

**Ultra Low Profile 0404 Balun
50Ω to 100Ω Balanced**

Description:

The BD4859N50100AHF 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 802.11a Uni-Band II & III and the Japanese ISM band (4.9 GHz). The BD4859N50100AHF is ideal for high volume manufacturing and delivers higher performance than traditional ceramic baluns. The BD4859N50100AHF 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 BD4859N50100AHF is available on tape and reel for pick and place high volume manufacturing.

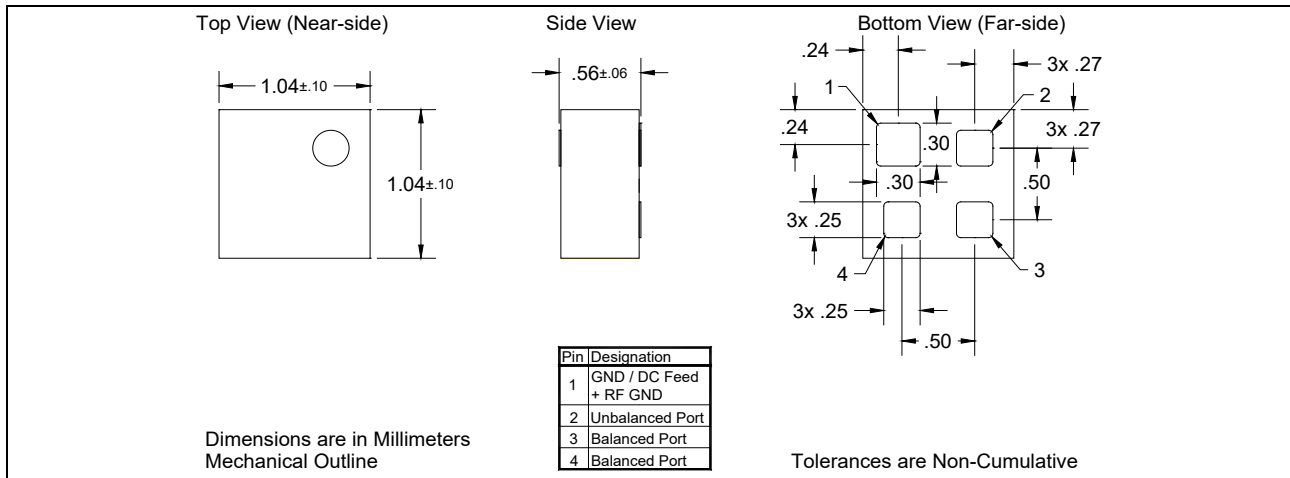
Detailed Electrical Specifications:

Specifications subject to change without notice.

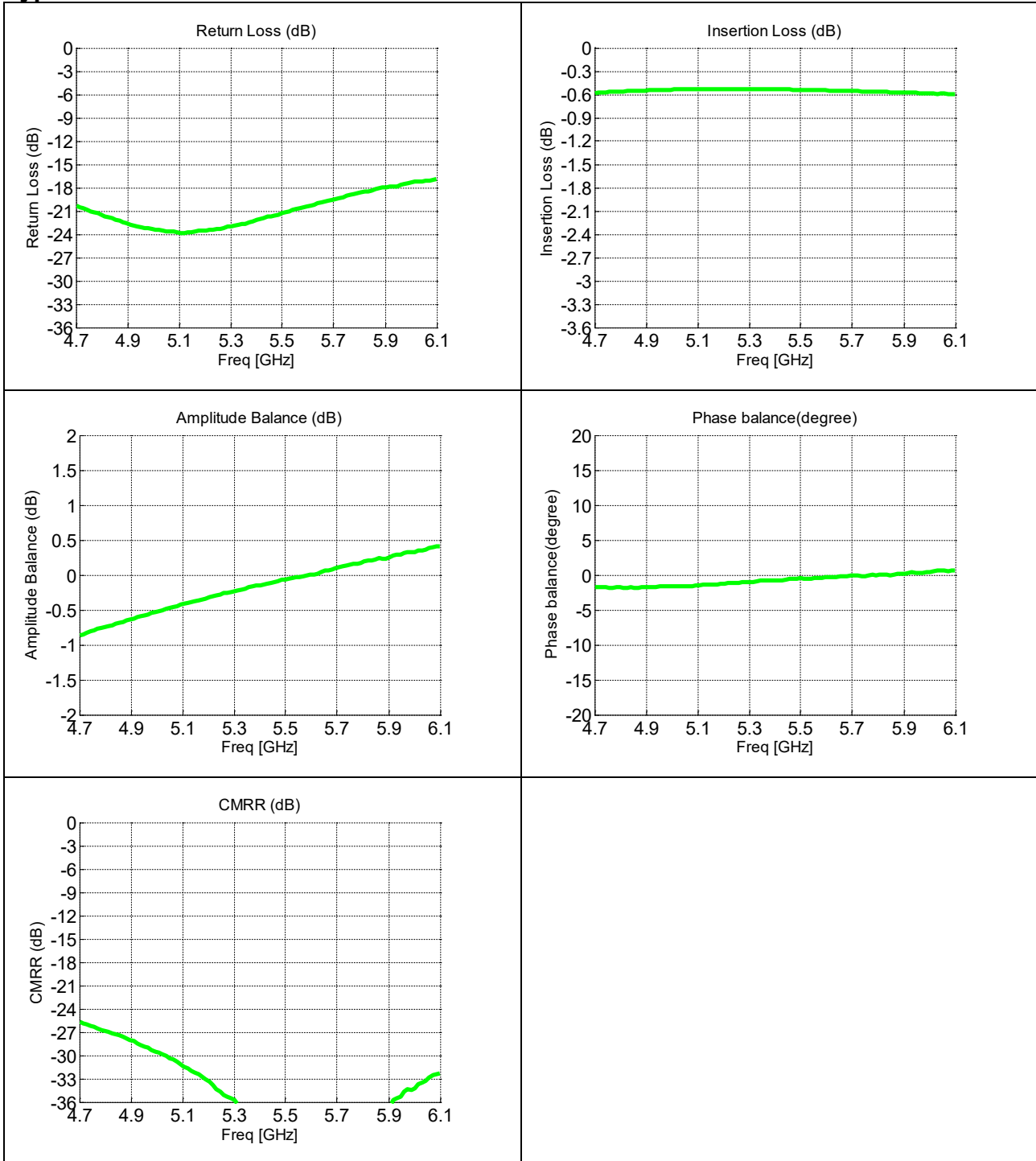
Features:	Parameter	ROOM (25°C)			Over Temperature			Unit
		Min.	Typ.	Max	Min.	Typ.	Max	
• 4800 – 5900 MHz	Frequency	4800		5900			5167	MHz
• 0.57 mm Height Profile	Unbalanced Port Impedance		50				50	Ω
• 50 Ohm to 2 x 50 Ohm	Balanced Port Impedance		100				100	Ω
• Low Insertion Loss	Return Loss	14	20		15	23		dB
• 802.11a Uni-Band II & III	Insertion Loss*		0.6	0.8		0.55	0.8	dB
• Home Cordless Compliant	Amplitude Balance		0.9	1.5		0.45	1.5	dB
• Surface Mountable	Phase Balance		3	8		1	7	Degrees
• Tape & Reel	CMRR		26			31		dB
• Non-conductive Surface	Power Handling @85C			1.0			1.0	Watts
• RoHS Compliant	Power Handling @105C			0.6			0.6	Watts
• Halogen Free	DC Current Rating			200			200	mA
	Operating Temperature	-55		+105	-55		+85	°C

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

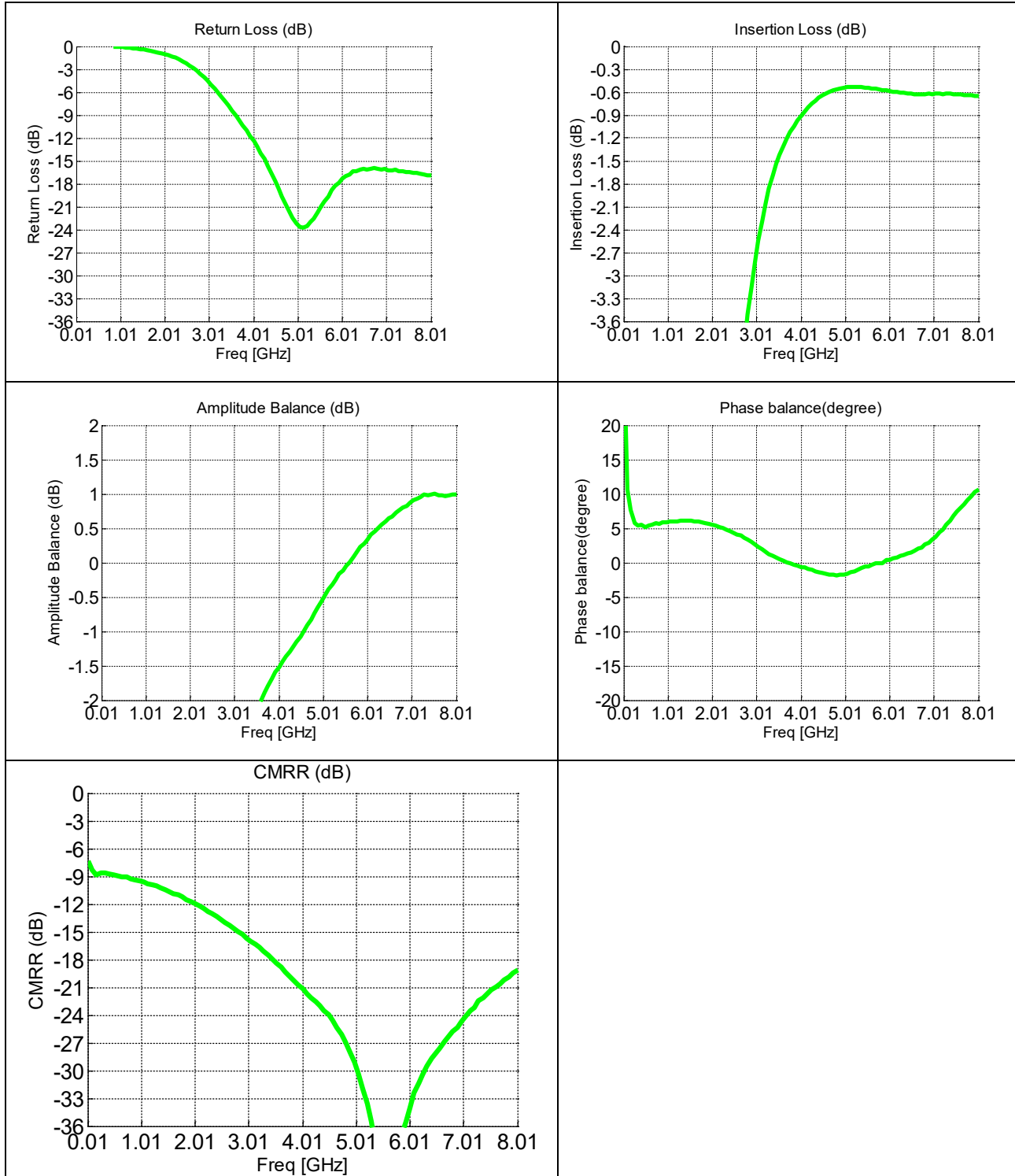
Outline Drawing:



Typical Performance: 4700 MHz. to 6100 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 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.

