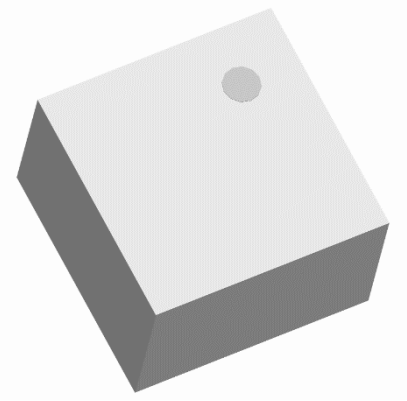
Xinger®

Nano Profile 0404 Balun
50Ω to 75Ω Balanced



Description:

The BD2425P5075AHF is a low cost, nano 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. The BD2425P5075AHF has been developed for placement inside highly integrated, over moldable packaging solutions where overall module height is of greatest concern. Ideal for high volume manufacturing and delivers higher performance than traditional ceramic baluns in a sub 0.5mm height profile. The BD2425P5075AHF has an unbalanced port impedance of 50 Ω and a 75 Ω 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 BD2425P5075AHF is available on tape and reel for pick and place high volume manufacturing.

Detailed Electrical Specifications:

Specifications subject to change without notice.

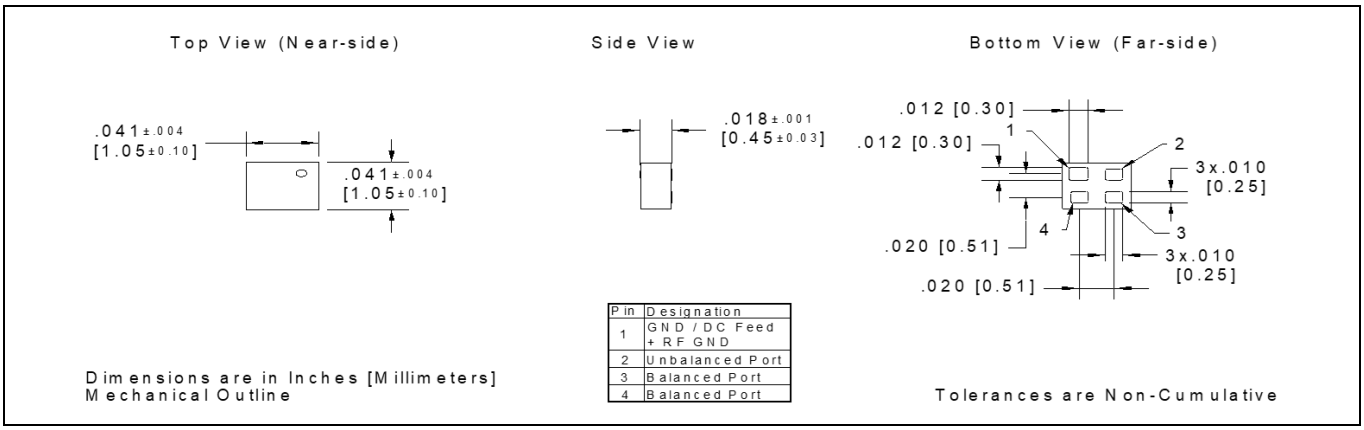
Features:

- **2400 – 2500 MHz**
- **0.45mm Height Profile**
- **50 Ohm to 2 x 37.5 Ohm**
- **Low Insertion Loss**
- **802.11 b+g**
- **MIMO b+g**
- **Bluetooth**
- **Zigbee**
- **Proprietary Ultra Low Power Radio**
- **Surface Mountable**
- **Tape & Reel**
- **RoHS Compliant**
- **Halogen Free**

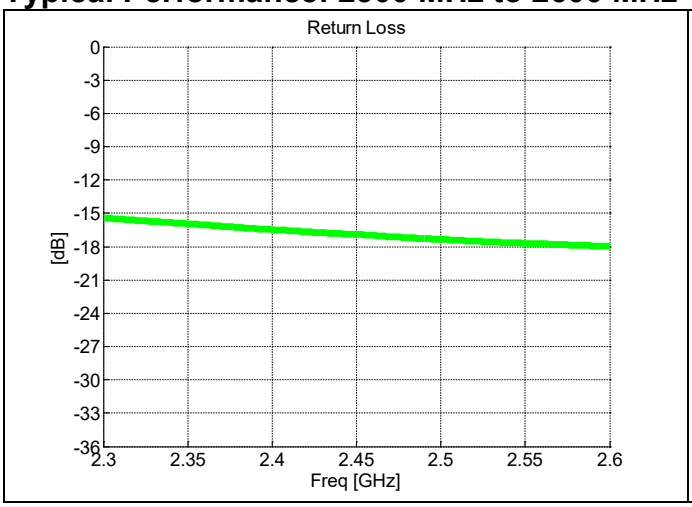
Parameter	ROOM (25°C) Min.	Typ.	Max	Unit
Frequency	2400		2500	MHz
Unbalanced Port Impedance		50		Ω
Balanced Port Impedance		75		Ω
Return Loss	11	15.5		dB
Insertion Loss*		0.80	1.15	dB
Amplitude Balance		0.91	1.56	dB
Phase Balance		4.34	7.07	Degrees
CMRR		24		dB
Power Handling			1	Watts
Operating Temperature	-55		+85	ºC

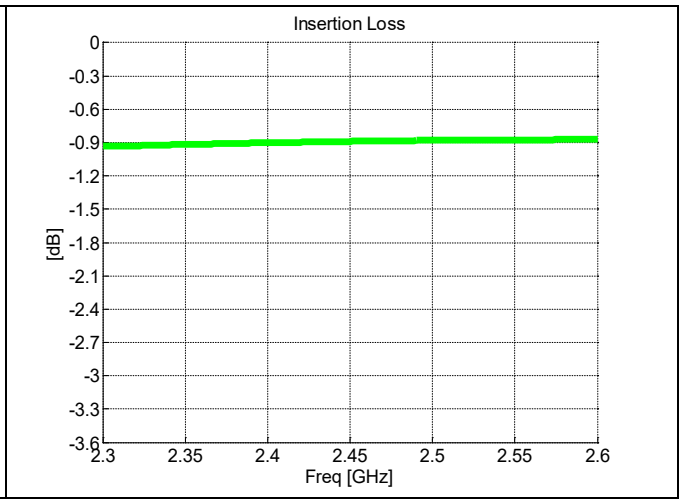
* Insertion Loss stated at room temperature (Insertion Loss is approximately 0.1 dB higher at +85 ºC)

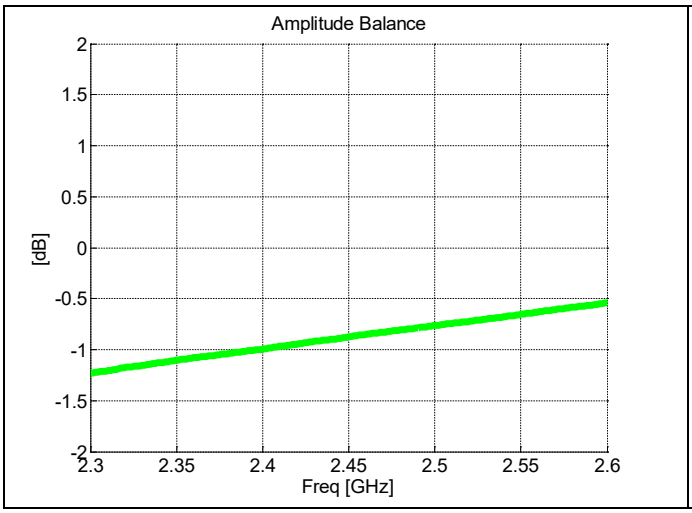
Outline Drawing:

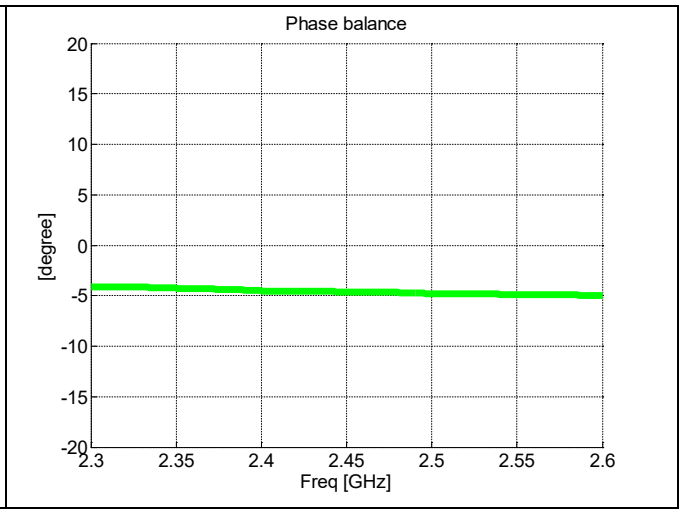


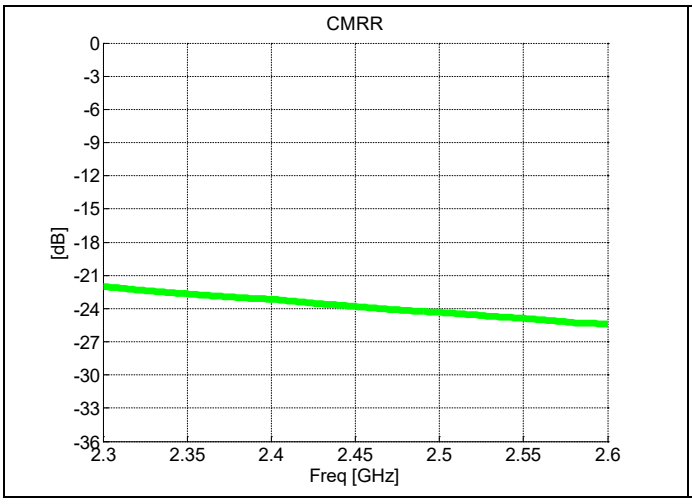
Typical Performance: 2300 MHz to 2600 MHz



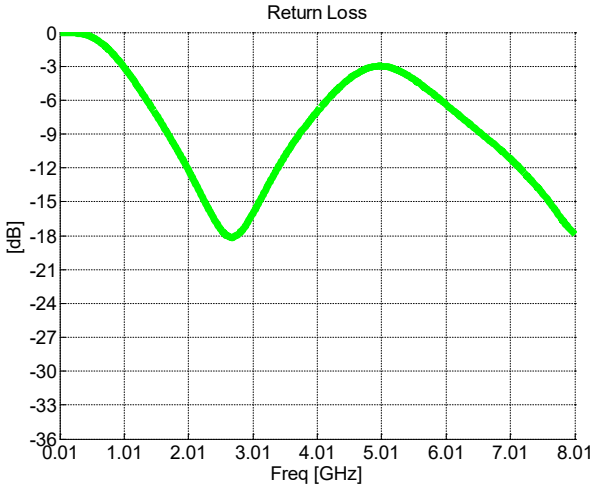


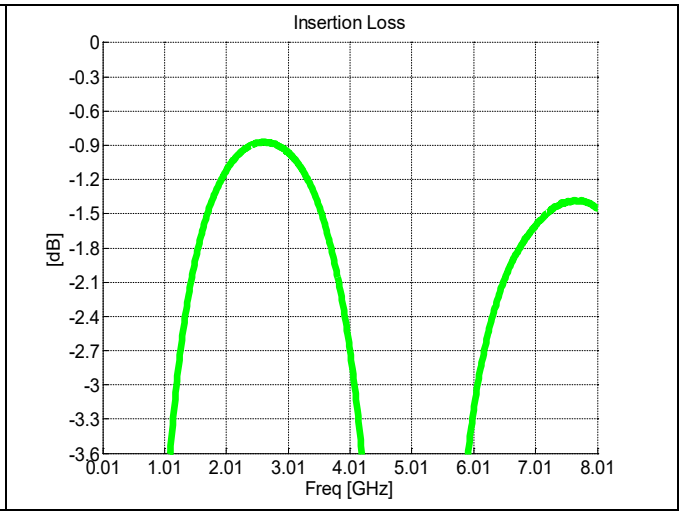


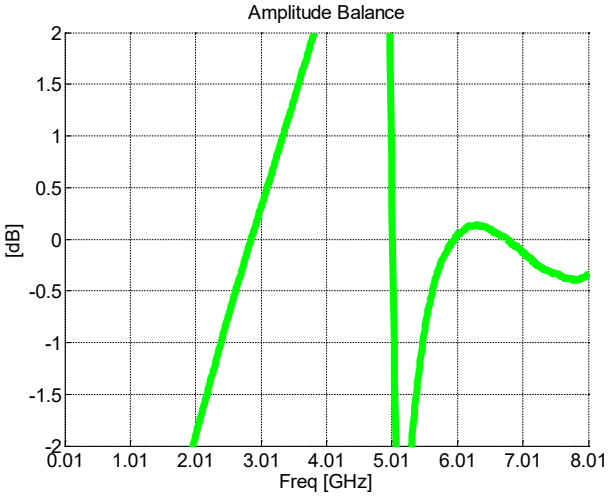


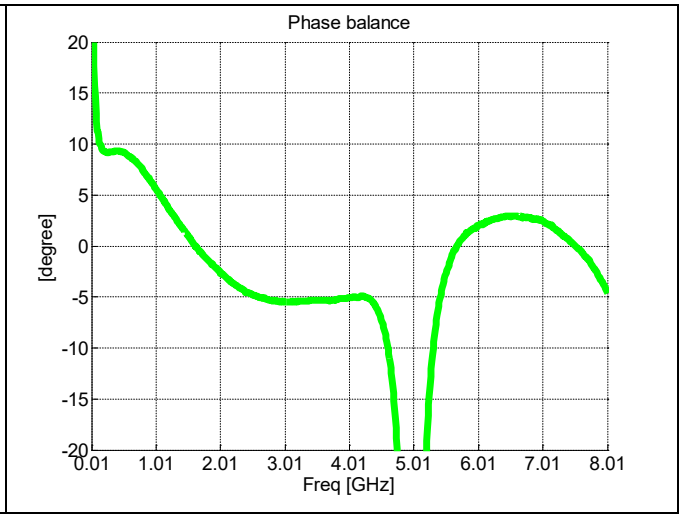


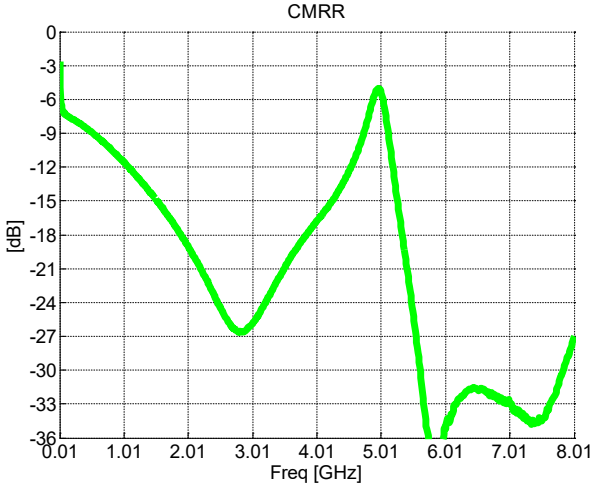
Wide Band Performance: 10 MHz to 8010 MHz









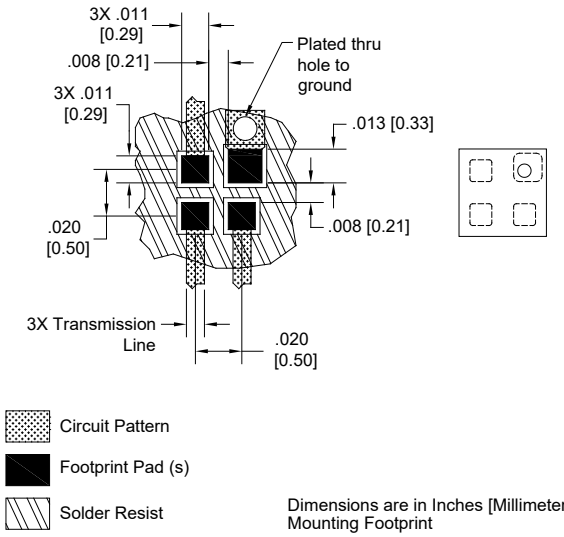
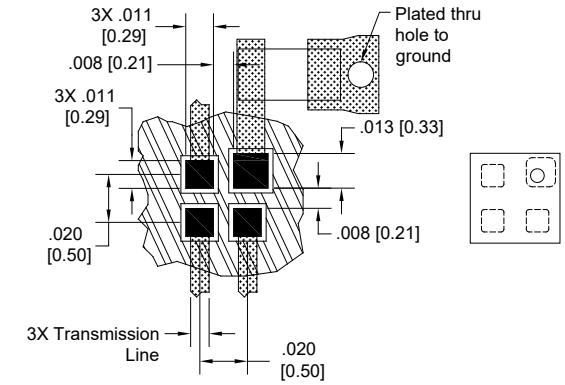


Mounting Configuration:

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 ceramic filled PTFE composites which possess excellent electrical and mechanical stability.

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.

With No DC Bias	With DC Bias
 Dimensions are in Inches [Millimeters] Mounting Footprint	 Dimensions are in Inches [Millimeters] Mounting Footprint

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. See Model Numbers below for further ordering information.

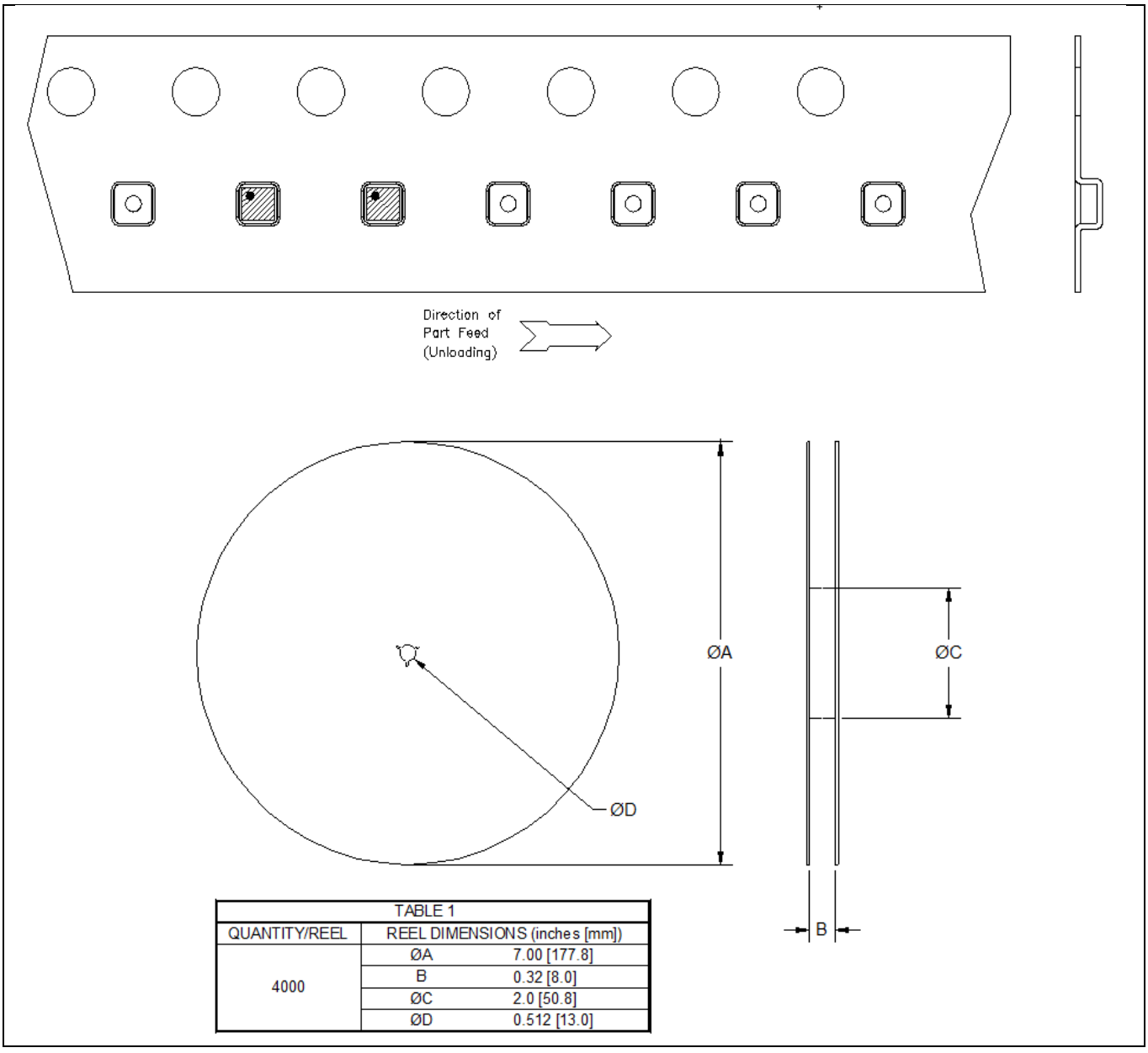


TABLE 1		
QUANTITY/REEL	REEL DIMENSIONS (inches [mm])	
4000	ØA	7.00 [177.8]
	B	0.32 [8.0]
	ØC	2.0 [50.8]
	ØD	0.512 [13.0]

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