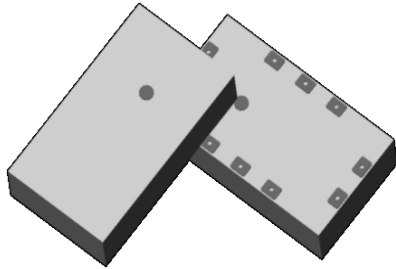




## Ultra Low Profile 1608 Balun 50Ω to 200Ω Balanced

### Description:

The B0205F50200AHF is a low profile sub-miniature balanced to unbalanced transformer designed for differential input locations on data conversion devices (A to D converters). In an easy to use surface mount package covering 200 MHz to 500 MHz and superior CMRR performance, this transformer is optimized to offer improved SFDR management during operation of the data converter device. The B0205F50200AHF is ideal for high volume manufacturing and is higher performance and smaller form factor than traditional wire wound transformers. The B0205F50200AHF has an unbalanced port impedance of 50Ω and a 200Ω balanced port impedance. This transformation enables single ended signals to be applied to differential ports on the data converter devices. The output ports have equal amplitude (-3dB) with 180 degree phase differential. The B0205F50200AHF is available on tape and reel for pick and place high volume manufacturing.



### Detailed Electrical Specifications:

Specifications subject to change without notice.

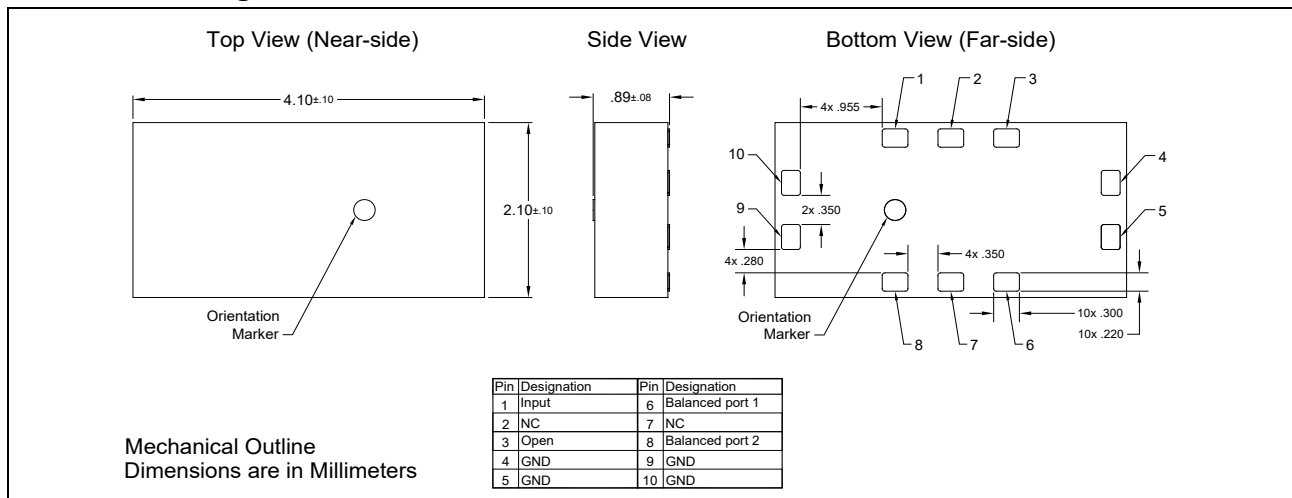
#### Features:

- 125 – 700 MHz (IL 3dB BW)
- 200 – 500 MHz (IL 1dB BW)
- 0.83 mm Height Profile
- 50 Ohm to 2 x 100 Ohm
- Excellent CMRR
- Input to Output DC Isolation
- Surface Mountable
- Tape & Reel
- Non-conductive Top Surface
- RoHS Compliant
- Halogen Free

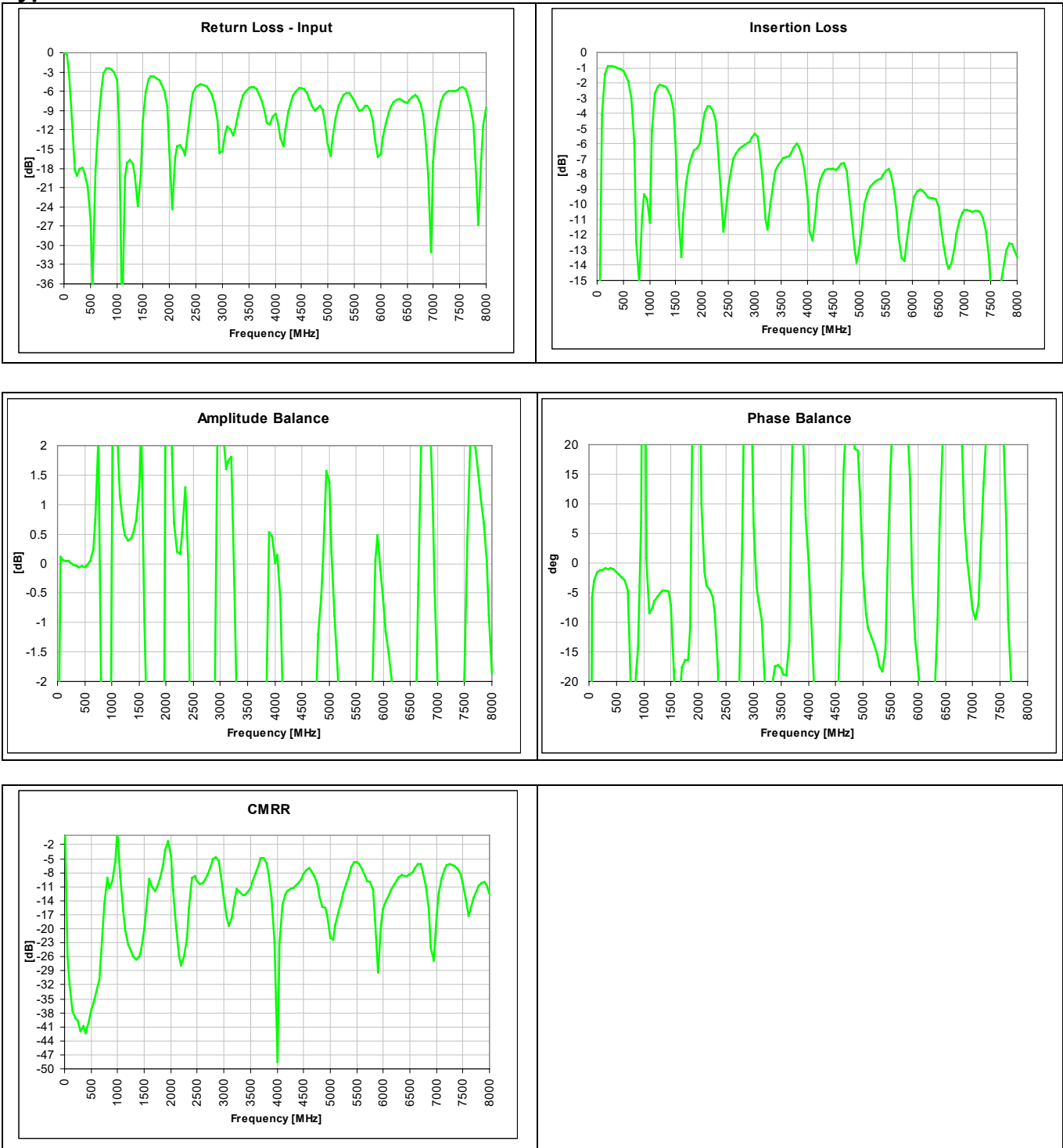
Parameter	ROOM (25°C)			Unit
	Min.	Typ.	Max	
Frequency	200		500	MHz
Unbalanced Port Impedance		50		Ω
Balanced Port Impedance		200		Ω
Return Loss	13.9	17.7		dB
Insertion Loss*		1.3	1.6	dB
Amplitude Balance		0.1	0.4	dB
Phase Balance		1.3	3.1	Degrees
CMRR		38.2		dB
Power Handling			2	Watts
Operating Temperature	-55		+85	°C

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

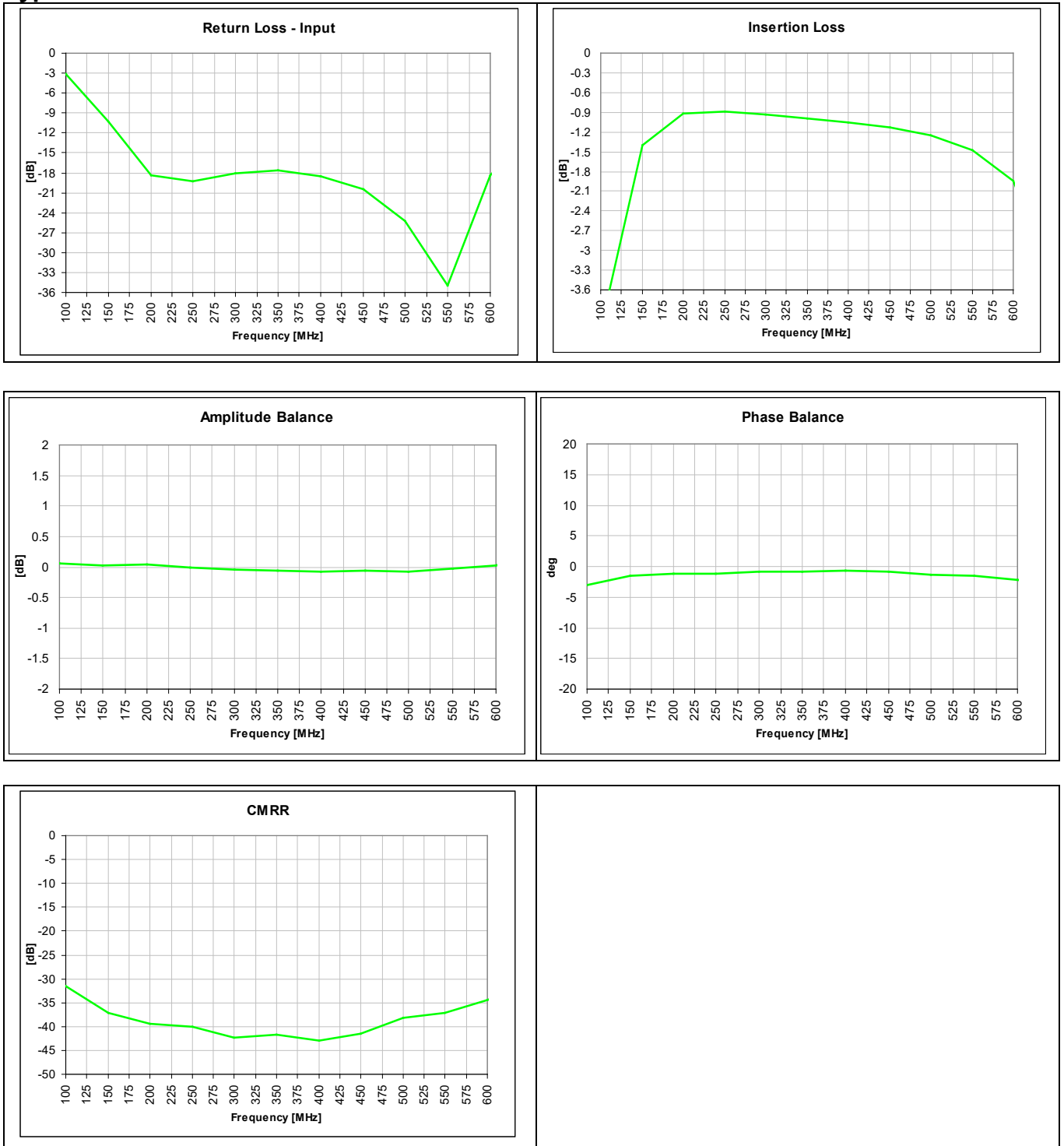
### Outline Drawing:



**Typical Broadband Performance: 0 - 8.0 GHz.**



**Typical Performance: 100 MHz. to 600 MHz.**



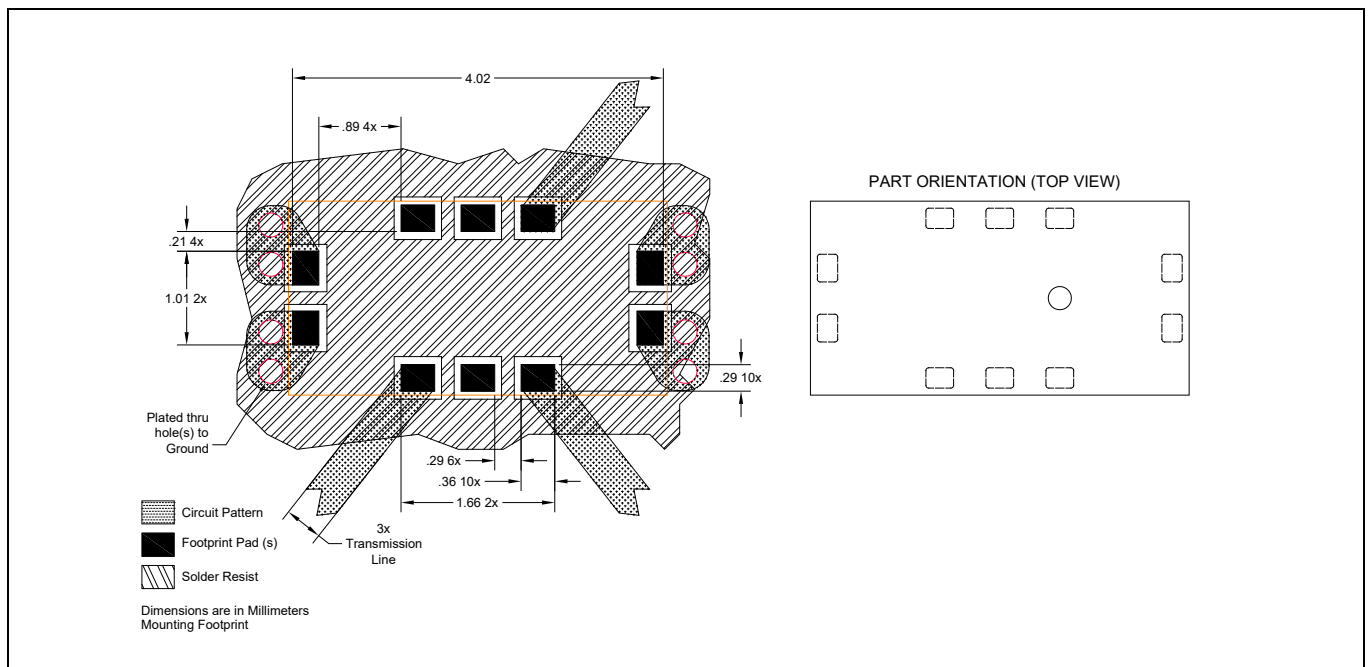
**Mounting Configuration:**

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.

**To supply common mode voltage offset to the analog-to-digital converter, DC blocking capacitors are needed at the balanced port (pins 6 & 8).**

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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