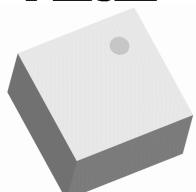






# Ultra Low Profile 0404 Balun 50Ω to 100Ω Balanced



#### **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  $50\Omega$  and a  $100\Omega$  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.

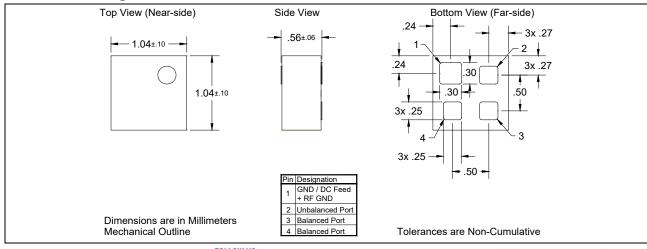
## **Detailed Electrical Specifications:**

Specifications subject to change without notice.

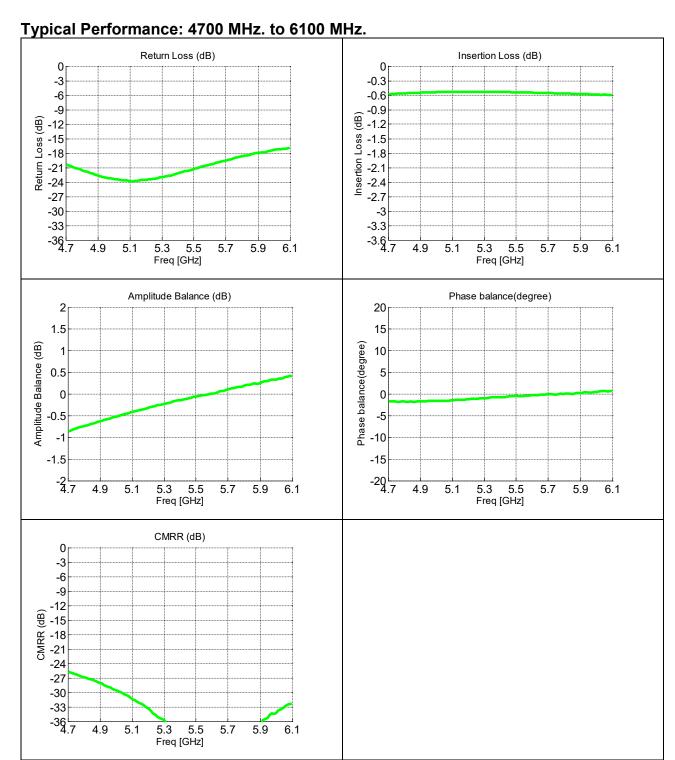
Features:		ROOM (25°C)			Over Temperature			
• 4800 – 5900 MHz	Parameter	Min.	Тур.	Max	Min.	Тур.	Max	Unit
• 0.57 mm Height	Frequency	4800		5900		5167		MHz
Profile	Unbalanced Port		50			50		Ω
• 50 Ohm to 2 x 50 Ohm	Impedance		50			50		\$2
Low Insertion Loss	Balanced Port		100			100		Ω
• 802.11a Uni-Band II &	Impedance		100			100		\$2
	Return Loss	14	20		15	23		dB
	Insertion Loss*		0.6	0.8		0.55	8.0	dB
Home Cordless	Amplitude Balance		0.9	1.5		0.45	1.5	dB
Compliant	Phase Balance		3	8		1	7	Degrees
<ul> <li>Surface Mountable</li> </ul>	CMRR		26			31		ďΒ
Tape & Reel	Power Handling @85C			1.0			1.0	Watts
<ul> <li>Non-conductive</li> </ul>	Power Handling			0.0			0.0	\A/-44-
Surface	@105C			0.6			0.6	Watts
<ul> <li>RoHS Compliant</li> </ul>	DC Current Rating			200			200	mA
<ul> <li>Halogen Free</li> </ul>	Operating Temperature	-55		+105	-55		+85	°C

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

### **Outline Drawing:**

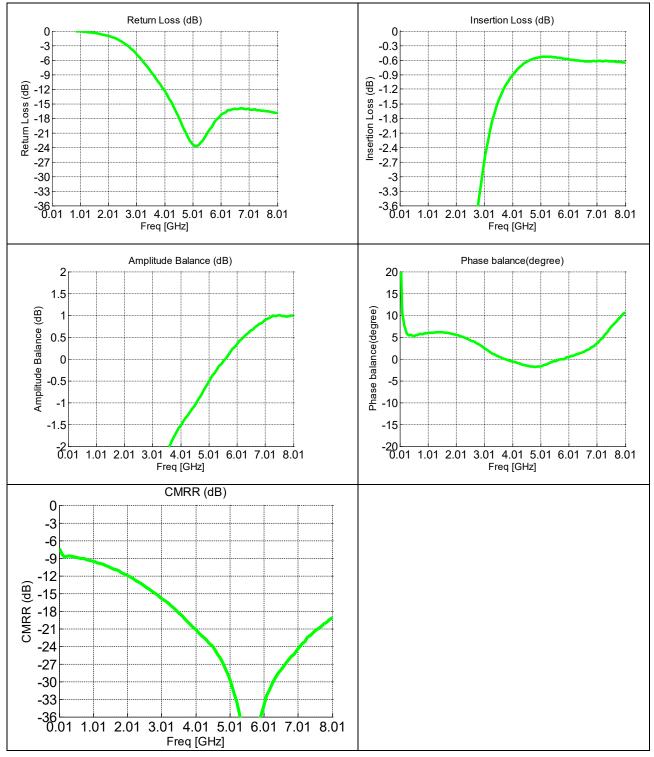








#### Wide Band Performance: 10 MHz. to 8010 MHz.





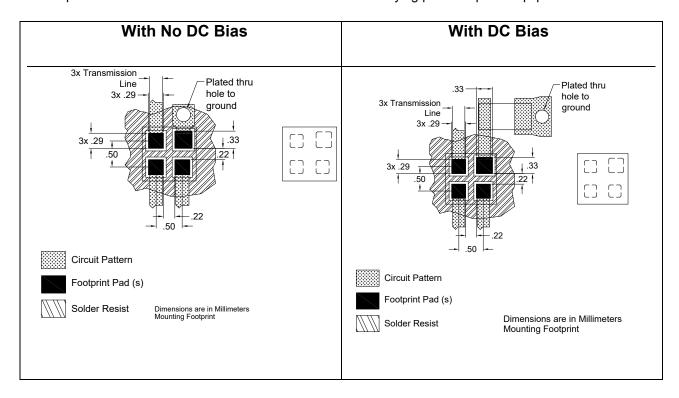


#### **Mounting Configuration:**

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.

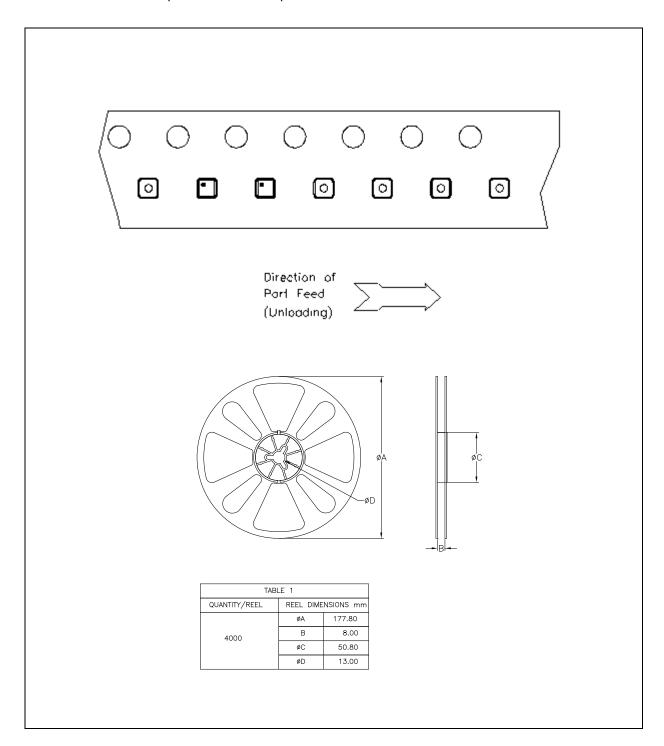
All of the Xinger components are constructed from organic PTFE based composites which possess excellent electrical and mechanical stability. Xinger components are compliant to a variety of ROHS and Green standards and ready for Pb-free soldering processes. Pads are Gold plated with a Nickel barrier.

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.





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.



Contact us:

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