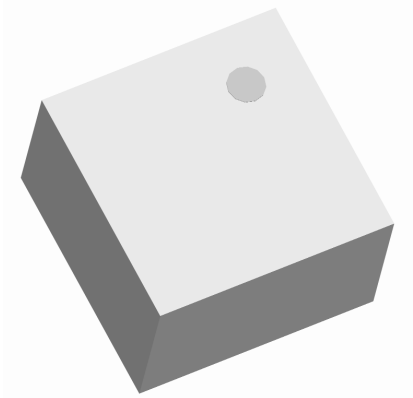
Xinger®

Ultra Low Profile 0404 Balun
50Ω to 100Ω Balanced



Description

The BD3150N50100AHF is a low cost, low profile sub-miniature unbalanced to balanced transformer designed for differential inputs and output locations on modern chipsets in an easy to use surface mount package covering the MMDS and the low end of the UWB frequency range. The BD3150N50100AHF is ideal for high volume manufacturing and delivers higher performance than traditional ceramic baluns. The BD3150N50100AHF has an unbalanced port impedance of 50Ω and a 100Ω balanced port impedance. This transformation enables single ended signals to be applied to differential ports on modern integrated chipsets. The output ports have equal amplitude (-3dB) with 180 degree phase differential. The BD3150N50100AHF is available on tape and reel for pick and place high volume manufacturing.

Features:

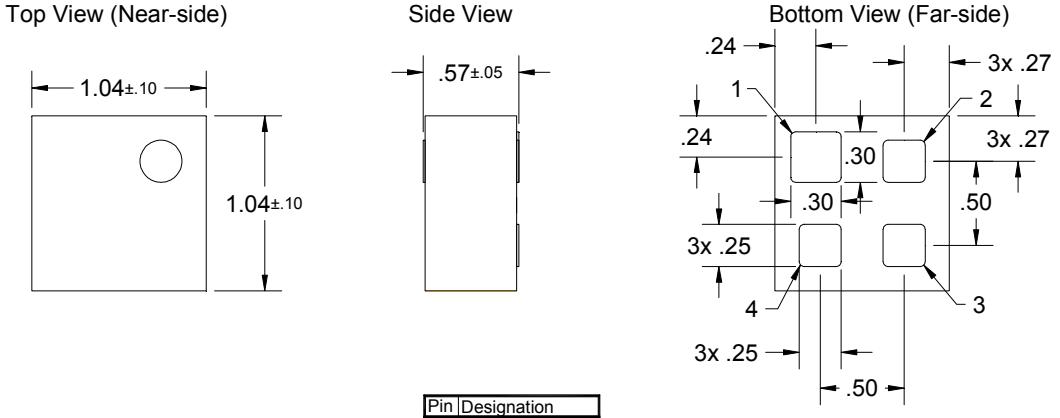
- **3100 – 5000 MHz**
- **0.57mm Height Profile**
- **50 Ohm to 2 x 50 Ohm**
- **Low Insertion Loss**
- **UWB & MMDS**
- **Surface Mountable**
- **Tape & Reel**
- **Non-conductive Surface**
- **RoHS Compliant**
- **Halogen Free**

Detailed Electrical Specifications: Specifications subject to change without notice.

	ROOM (25°C)			
Parameter	**Min.**	**Typ.**	**Max**	**Unit**
Frequency	3100		5000	MHz
Unbalanced Port Impedance		50		Ω
Balanced Port Impedance		100		Ω
Return Loss	16	21		dB
Insertion Loss*		0.6	0.7	dB
Amplitude Balance		0.8	1.3	dB
Phase Balance		3	7	Degrees
CMRR		26		dB
Power Handling			1	Watts
Operating Temperature	-55		+85	ºC

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

Outline Drawing

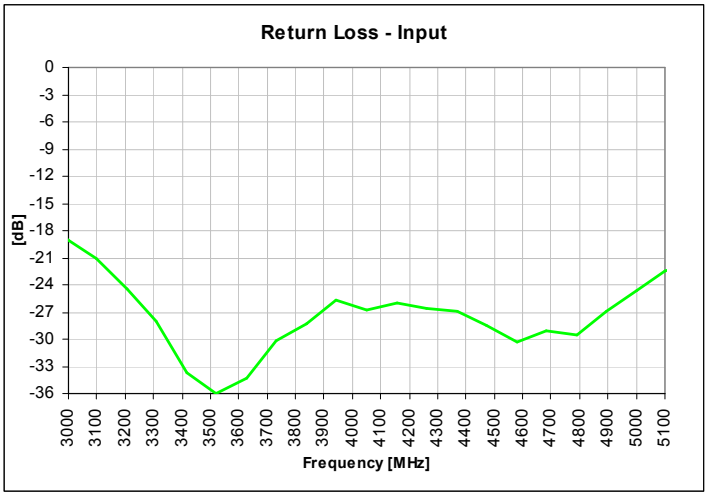


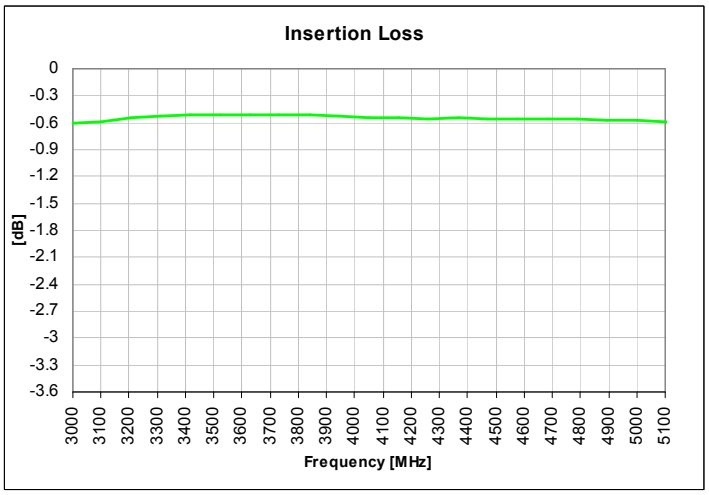
Pin	Designation
1	GND / DC Feed + RF GND
2	Unbalanced Port
3	Balanced Port
4	Balanced Port

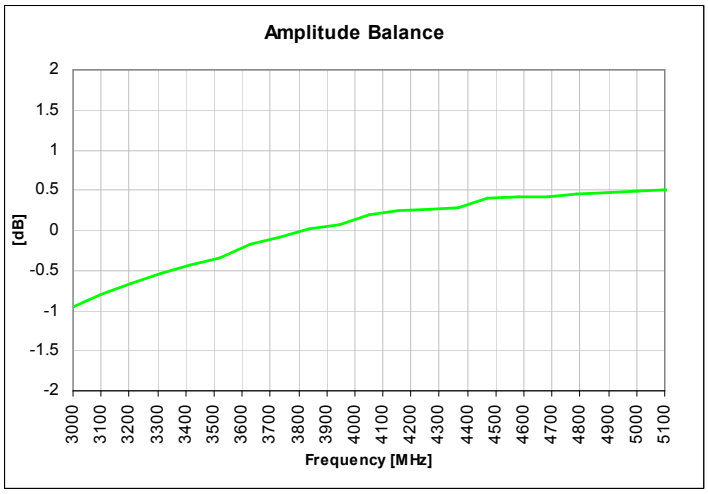
Dimensions are in Millimeters
Mechanical Outline

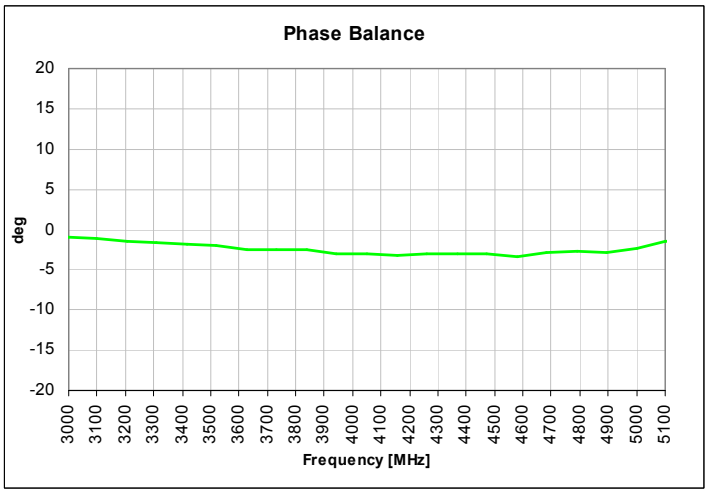
Tolerances are Non-Cumulative

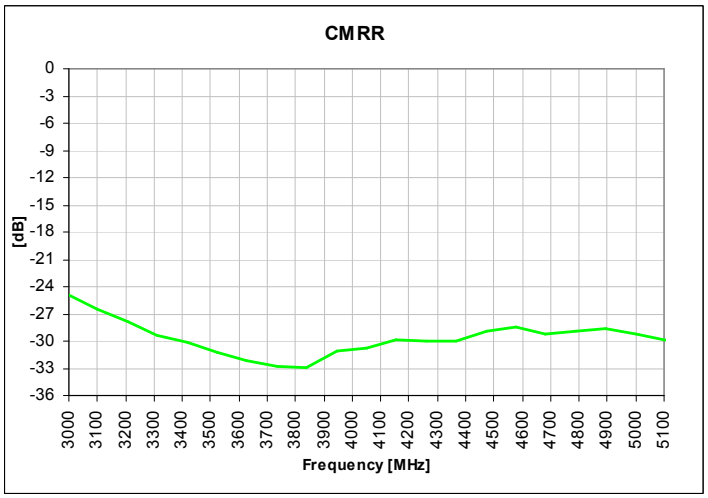
Typical Performance:3000 MHz. to 5100 MHz.



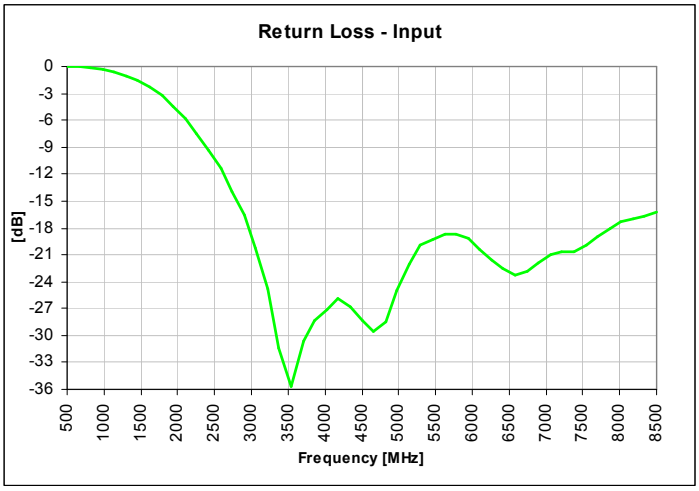


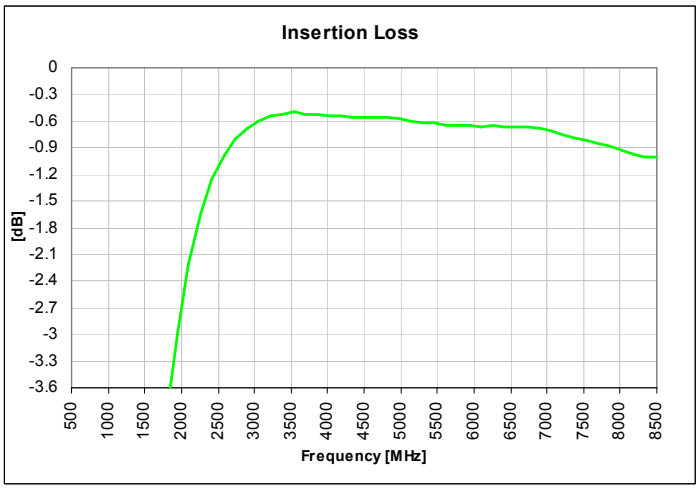


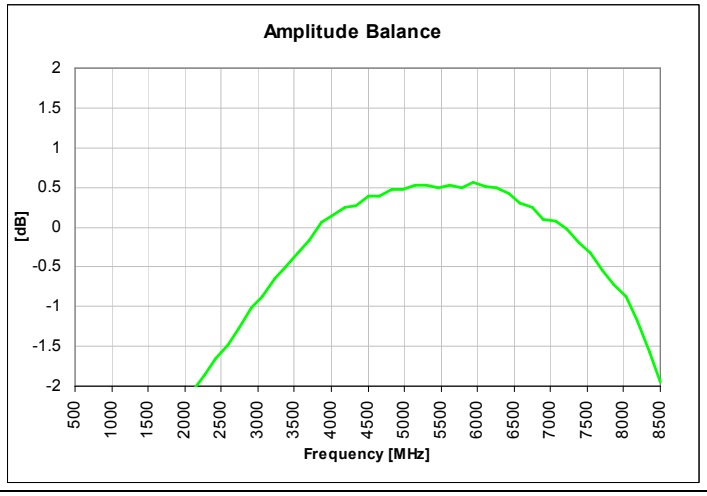


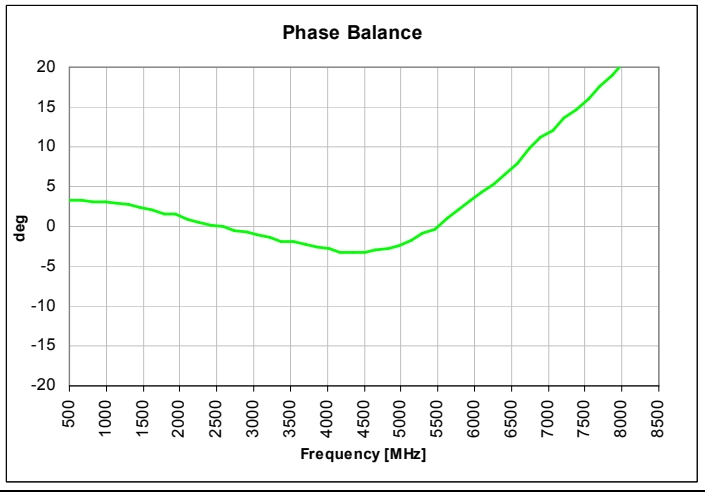


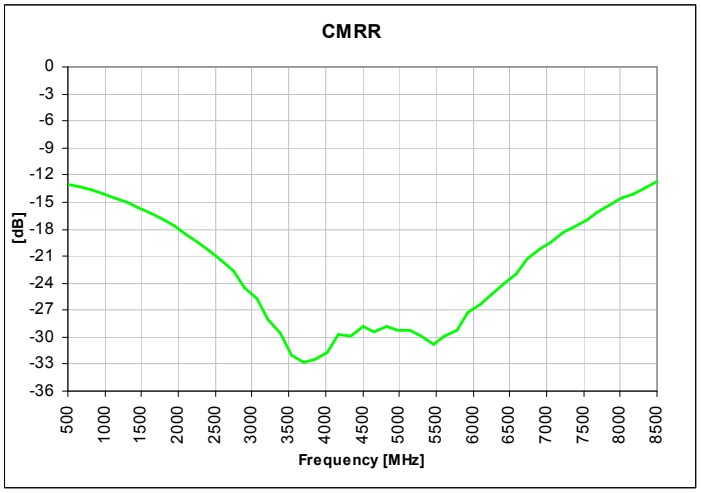
Wide Band Performance: 500 MHz. to 8500 MHz.









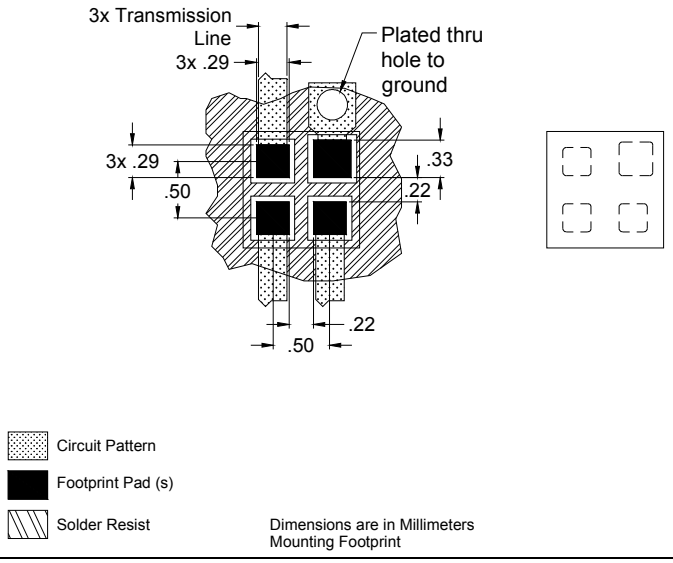
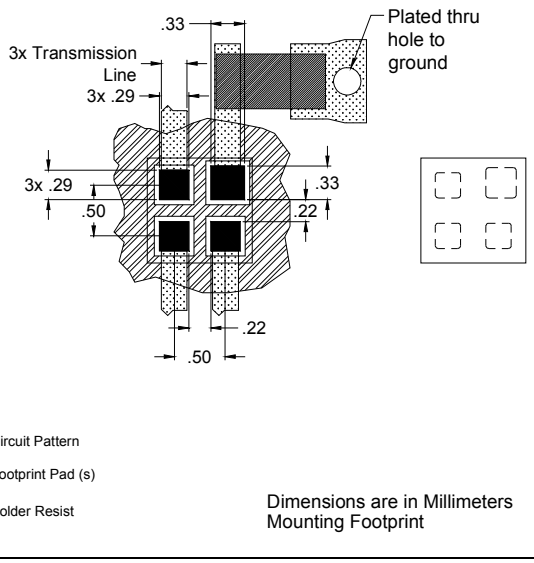


Mounting Configuration:

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.

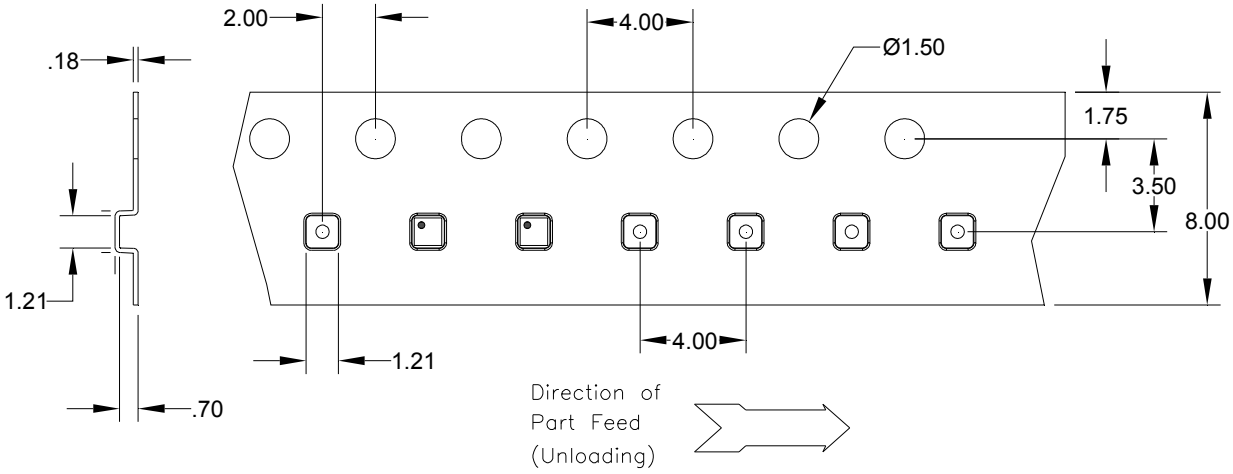
All of the Xinger components are constructed from organic PTFE based composites which possess excellent electrical and mechanical stability. Xinger components are compliant to a variety of ROHS and Green standards and ready for Pb-free soldering processes. Pads are Gold plated with a Nickel barrier.

An example of the PCB footprint used in the testing of these parts is shown below. 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.

With No DC Bias	With DC Bias
	

Packaging and Ordering Information

Parts are available in reel and are packaged per EIA 481-2. Parts are oriented in tape and reel as shown below. Minimum order quantities are 4000 per reel. See Model Numbers below for further ordering information.



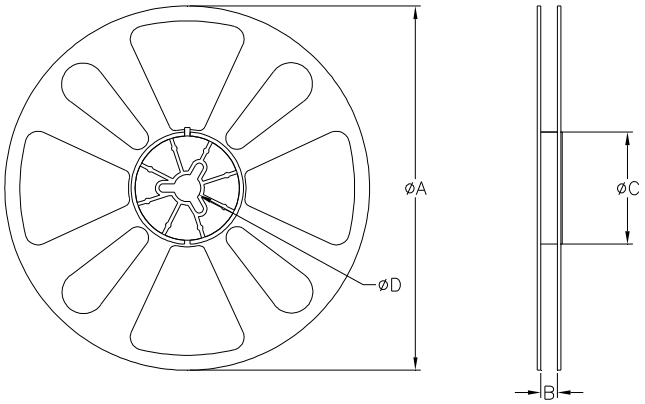


TABLE 1		
QUANTITY/REEL	REEL DIMENSIONS mm	
4000	øA	177.80
	B	8.00
	øC	50.80
	øD	13.00

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