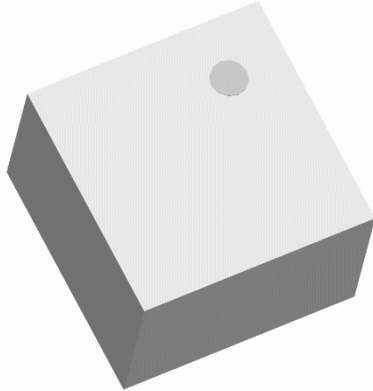




Ultra Low Profile 0404 Balun for the Cambridge Silicon Radio M1824 UNIFI-1 Chipset

Description:



The BD2425NCSR is a low cost, low profile sub-miniature unbalanced to balanced transformer designed specifically for Cambridge Silicon Radio's UNIFI-1 WiFi chipset. The BD2425NCSR is ideal for high volume manufacturing and delivers higher performance than traditional ceramic baluns. The BD2425NCSR matched exactly to the differential port impedances of the UNIFI-1 device. The BD2425NCSR enables single ended signals to be applied to differential ports of this Cambridge Silicon Radio chipsets. The output ports have equal amplitude (-3dB) with 180 degree phase differential. The BD2425NCSR is available on tape and reel for pick and place high volume manufacturing.

Detailed Electrical Specifications:

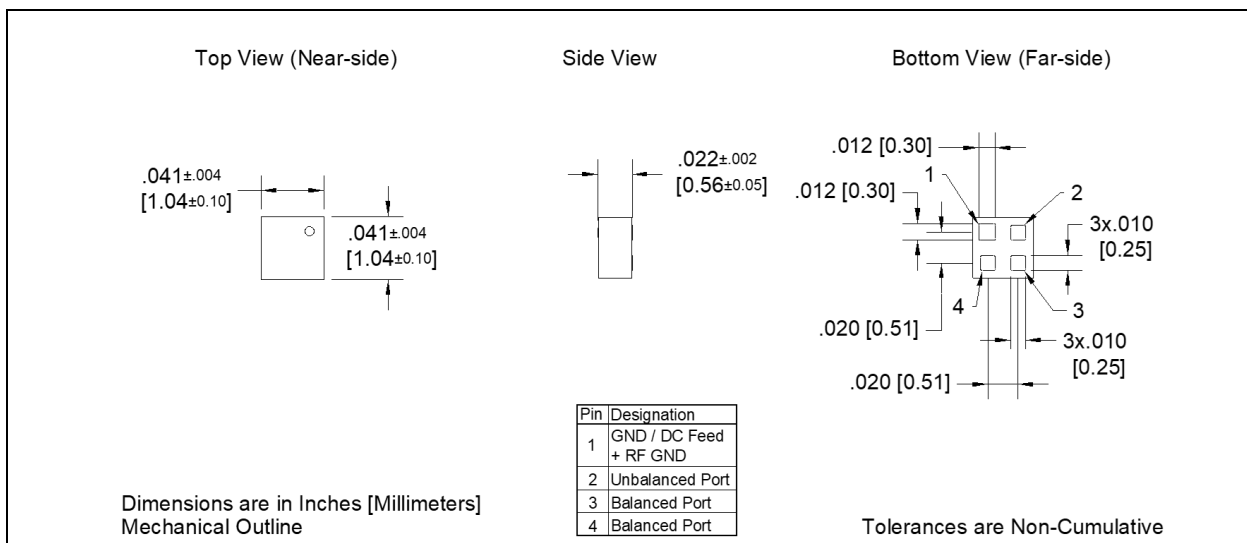
Specifications subject to change without notice.

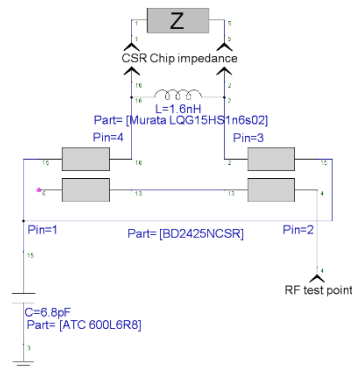
Features:	Parameter	ROOM (25°C)			Unit
		Min.	Typ.	Max	
<ul style="list-style-type: none"> • 2400 – 2500 MHz • 0.56 mm Height Profile • Matched for CSR's UNIFI-1 • Low Insertion Loss • Surface Mountable • Tape & Reel • Non-conductive • RoHS Compliant • Halogen free 	Frequency	2400		2500	MHz
	Unbalanced Port Impedance		50		Ω
	Balanced Port Impedance		Matched		Ω
	Return Loss	10	15		dB
	Insertion Loss*		0.35	1.0	dB
	Amplitude Balance		0.2	0.5	
	Phase Balance		2	4	
	CMRR		35		
	Power Handling			1	Watts
	Operating Temperature	-55		+85	°C

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

** Stated performance is based on the proper matching network described in the data sheet

Outline Drawing





Schematic of the TTM balun with matching components

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 PCB footprint of TTM's 0404 balun (BD2425NCSR) with MUR 0402 inductor (1.6nH-LQG15HS1n6s02) and ATC 0402 capacitor (6.8pF – 600L6R8) used in the testing 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.

