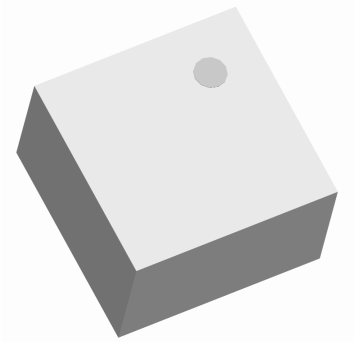
Xinger®

Impedance Matched Ultra Low profile 0404 Balun for TI CC2530 chipset (Anaren Application Note Ann-2004)



Description

The BD2425N100ATI is a low cost, low profile sub-miniature unbalanced to balanced transformer specifically designed for differential inputs and output locations Texas Instruments CC2530 SoC Solution in an easy to use surface mount package. The BD2425N100ATI is ideal for high volume manufacturing and delivers higher performance than traditional ceramic baluns. This transformation enables single ended signals to be applied to differential ports on the CC2530. The output ports have equal amplitude (-3dB) with 180 degree phase differential. The BD2425N100ATI is available on tape and reel for pick and place high volume manufacturing.

Detailed Electrical Specifications: Specifications subject to change without notice.

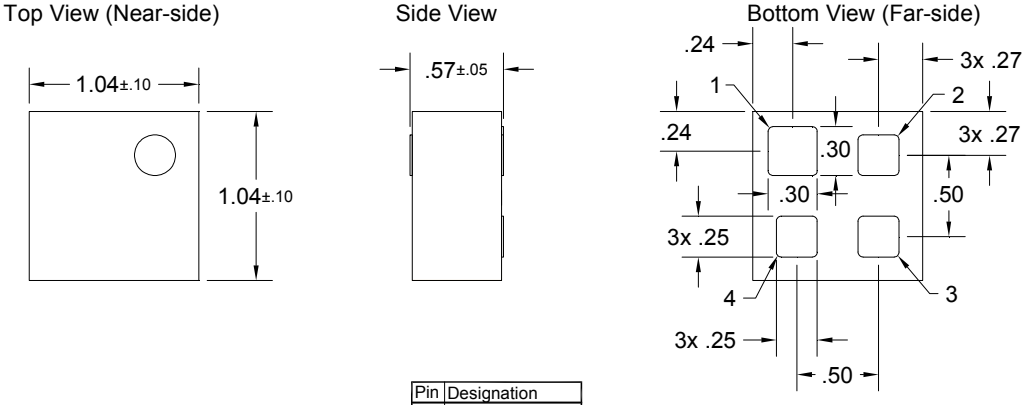
Features:

- **2400 – 2500 MHz**
- **Matched to TI CC2530 SoC**
- **0.57mm Height Profile**
- **Low Insertion Loss**
- **Surface Mountable**
- **Tape & Reel**
- **Non-conductive Top Surface**
- **RoHS Compliant**
- **Zigbee, RF4CE**
- **Halogen Free**

	ROOM (25°C)			
Parameter	**Min.**	**Typ.**	**Max**	**Unit**
Frequency	2300		2600	MHz
Unbalanced Port Impedance*		50		Ω
Balanced Port Impedance*		Matched		Ω
Return Loss*	17.3	23.6		dB
Insertion Loss**		0.68	0.84	dB
Power Handling			1.0	Watts
Operating Temperature	-55		+85	℃

*Specification based on performance of unit properly installed on microstrip printed circuit boards with 50 Ω nominal impedance.
** Insertion Loss stated at room temperature (Insertion Loss is approximately 0.1dB higher at +85°C

Outline Drawing



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

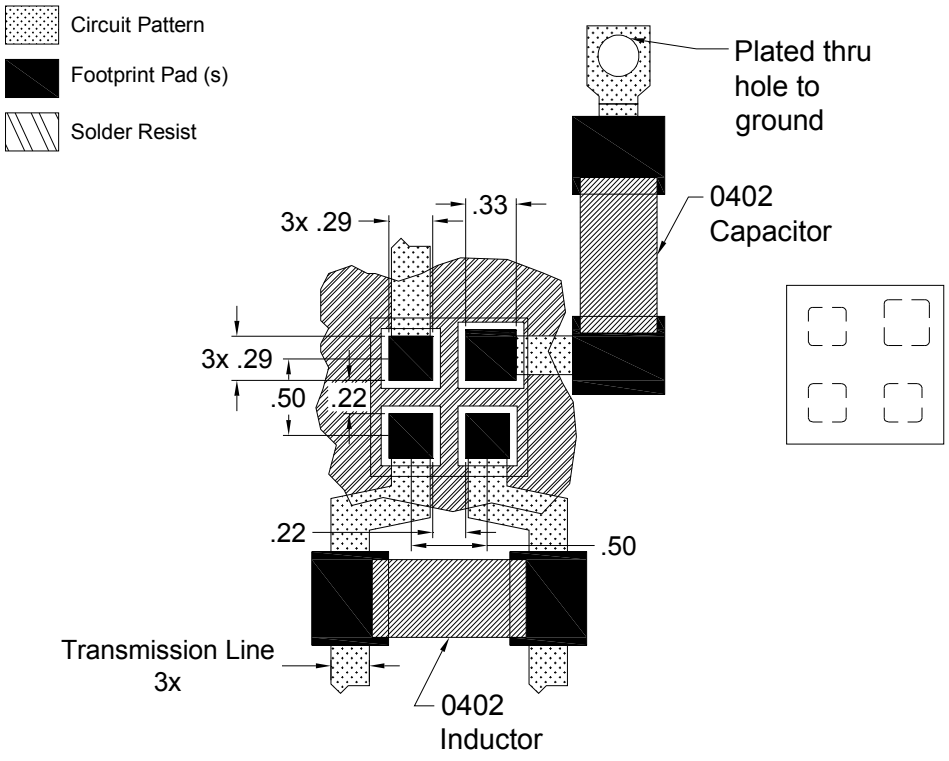
Dimensions are in Millimeters
Mechanical Outline

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.

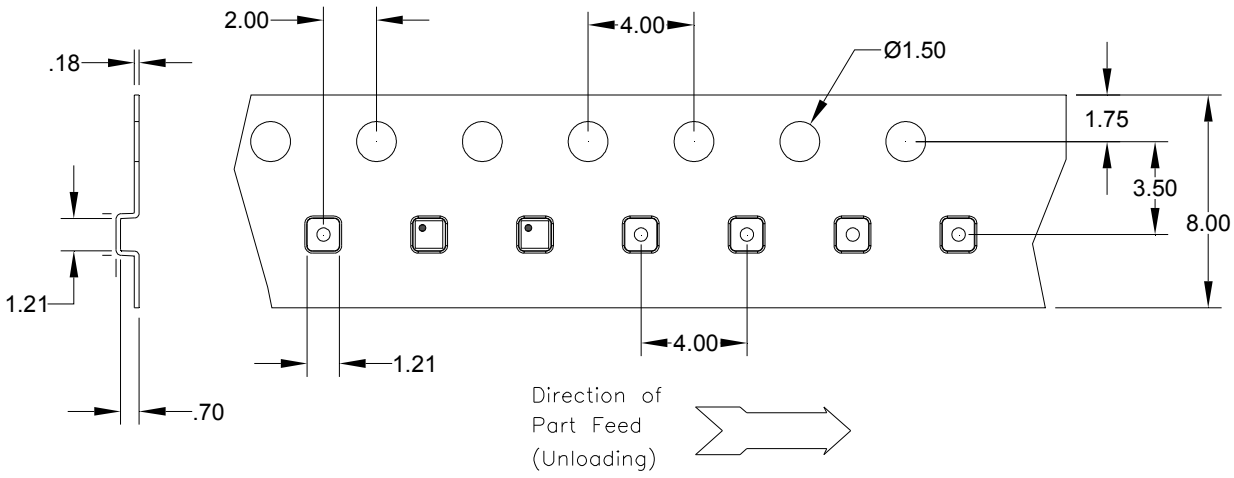
An example of the PCB footprint used in the testing of these parts is shown below. In specific designs, the transmission line widths need to be adjusted to the unique dielectric coefficients and thicknesses as well as varying pick and place equipment tolerances.



Dimensions are in Millimeters
Mounting 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.



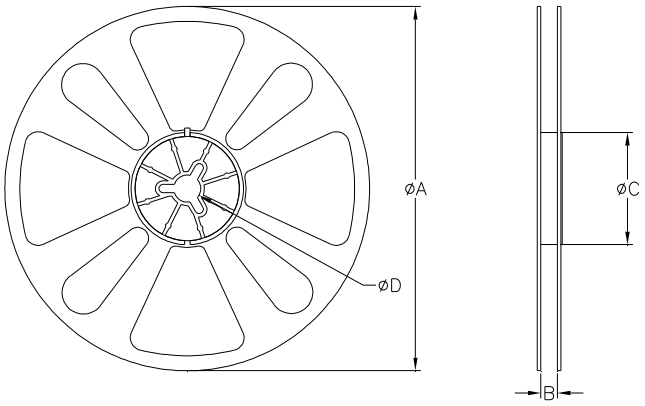


TABLE 1		
QUANTITY/REEL	REEL DIMENSIONS mm	
4000	øA	177.80
	B	8.00
	øC	50.80
	øD	13.00