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April 5th, 2018

## **Request for Deviation**

Customer: All Anaren Order#

Customer P/N: Anaren Waiver # CHEN-AXJT27

Anaren P/N: 42124-G001/B0430J50100AHF Qty Affected: 250,000

### **Request for Performance Deviation(s):**

Anaren would like to request a deviation to the B0430J50100AHF test parameters. We are splitting the band into two narrow bands, 400-2500MHz and 2501-3000MHz. The table below outlines the current specification and required deviation to those specifications.

### **Current Data Sheet Specifications:**

Frequency	Return Loss	Insertion Loss	Amplitude Balance	Phase Balance	Power Handling	Operating Temp.
MHz	dB Min	dB Max	dB Max	Deg Min	Watts Max	<u>º</u> C
400 - 3000MHz	8.4	4.0	1.4	12	0.4	-55 to +105

### Waiver Specifications:

Frequency	Return Loss	Insertion Loss	Amplitude Balance	Phase Balance	Power Handling	Operating Temp.
MHz	dB Min	dB Max	dB Max	Deg Min	Watts Max	<u>º</u> C
400 - 2500MHz	8.4	4.0	1.4	12	0.4	-55 to +105
2501 - 3000MHz	7.0	4.0	1.4	12	0.4	-55 to +105

### **Root Cause:**

When Anaren originally established the specifications for this part, they were based on estimated projections for material and process stability established during low volume pilot builds. As we have increased production quantities, it has become apparent that these projections were too optimistic. The net result is that this part has had consistently poor yield.

### **Short Term Action:**

Once this deviation request is approved it will take approximately 2 business days to complete the final processing of the material for shipment.

### **Long Term Action:**

Anaren has issued a permanent specification change notification for this part. A formal PCN will follow.







## Ultra Low Profile 0805 Balun 50Ω to 100Ω Balanced

### Description

The B0430J50100AHF is a low cost, low profile sub-miniature unbalanced to balanced transformer designed specifically for differential inputs and output locations on next generation A to D and D to A Converter IC's in an easy to use surface mount package, covering 400 MHz-3000 MHz. The B0430J50100AHF is ideal for high volume manufacturing and delivers higher performance than traditional wire wound baluns. The B0430J50100AHF 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. The output ports have equal amplitude (-3dB) with 180 degree phase differential. The B0430J50100AHF is available on tape and reel for pick and place high volume manufacturing.

Note that for optimal performance, the B0430J50100AHF should be used with a 10 pF series capacitor on the unbalanced port as shown in p. 2 & 3.

**Detailed Electrical Specifications:** Specifications subject to change without notice.

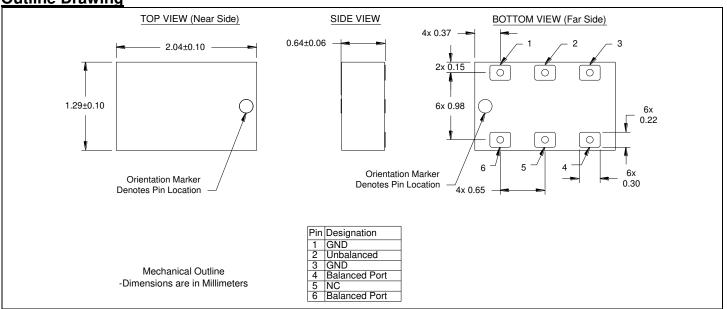
## Features:

- 400 3000 MHz
- 0.7mm Height Profile
- 50 Ohm to 2 x 50 Ohm
- **Low Insertion Loss**
- Designed for A-D and D-A Converters
- **Surface Mountable**
- Tape & Reel
- **Non-conductive Surface**
- **RoHS Compliant**
- **Halogen Free**

		ROOM (25°C)			
Parameter		Min.	Тур.	Max	Unit
Frequency	Frequency			3000	MHz
Unbalanced Port Impedance			50		Ω
Balanced Port Impedance			100		Ω
Return Loss		8.4	9.9		dB
Insertion Loss*			3.4	4.0	dB
Amplitude Balance			0.7	1.4	dB
Phase Balance			7	12	Degrees
CMRR			25		dB
Power Handling	@85C			0.4	Watts
Operating Temperature		-55		+105	<u>º</u> C

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

#### **Outline Drawing**

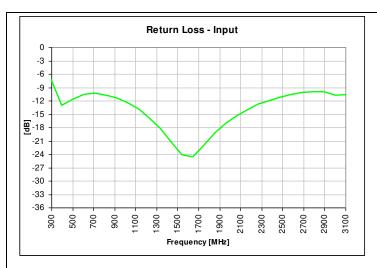


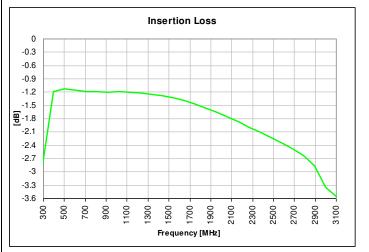


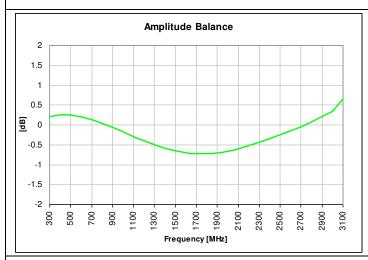
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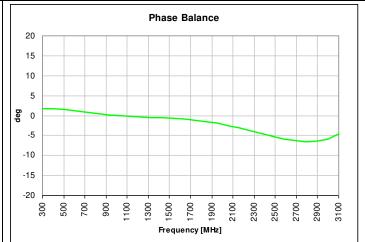


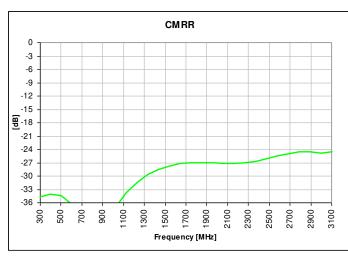
# Typical Performance: 300 MHz. to 3100 MHz. with an external 10 pF capacitor on pin 2

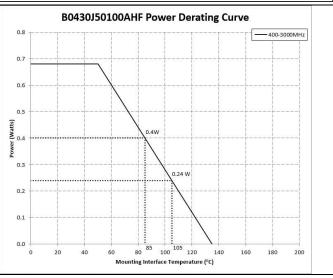














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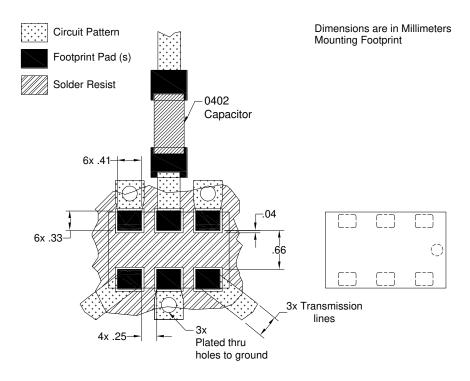
### **Mounting Configuration:**

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.

This component requires a 10 pF capacitor to be mounted in front of the unbalanced port (Pin 2) of the balun as shown in the drawing below for optimum performance. The capacitor should be placed as close as possible to the balun to minimize transmission line effects as shown in the suggested PCB footprint below.

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.





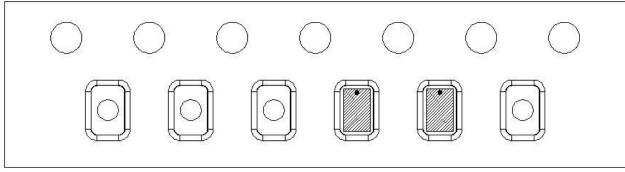
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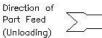
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### **Packaging and Ordering Information**

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.





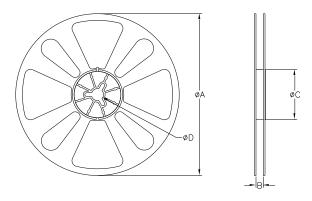


TABLE 1						
QUANTITY/REEL	REEL DIMENSIONS mm					
	ØΑ	177.80				
4000	В	8.00				
	øС	50.80				
	øD	13.00				

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