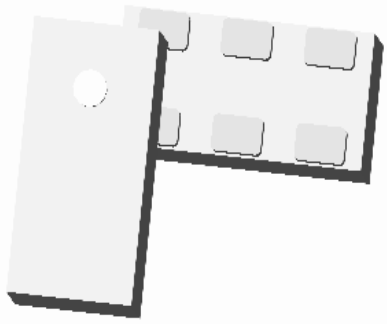
Ultra Small Low Profile 0603 Balun
50Ω to 100Ω Balanced



Description:

The BD3150L50100AHF is an ultra-small low profile 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 the MMDS and the low end of the UWB frequency ranges. The BD3150L50100AHF is ideal for high volume manufacturing and is higher performance than traditional ceramic baluns. The BD3150L50100AHF 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 BD3150L50100AHF is available on tape and reel for pick and place high volume manufacturing.

Features:

- **3100 – 5805 MHz**
- **0.7mm Height Profile**
- **50 Ohm to 2 x 50 Ohm**
- **UWB & MMDS**
- **Low Insertion Loss**
- **Input to Output DC Isolation**
- **Surface Mountable**
- **Tape & Reel**
- **Non-conductive Surface**
- **RoHS Compliant**
- **Halogen Free**

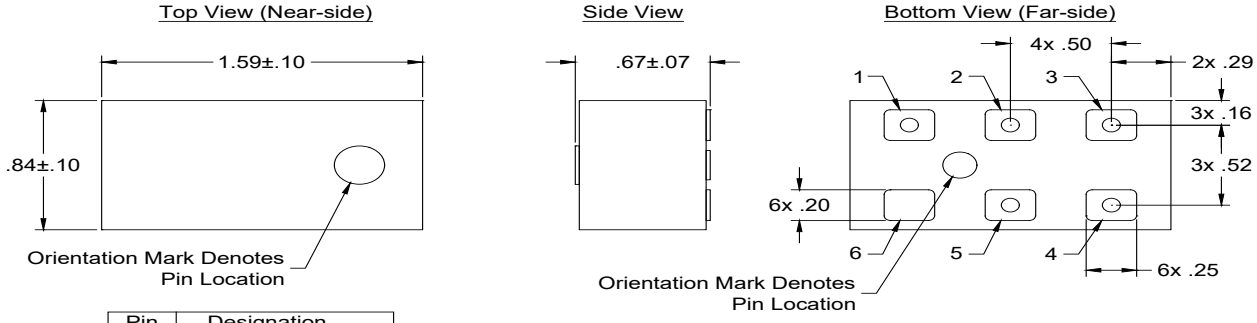
Detailed Electrical Specifications:

Specifications subject to change without notice

Parameter	ROOM (25°C) Min	Typ.	Max	Min	Typ.	Max	Unit
Frequency	4190		5805	3100		5000	MHz
Unbalanced Port Impedance		50			50		Ω
Balanced Port Impedance		100			100		Ω
Return Loss	14	19		9.5	12		dB
Insertion Loss*		0.7	0.9		0.8	1.1	dB
Amplitude Balance		0.3	0.9		0.5	0.9	dB
Phase Balance		3	7		4.0	9.0	Degrees
CMRR	25	30		24	28		dB
Power Handling			2			2	Watts
Operating Temperature	-55		+140	-55		+140	°C

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

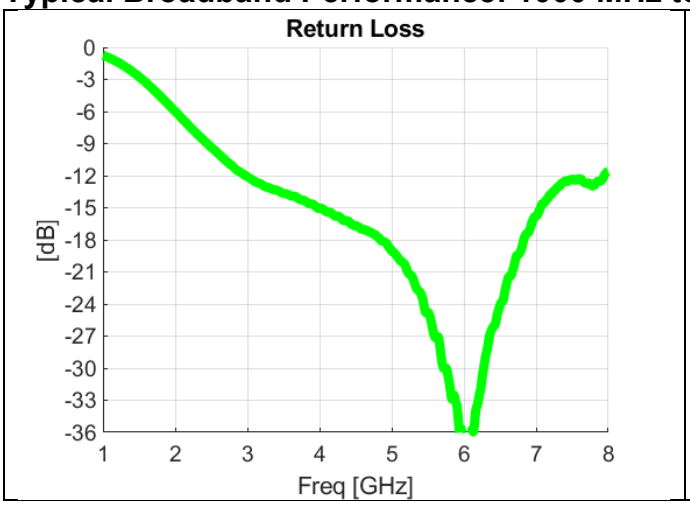
Mechanical Outline:

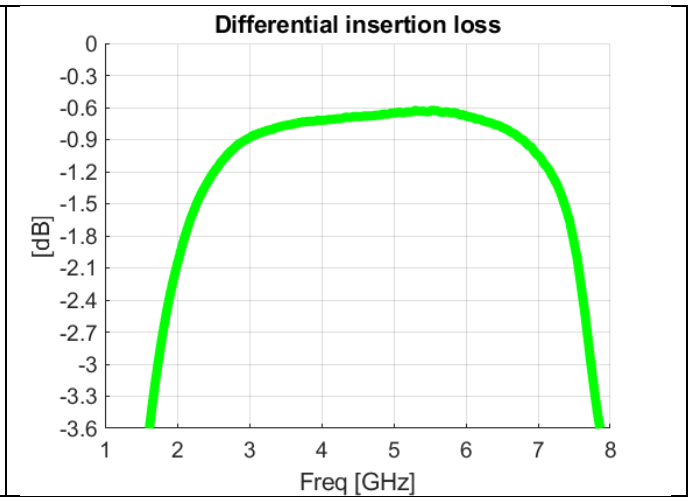


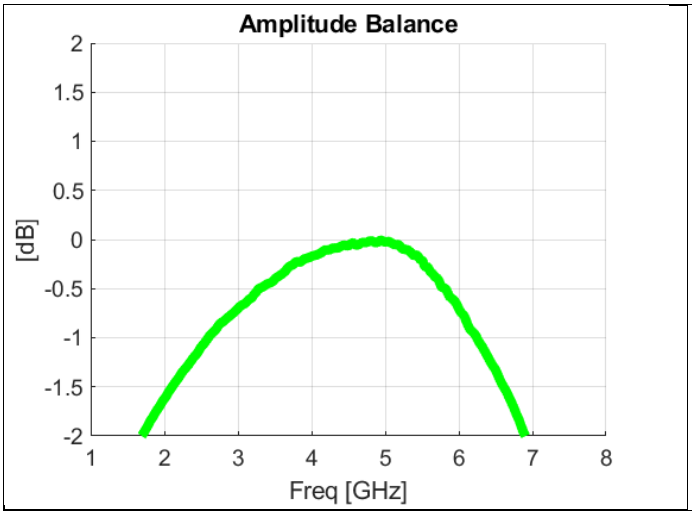
Pin	Designation
1	Unbalanced Port
2	DC Bias/GND
3	Balanced Port
4	Balanced Port
5	GND
6	NC

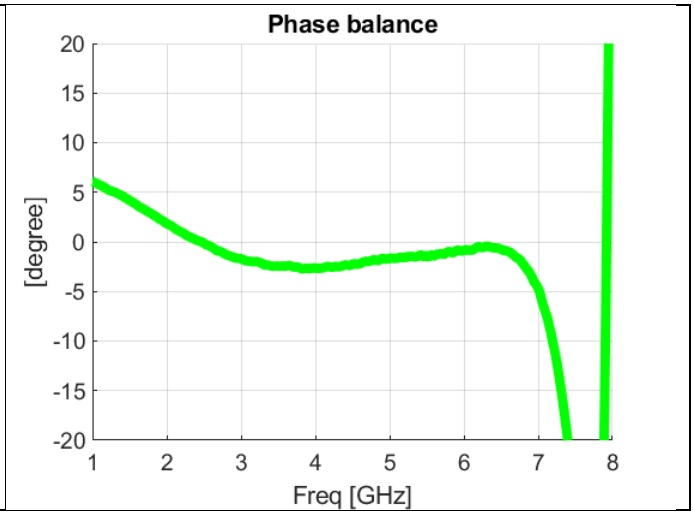
-Dimensions are in Millimeters
-Tolerances are Non-Cumulative

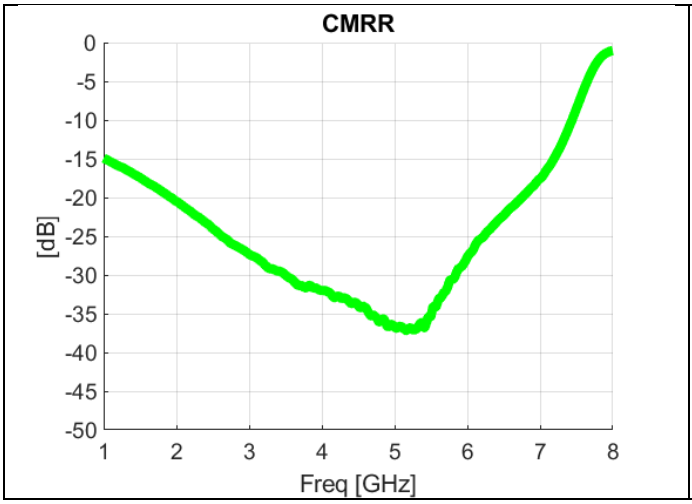
Typical Broadband Performance: 1000 MHz to 8000 MHz



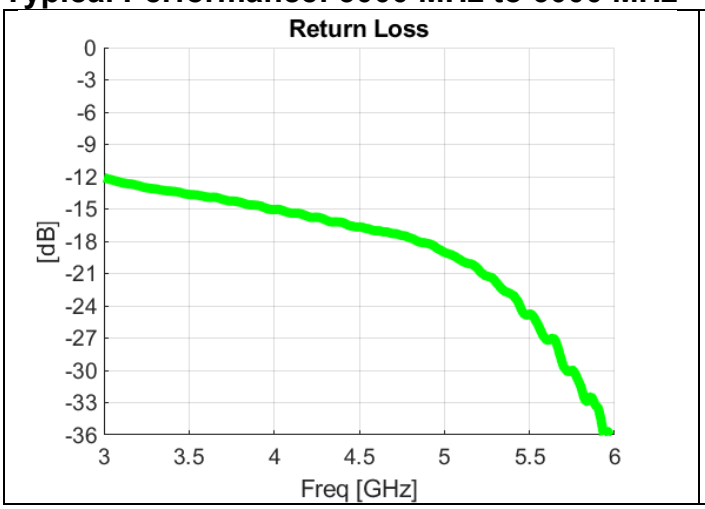


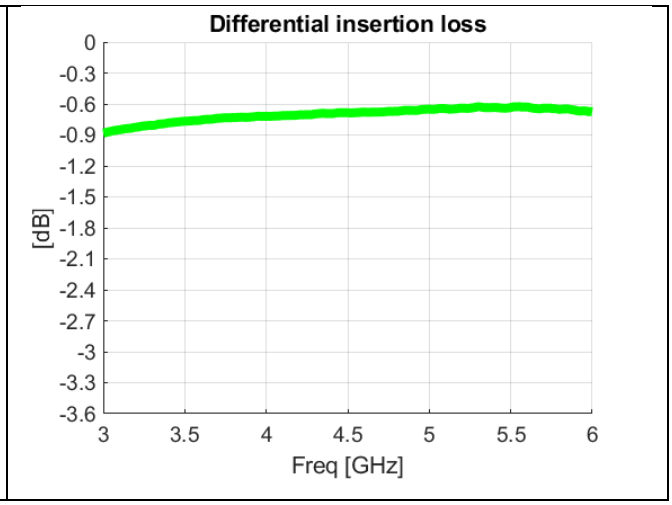


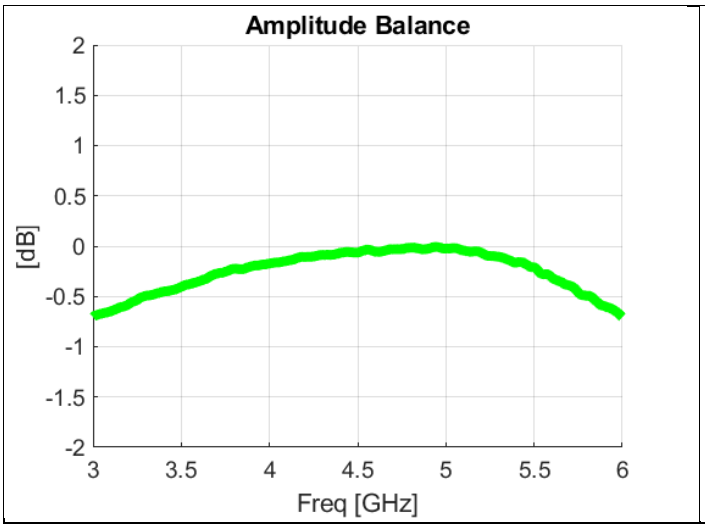


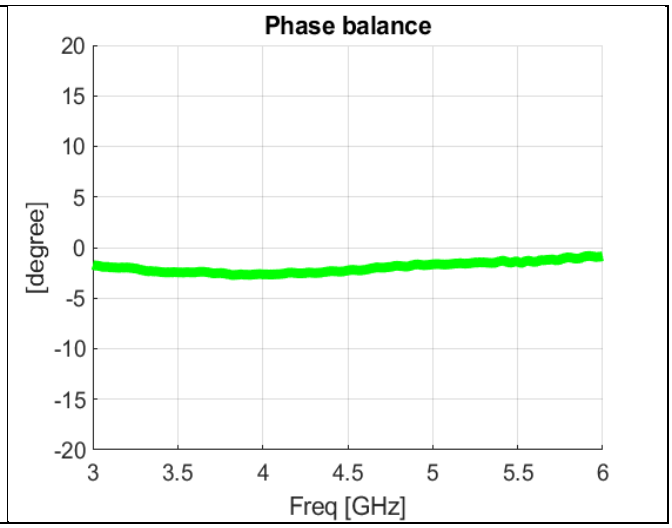


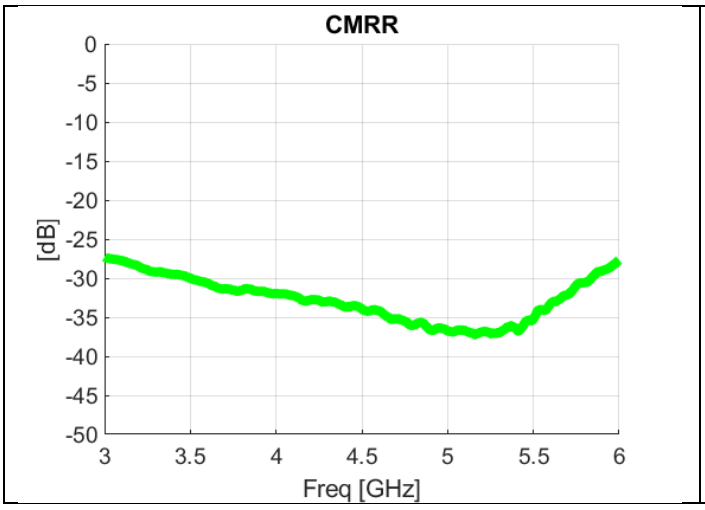
Typical Performance: 3000 MHz to 6000 MHz









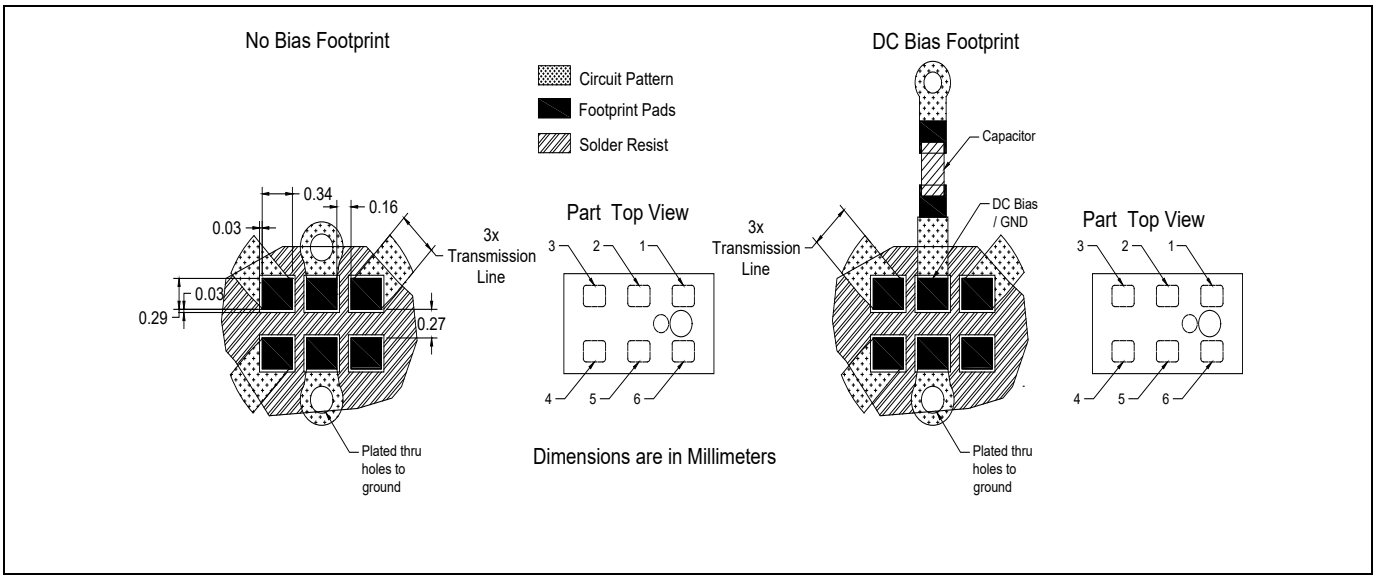


Mounting Configuration:

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.

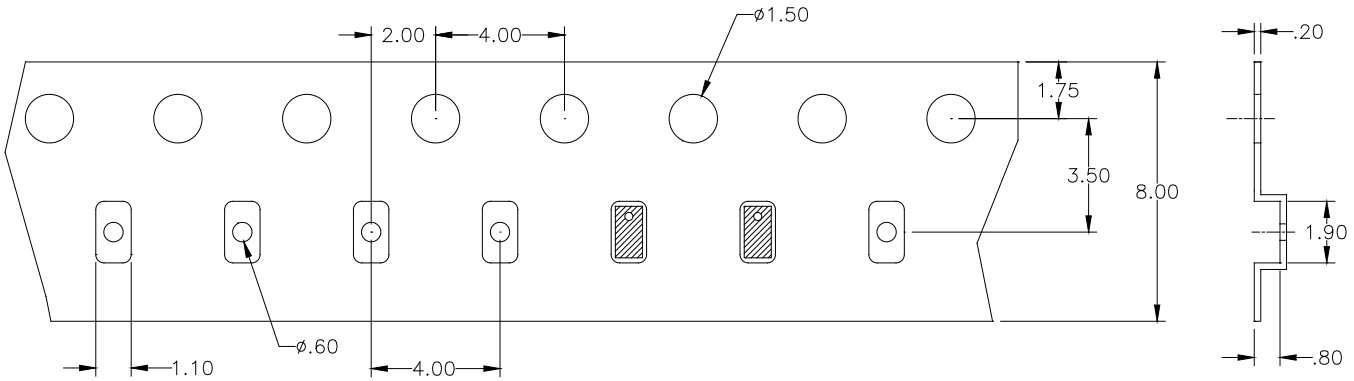
All of the Xinger components are constructed from organic PTFE based composites which possess excellent electrical and mechanical stability. Xinger components are compliant to a variety of ROHS and Green standards and ready for Pb-free soldering processes. Pads are Gold plated with Nickel barrier.

An example of the PCB footprint used in the testing of these parts is shown below. An example of a Dc-baised 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 481-2. 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.



Direction of Part Feed (Unloading)

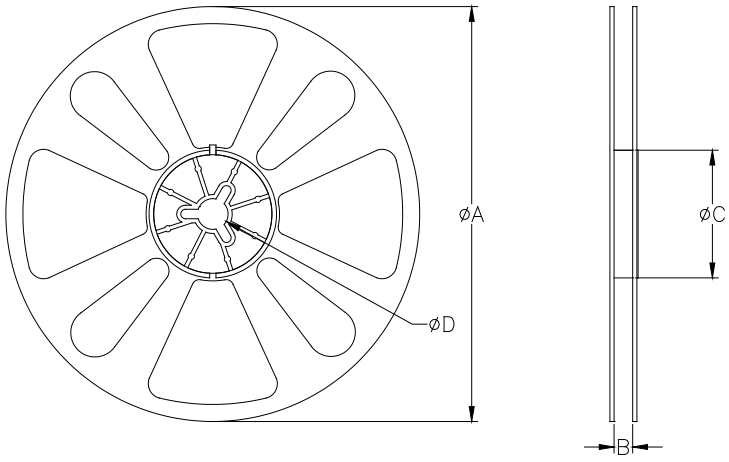


TABLE 1		
QUANTITY/REEL	REEL DIMENSIONS mm	
4000	øA	177.80
	B	8.00
	øC	50.80
	øD	13.00

Contact us:
rf&s_support@ttm.com