

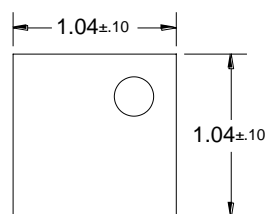
Parameter	ROOM (25°C)			Unit
	Min.	Typ.	Max	
Frequency	950		2150	MHz
Unbalanced Port Impedance		75		Ω
Balanced Port Impedance		75		Ω
Return Loss	13.2	17.2		dB
Insertion Loss*		0.55	0.76	dB
Amplitude Balance**		1.81	2.1	dB
Phase Balance**		18.39	20.95	Degrees
CMRR**	12.6	14.3		dB
Power Handling			0.75	Watts
Operating Temperature	-55		+85	°C

\* Insertion Loss stated at room temperature (Insertion Loss is approximately 0.1 dB higher at +85 °C)

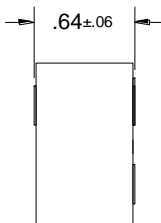
\*\* Performance can be improved using an outside inductor shown in page 3

### Outline Drawing

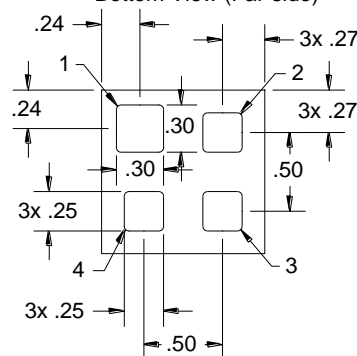
Top View (Near-side)



Side View



Bottom View (Far-side)



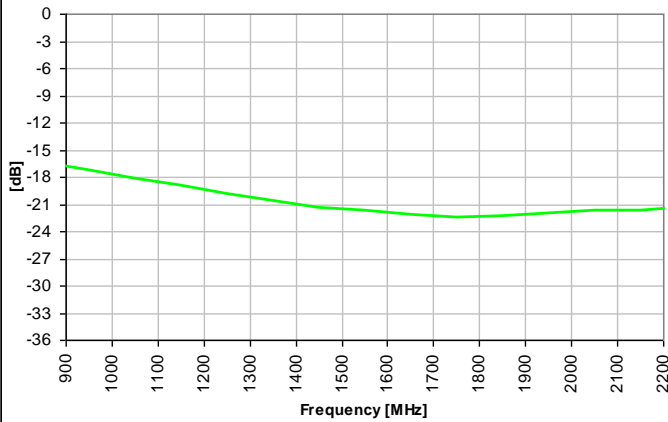
Dimensions are in Millimeters  
Mechanical Outline

Pin	Designation
1	GND
2	Unbalanced Port
3	Balanced Port
4	Balanced Port

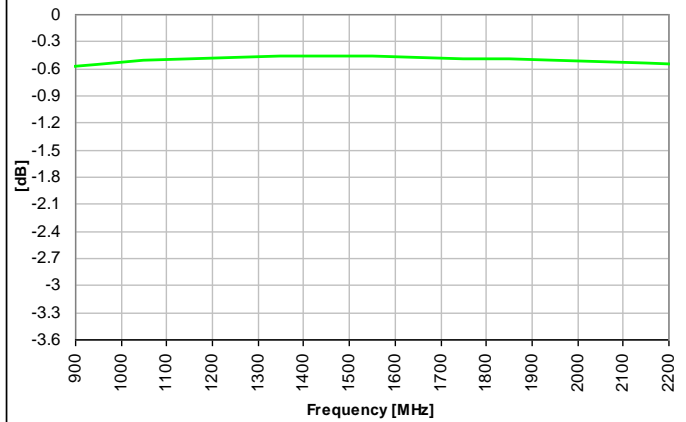
Tolerances are Non-Cumulative

## Typical Performance: 900 MHz. to 2200 MHz.

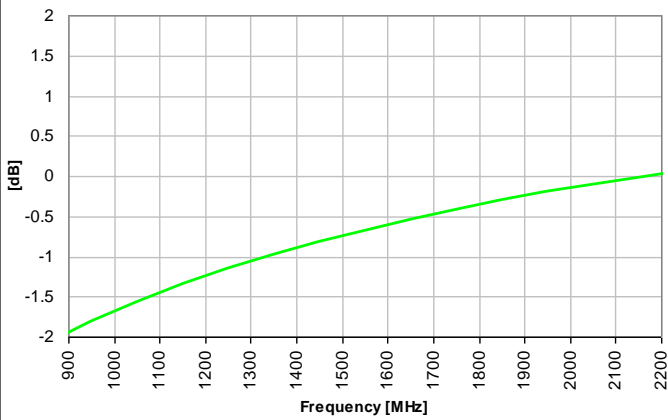
Return Loss - Input



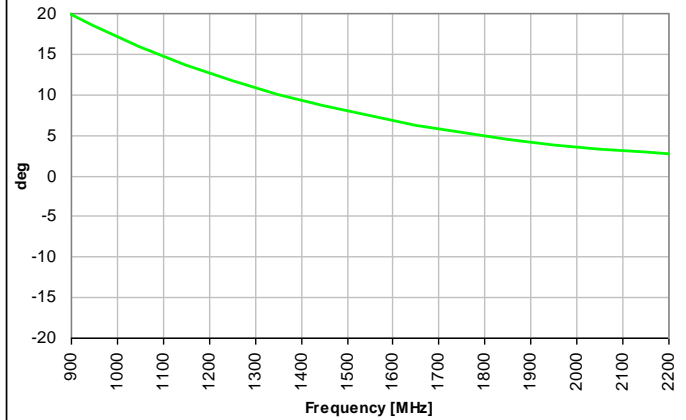
Insertion Loss



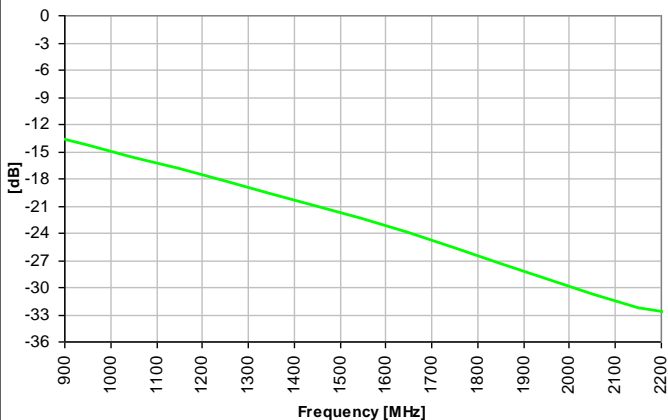
Amplitude Balance



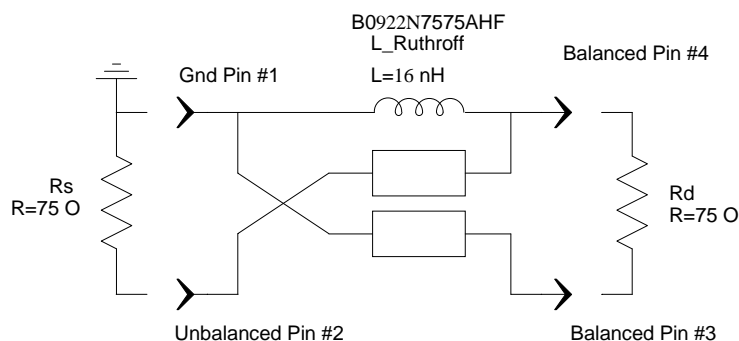
Phase Balance



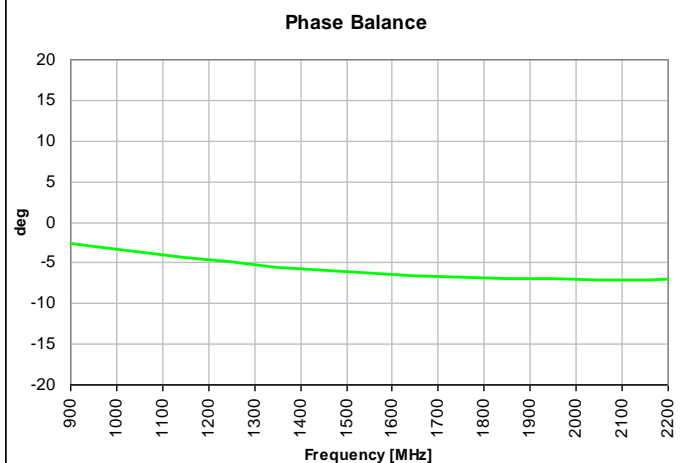
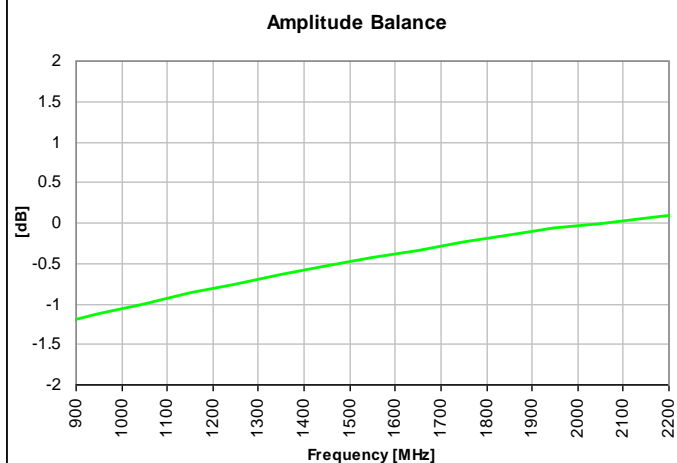
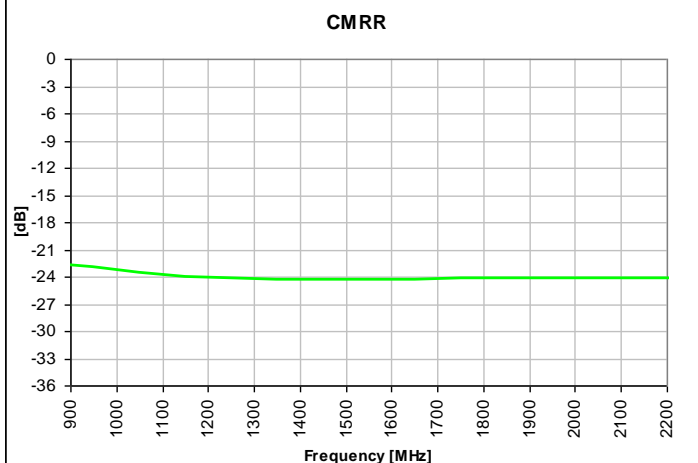
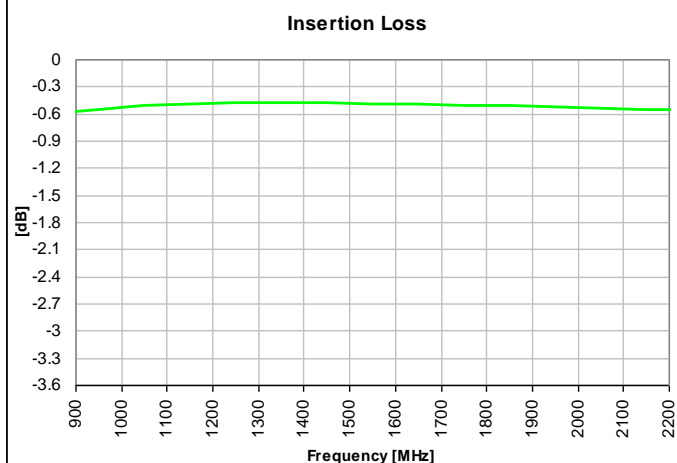
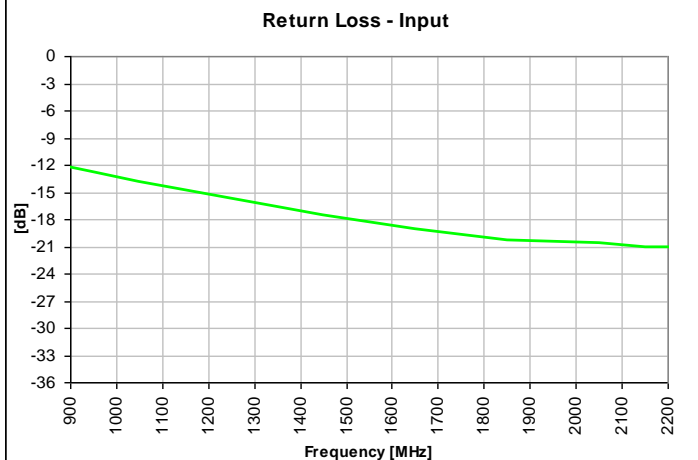
CMRR



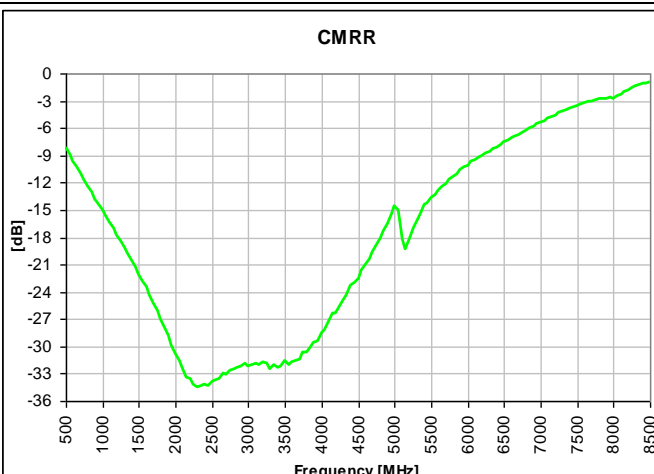
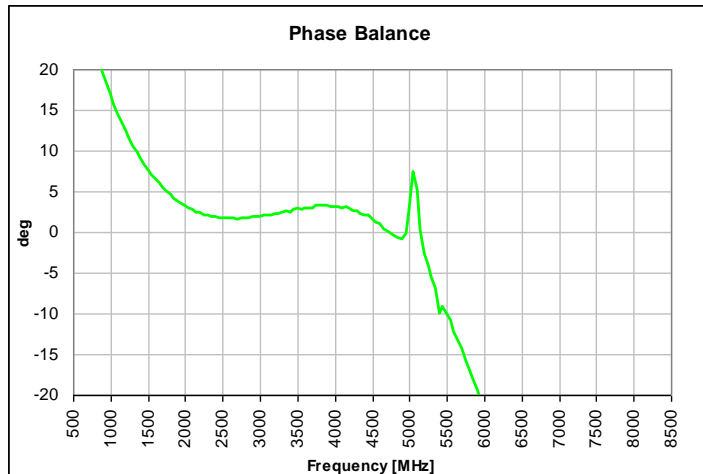
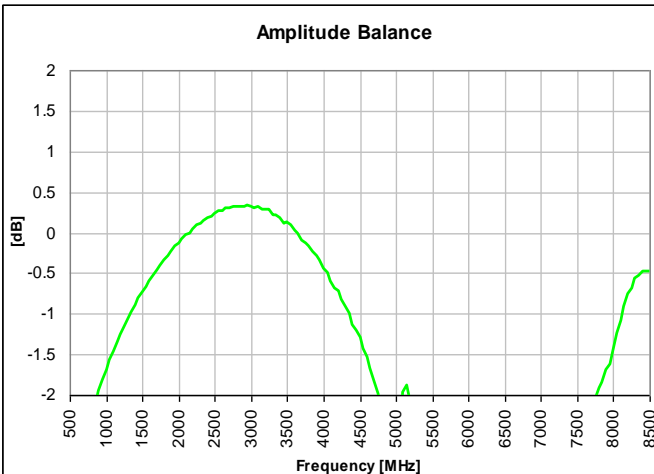
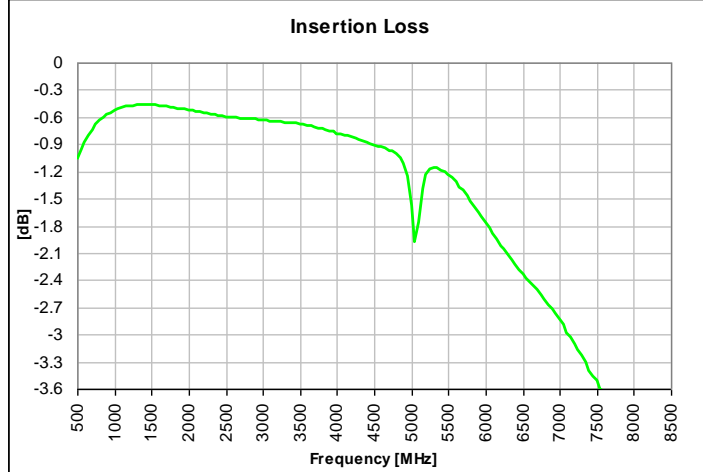
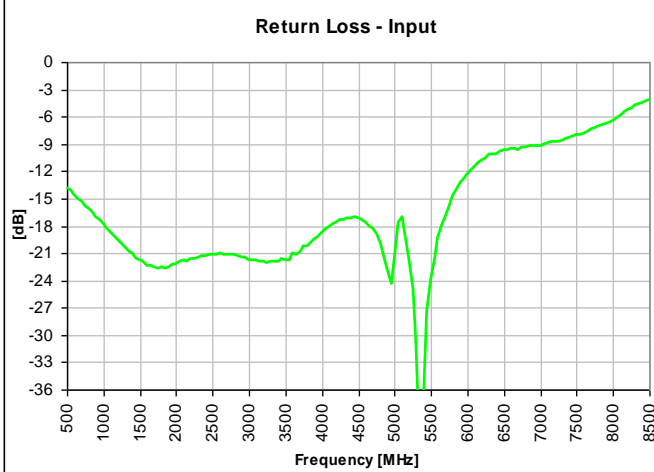
### Typical Performance (Ruthroff configuration using an external 16 nH Inductor)



Ruthroff implementation with an external 16nH inductor.



## Wide Band Performance: 500 MHz. to 8500 MHz.

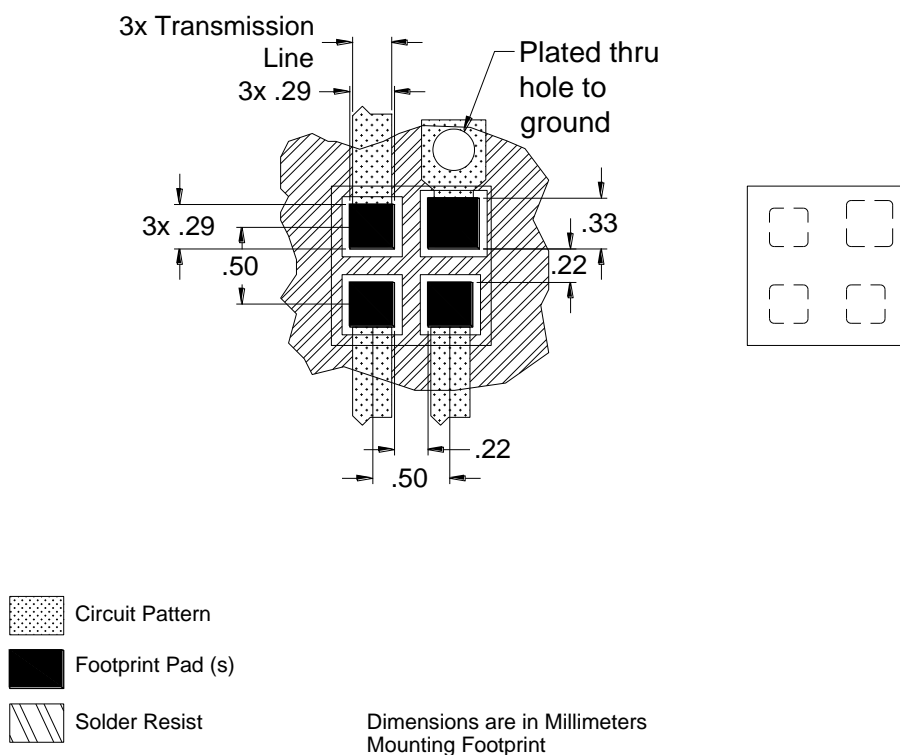


### Mounting Configuration:

In order for Xinger surface mount components to work optimally, the proper impedance transmission lines must be used to connect to the RF ports. If this condition is not satisfied, insertion loss, Isolation and VSWR may not meet published specifications.

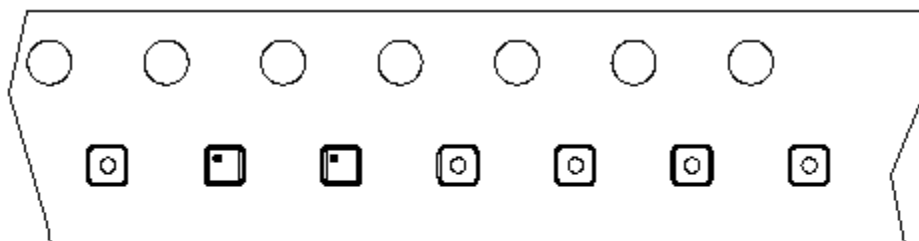
All of the Xinger components are constructed from organic PTFE based composites which possess excellent electrical and mechanical stability. Xinger components are compliant to a variety of ROHS and Green standards and ready for Pb-free soldering processes. Pads are Gold plated with a Nickel barrier.

An example of the PCB footprint used in the testing of these parts is shown below. An example of a DC-biased footprint is also shown below. In specific designs, the transmission line widths need to be adjusted to the unique dielectric coefficients and thicknesses as well as varying pick and place equipment tolerances.



## Packaging and Ordering Information

Parts are available in reel and are packaged per EIA 481-D. Parts are oriented in tape and reel as shown below. Minimum order quantities are 4000 per reel.



Direction of  
Part Feed  
(Unloading)

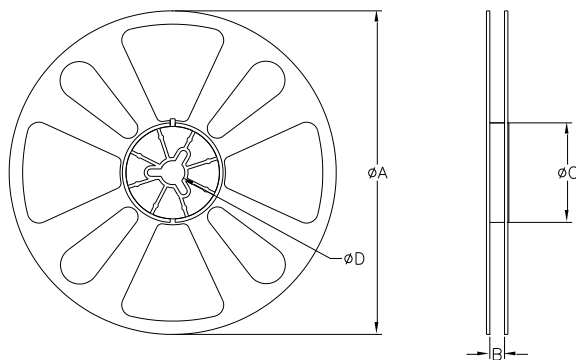
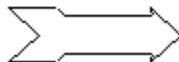


TABLE 1			
QUANTITY/REEL	REEL DIMENSIONS mm		
4000	$\phi A$		177.80
	B		8.00
	$\phi C$		50.80
	$\phi D$		13.00

# Mouser Electronics

Authorized Distributor

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Anaren:

B0922N7575AHF