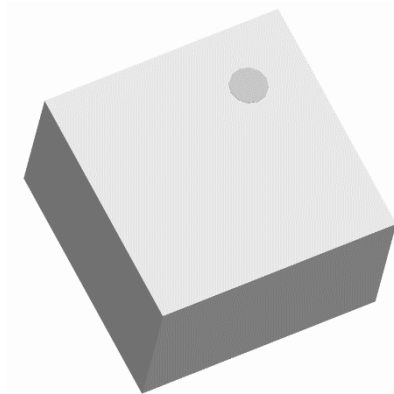




Ultra Low Profile 0404 Balun
50Ω to 100Ω Balanced



Description:

The BD2425N50100AHF 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. The BD2425N50100AHF is ideal for high volume manufacturing and delivers higher performance than traditional ceramic baluns. The BD2425N50100AHF 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 BD2425N50100AHF 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)			Unit	
		Min.	Typ.	Max		
<ul style="list-style-type: none"> • 2400 – 2500 MHz • 0.56 mm Height Profile • 50 Ohm to 2 x 50 Ohm • Low Insertion Loss • 802.11 b+g • MIMO b+g • Bluetooth • Zigbee • Surface Mountable • Tape & Reel • Non-conductive Surface • RoHS Compliant • Halogen-Free 	Frequency	2400		2500	MHz	
	Unbalanced Port Impedance		50		Ω	
	Balanced Port Impedance			100		Ω
	Return Loss	18	25		dB	
	Insertion Loss*		0.6	0.7		dB
	Amplitude Balance		0.2	0.6		dB
	Phase Balance		1	3		Degrees
	CMRR			37		dB
	Power Handling at 85°C				1.0	
	Power Handling at 105°C				0.6	Watts
	Operating Temperature		-55		+140	°C

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

Outline Drawing:

Top View (Near-side)

Side View

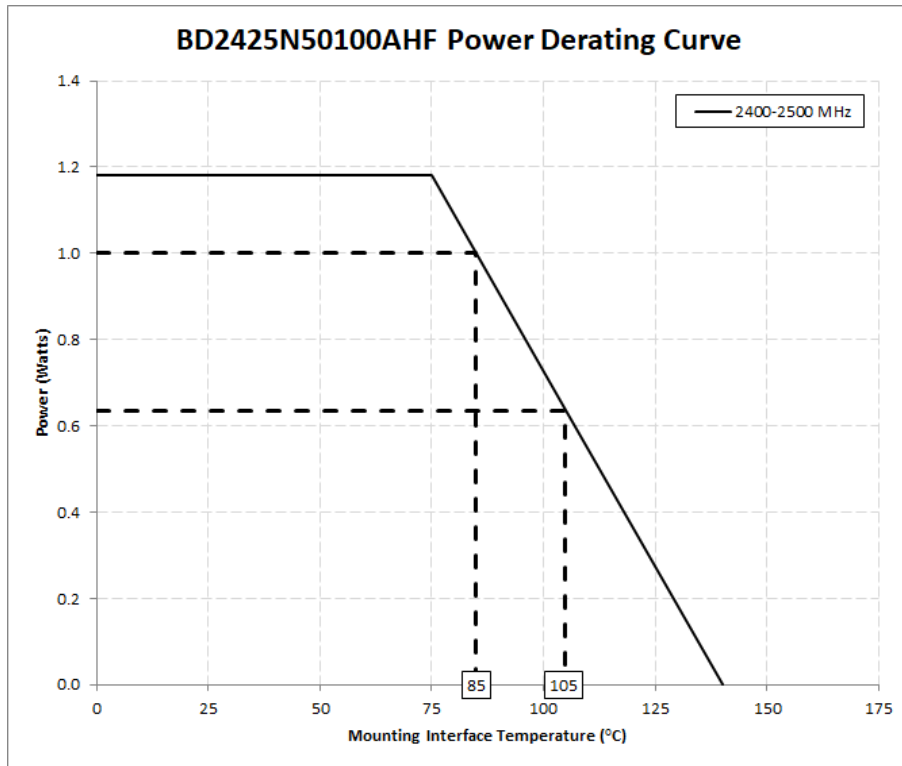
Bottom View (Far-side)

Pin	Designation
1	GND / DC Feed + RF GND
2	Unbalanced Port
3	Balanced Port
4	Balanced Port

Dimensions are in Inches [Millimeters]
Mechanical Outline

Tolerances are Non-Cumulative

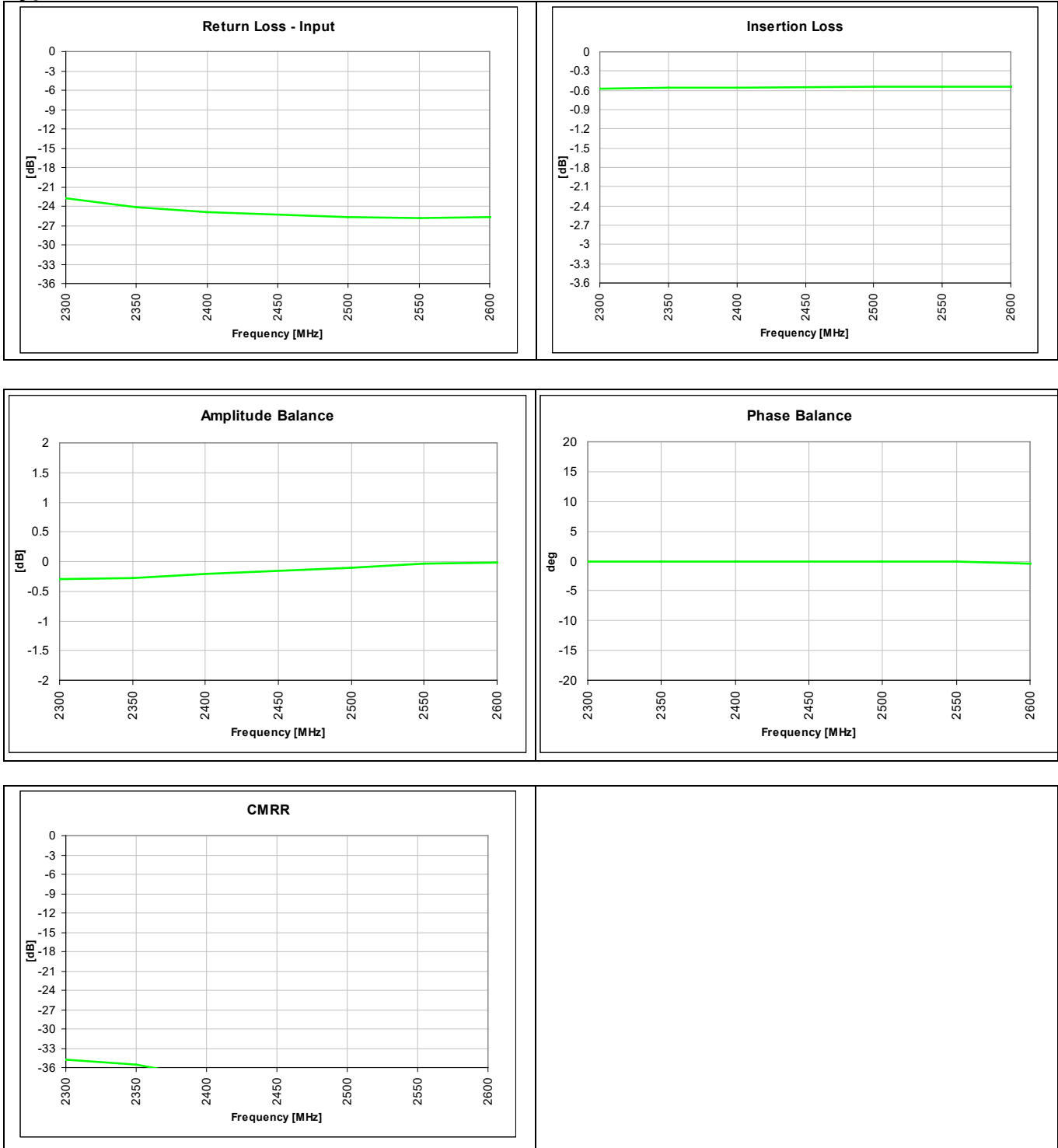
Power Derating Curve



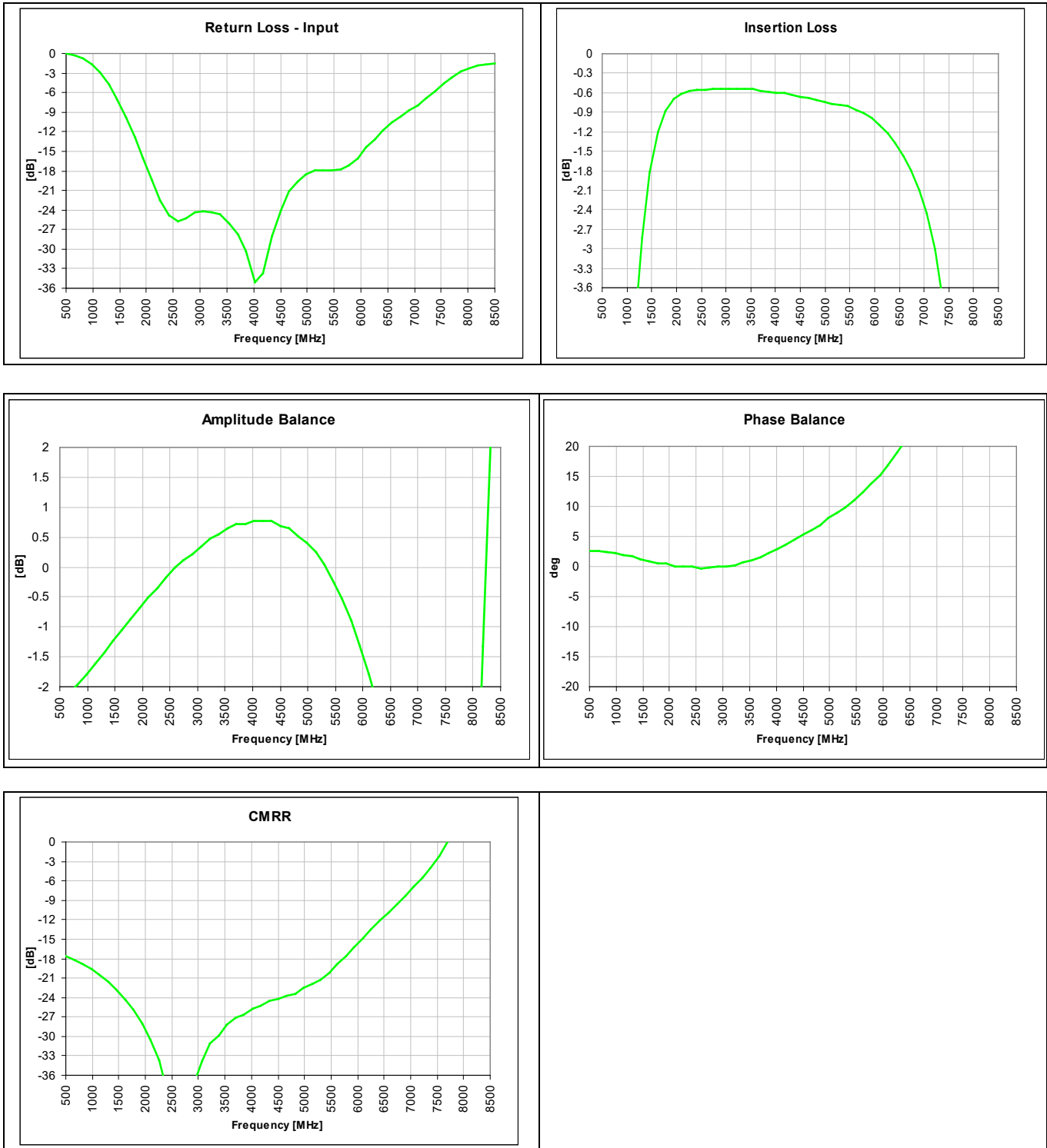
The power handling and corresponding power derating plots are a function of the thermal resistance, mounting surface temperature (base plate temperature), maximum continuous operating temperature of the coupler, and the thermal insertion loss. The thermal insertion loss is defined in the Power Handling section of the data sheet.

As the mounting interface temperature approaches the maximum continuous operating temperature, the power handling decreases to zero.

Typical Performance: 2300 MHz. to 2600 MHz.



Wide Band Performance: 500 MHz. to 8500 MHz.

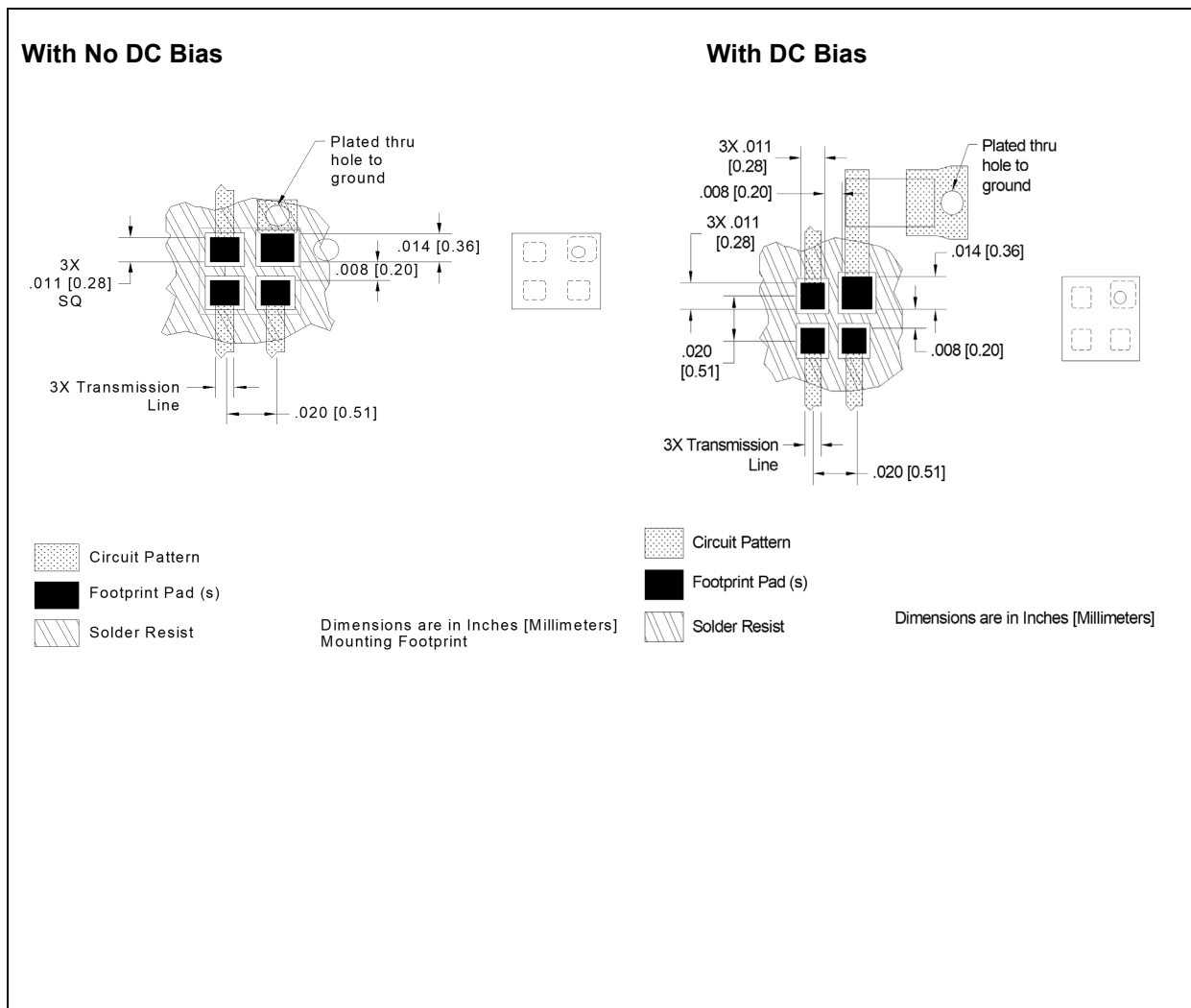


Mounting Configuration:

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.

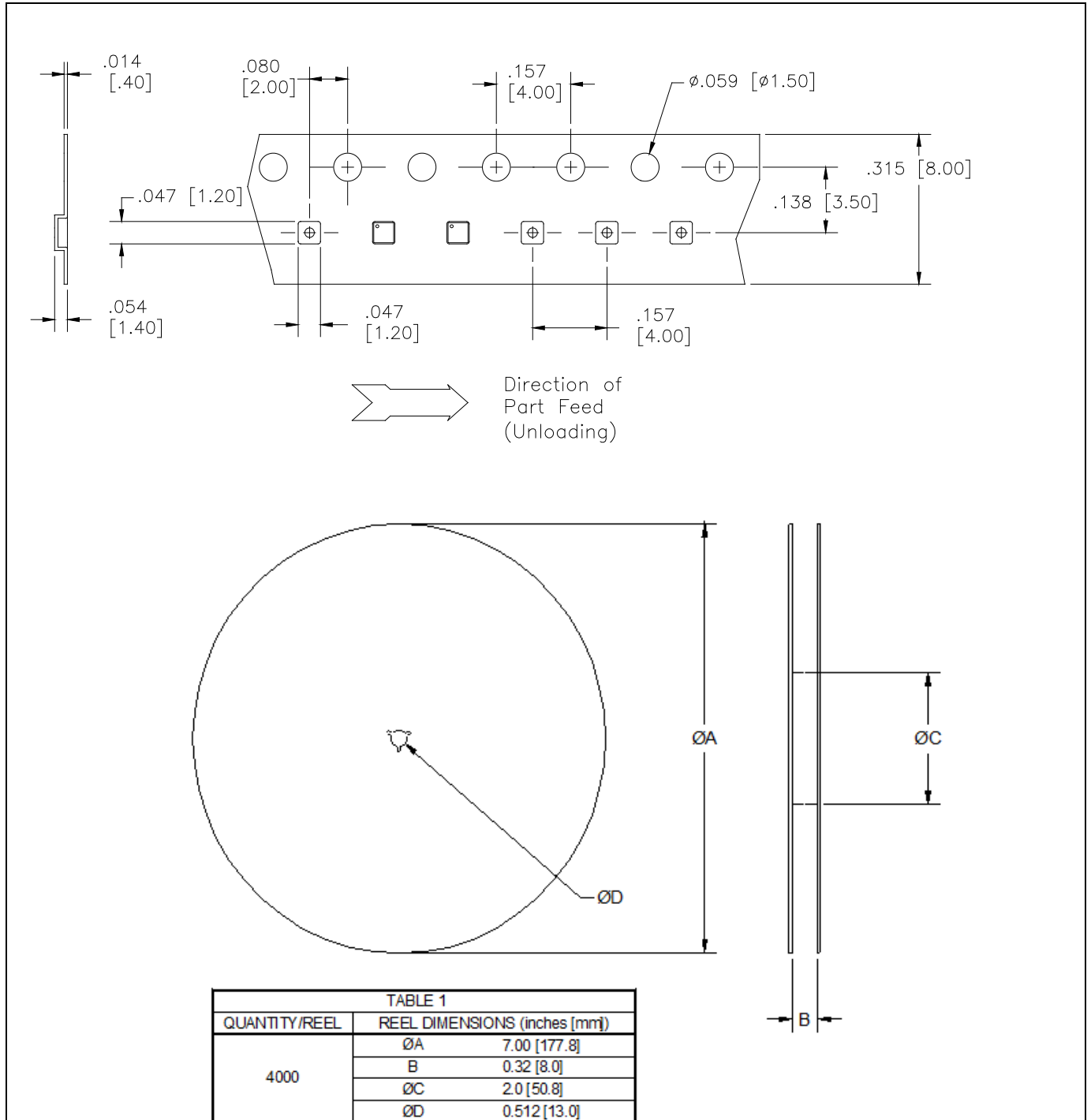
All of the Xinger components are constructed from ceramic filled PTFE composites which possess excellent electrical and mechanical stability.

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.



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.



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