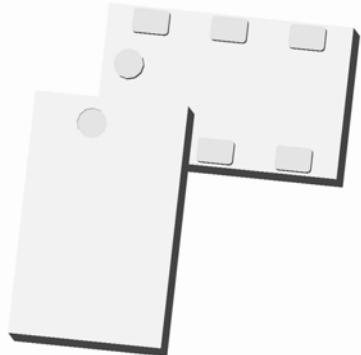


# Xinger®



## Ultra Low Profile 0805 Balun 50Ω to 100Ω Balanced

### Description

The BD1631J50100A00 is a low profile sub-miniature balanced to unbalanced transformer designed for differential inputs and output locations on next generation wireless chipsets in an easy to use surface mount package covering 802.11b+g+n, GSM, DCS, PCS and UMTS. The BD1631J50100A00 is ideal for high volume manufacturing and is higher performance than traditional ceramic and lumped element baluns. The BD1631J50100A00 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 semiconductors. The output ports have equal amplitude (-3dB) with 180 degree phase differential. The BD1631J50100A00 is available on tape and reel for pick and place high volume manufacturing.

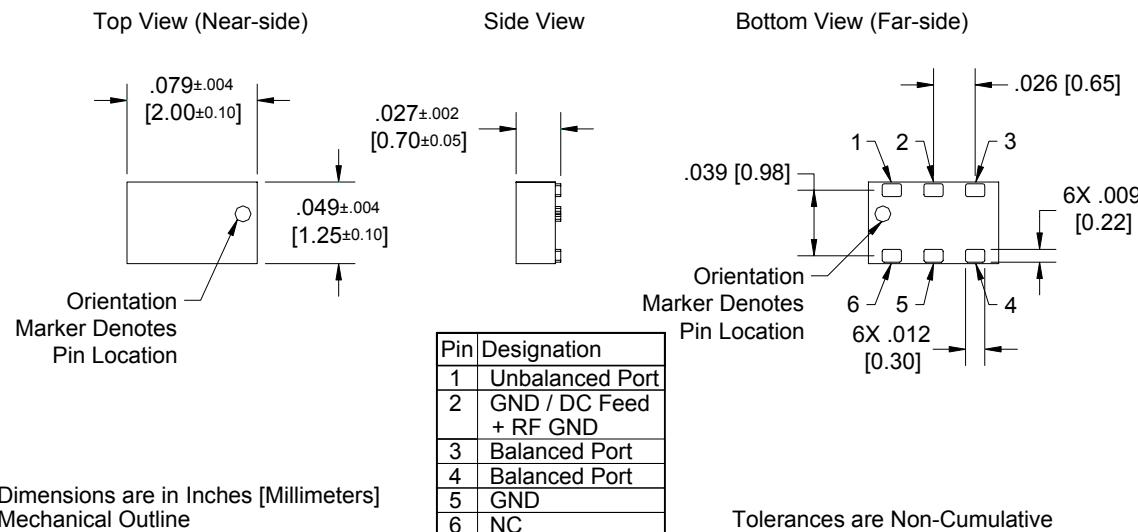
### Detailed Electrical Specifications\*:

Specifications subject to change without notice.

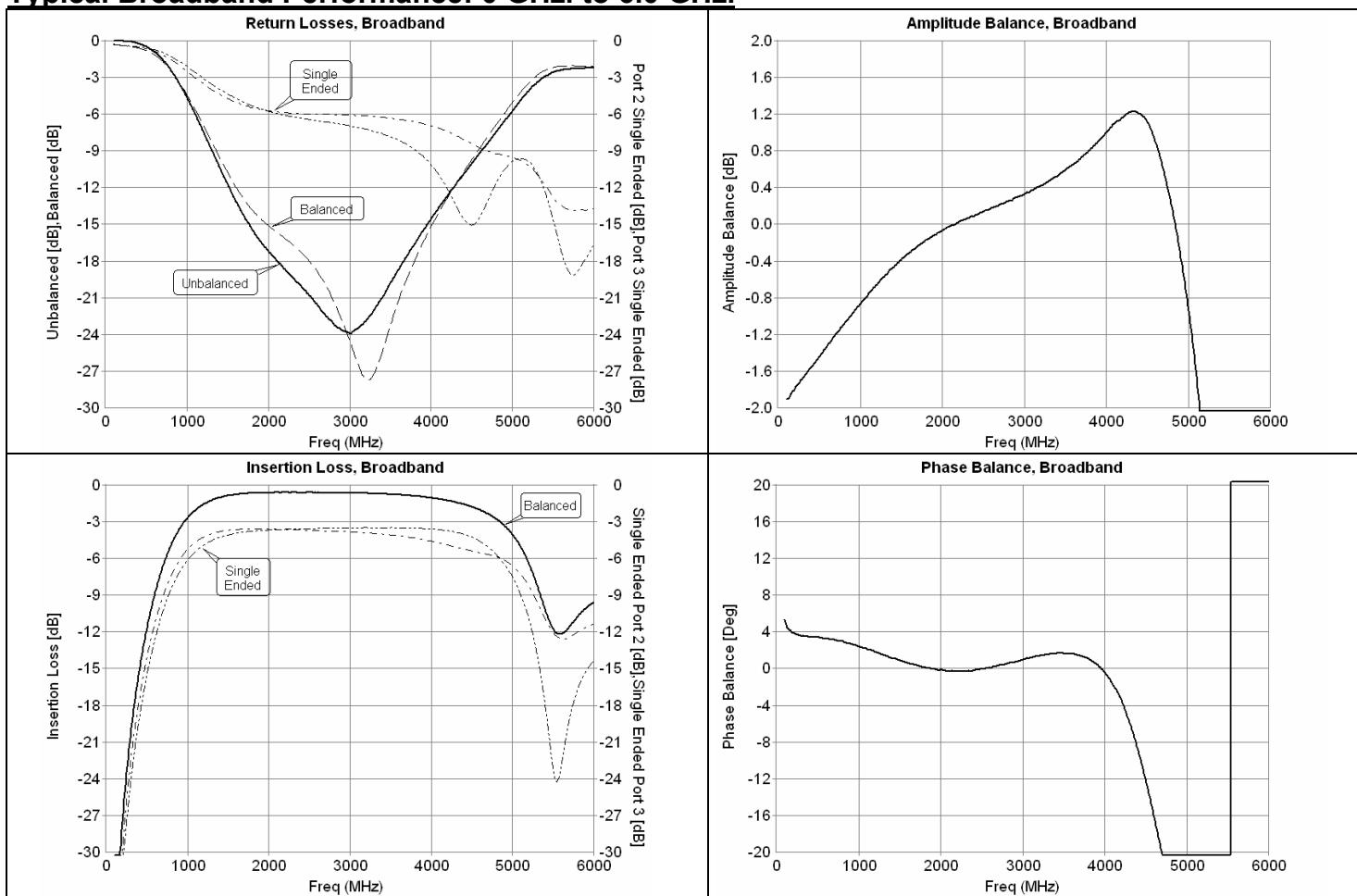
Features:	Parameter	ROOM (25°C)					
		Min.	Typ.	Max	Min.	Typ.	Max
• 1.6 – 3.1 GHz	Frequency	2.0		2.5	1.6		3.1
• 0.7mm Height Profile	Unbalanced Port Imp.		50		50		Ω
• 50 Ohm to 2 x 50 Ohm	Balanced Port Imp.**		100		100		Ω
• 802.11 b & g +n Compliant	Return Loss	12	17.5		10	13	
• Low Insertion Loss	Insertion Loss***		0.6	0.75		0.75	1.0
• DCS, PCS & UMTS Compliant	Amplitude Balance		0.35	0.65		0.7	1.0
• Input to Output DC Isolation	Phase Balance		±2	±5		±2	±5
• Surface Mountable	Power Handling			2			2
• Tape & Reel	Operating Temperature	-55		+85	-55		+85
• Non-conductive Surface							°C
• RoHS Compliant							

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

### Outline Drawing



## Typical Broadband Performance: 0 GHz. to 6.0 GHz.



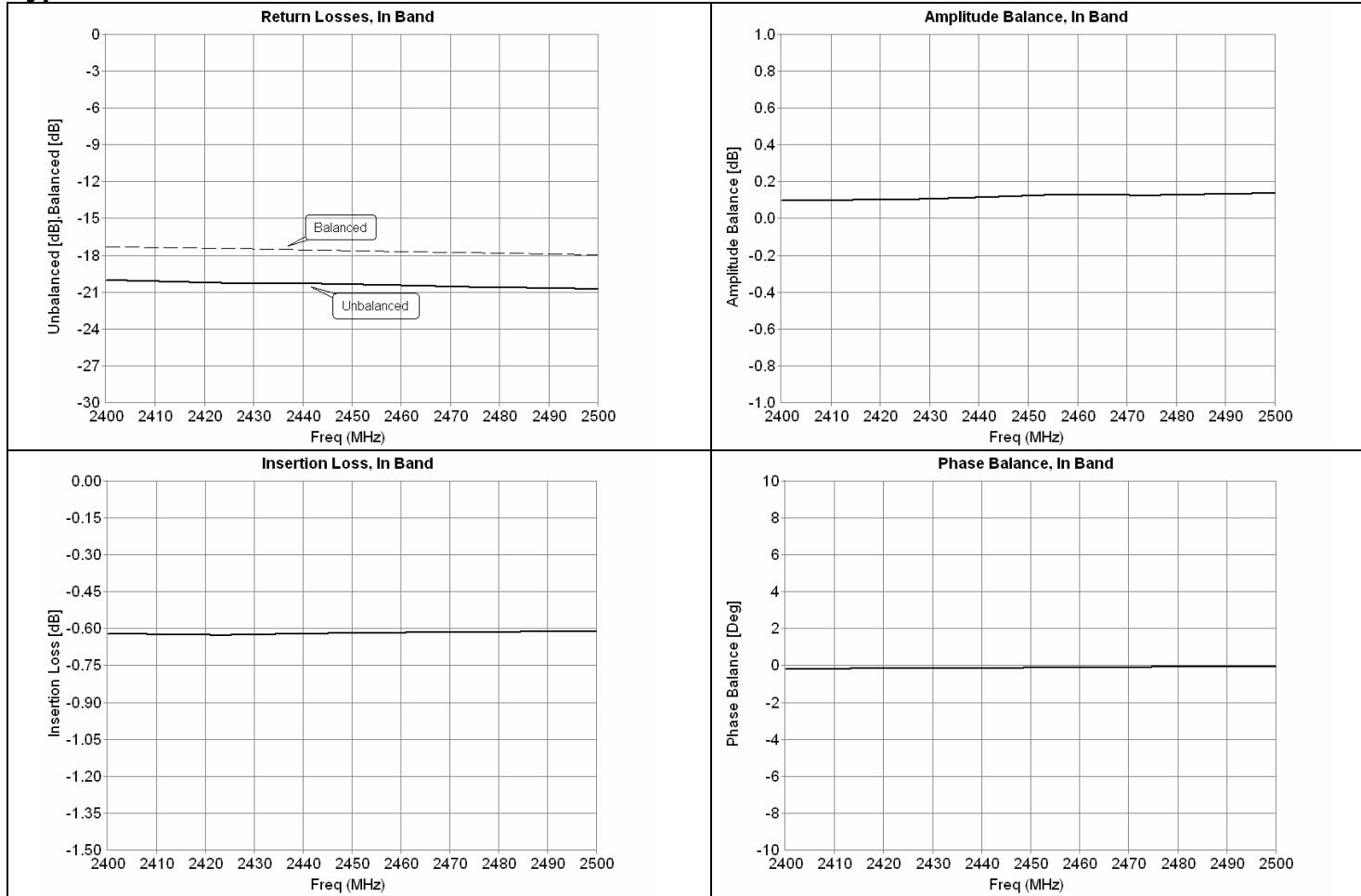
USA/Canada: (315) 432-8909  
 Toll Free: (800) 411-6596  
 Europe: +44 2392-232392

Available on Tape and  
 Reel for Pick and Place  
 Manufacturing.



**Anaren**  
 What'll we think of next?™

### Typical Performance: 2.4 GHz. to 2.5 GHz.

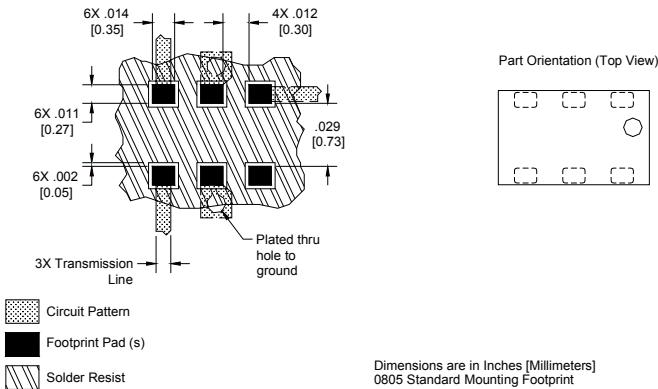
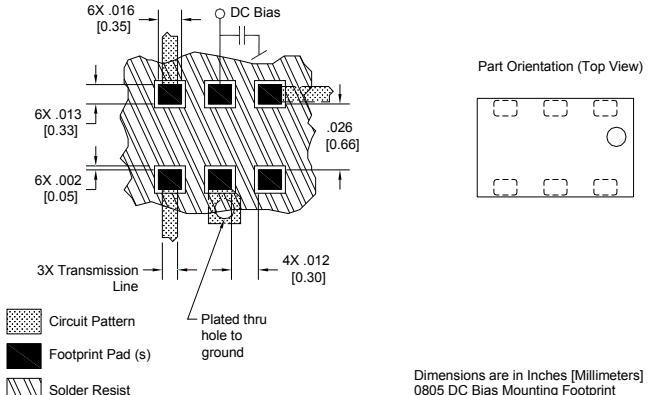


**Mounting Configuration:**

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.

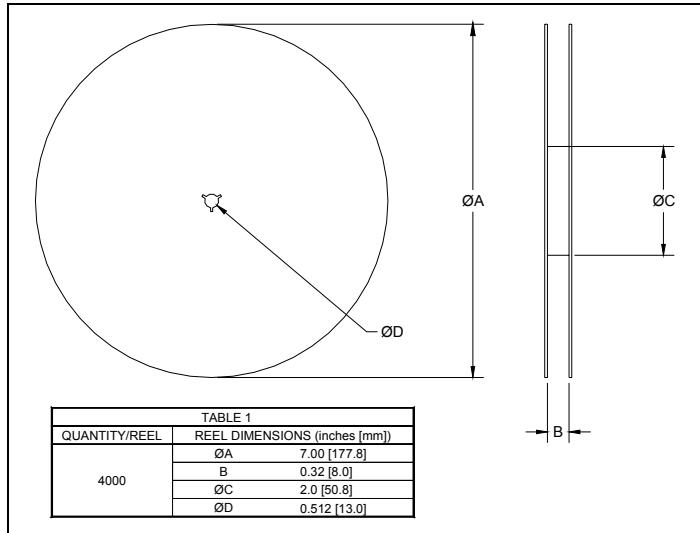
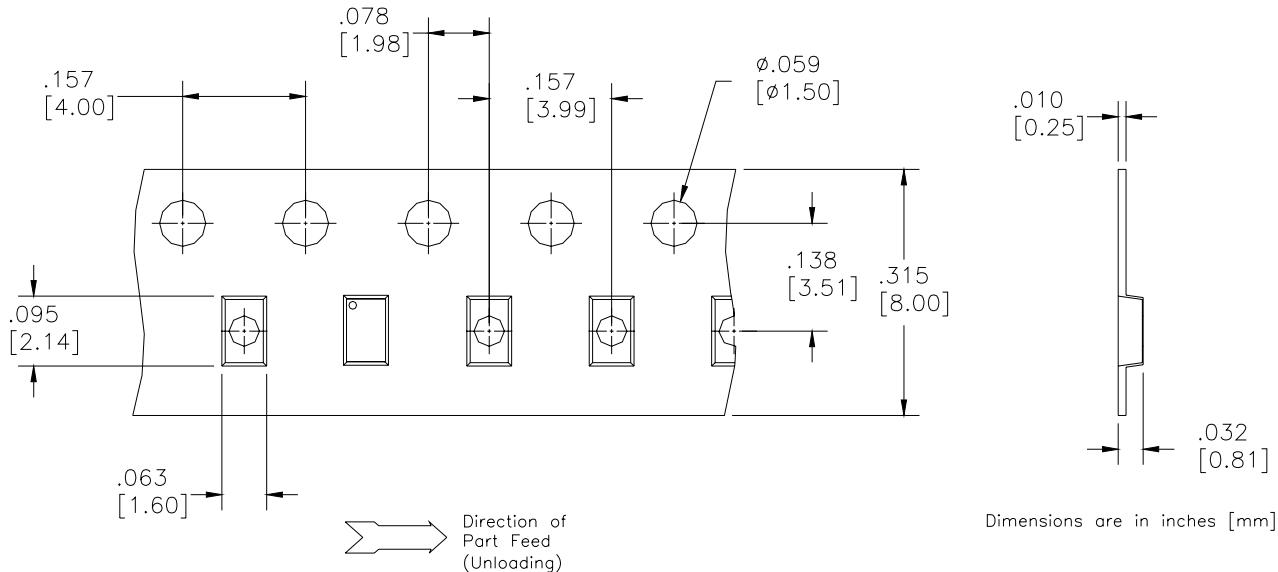
All of the Xinger components are constructed from ceramic filled PTFE composites which possess excellent electrical and mechanical stability having X and Y thermal coefficient of expansion (CTE) of 17 ppm/ $^{\circ}$ C.

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.

**No Bias Footprint****DC Bias Footprint**

## **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.



Available on Tape  
and Reel for Pick and  
Place Manufacturing.

USA/Canada: (315) 432-8909  
Toll Free: (800) 411-6596  
Europe: +44 2392-232392

## BD 2425 J 50 100 A 00

Function	Frequency	Package Dimensions	Unbalanced Impedance	Balanced Impedance + Coupling	Plating Finish	Codes
B = Balun	0110 = 100 – 1000 MHz	A = 150 x 150 mils (4mm x 4mm)	50 = 50 Ohm	25 = 25 Ω Balanced	A = Gold P = Tin-Lead	
BD = Balun + DC	0810 = 800 – 1000 MHz	C = 120 x 120 mils (3mm x 3mm)	75 = 75 Ohm	30 = 30 Ω Balanced		
F = Filter	0922 = 950 – 2150 MHz	E = 100 x 80 mils (2.5mm x 2mm)		50 = 50 Ω Balanced		
FB = Filter / Balun	0826 = 800 – 6200 MHz	J = 80 x 50 mils (2mm x 1.25mm)		75 = 75 Ω Balanced		
C = 3dB Coupler	1222 = 1200 – 2200 MHz	L = 60 x 30 mils (1.5mm x 0.75mm)		100 = 100 Ω Balanced		
DC = Directional	1416 = 1400 – 1600 MHz	N = 40 x 40 mils (1mm x 1mm)		150 = 150 Ω Balanced		
J = RF Jumper	1722 = 1700 – 2200 MHz			200 = 200 Ω Balanced		
X = RF cross over	2326 = 2300 – 2600 MHz 2425 = 2400 – 2500 MHz 3150 = 3100 – 5000 MHz 3436 = 3400 – 3600 MHz 4859 = 4800 – 5900MHz 5153 = 5100 – 5300 MHz 5159 = 5100 – 5900 MHz 5759 = 5700 – 5900 MHz			300 = 300 Ω Balanced 400 = 400 Ω Balanced 03 = 3dB Hybrid 10 = 10dB Directional 20 = 20dB Directional		

