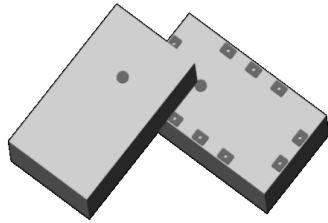




Ultra Low Profile 1608 Balun
50Ω to 50Ω Balanced



Description:

The BD0205F5050AHF is a low profile sub-miniature balanced to unbalanced transformer designed for differential input locations on data conversion devices such as A to D and D to A converters. In an easy to use surface mount package covering 75 MHz to 1000 MHz and with CMRR performances over 2x that of the incumbent wire wound products, this transformer is optimized to offer improved SFDR management during operation of the data converter device. The BD0205F5050AHF is ideal for high volume manufacturing and is higher performance and smaller form factor than traditional wire wound transformers. The BD0205F5050AHF has an unbalanced port impedance of 50Ω and a 50Ω 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 BD0205F5050AHF is available on tape and reel for pick and place high volume manufacturing.

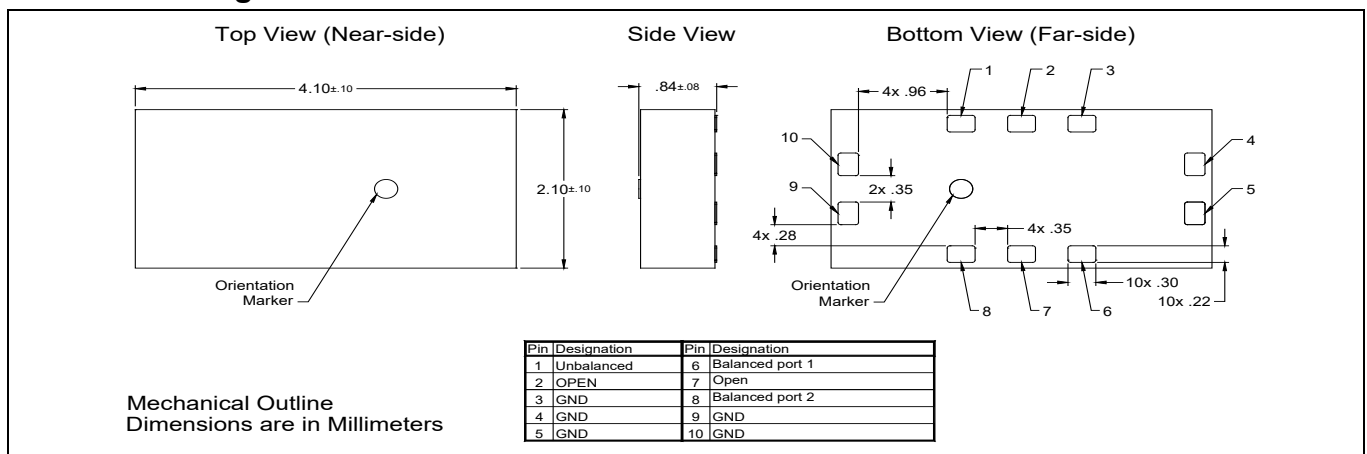
Detailed Electrical Specifications:

Specifications subject to change without notice

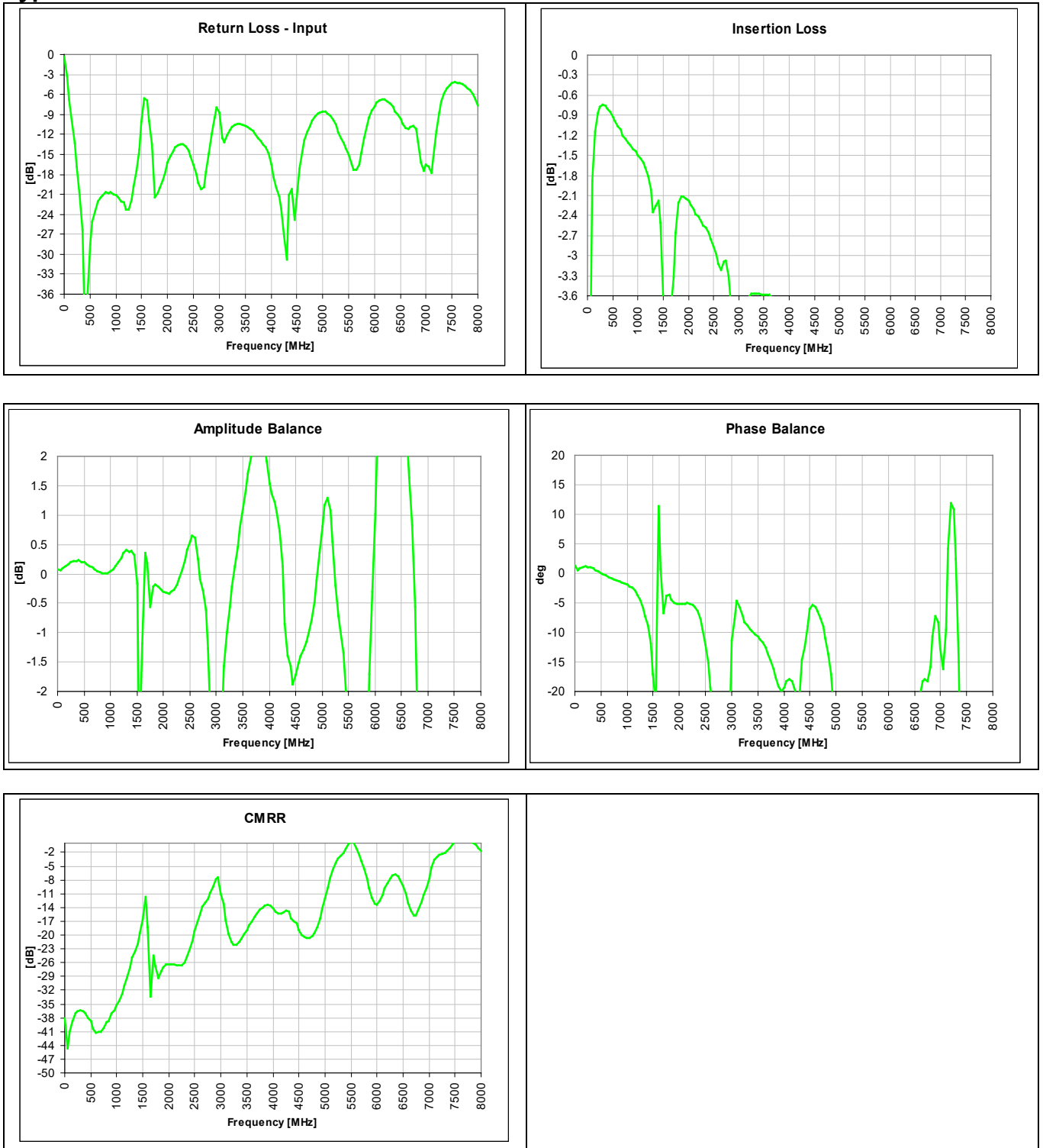
| Features: | Parameter | ROOM (25°C) | | | | | | Unit |
|---------------------------------|---------------------------|-------------|------|------|------|------|------|---------|
| | | Min. | Typ. | Max | Min. | Typ. | Max | |
| • 70 – 1000 MHz (IL 3dB BW) | Frequency | 70 | | 1000 | 200 | | 500 | MHz |
| • 200-500 MHz (IL 1dB BW) | Unbalanced Port Impedance | | 50 | | 50 | | | Ohm |
| • 0.83 mm Height Profile | Balanced Port Impedance | | 50 | | 50 | | | Ohm |
| • 50 Ohm to 2 x 25 Ohm | Return Loss | 4 | 4.6 | | 11 | 13 | | dB |
| • Excellent CMRR (36dB typical) | Insertion Loss* | | 3.0 | 3.4 | 0.9 | 1.1 | | dB |
| • Input to Output DC Isolation | Amplitude Balance | | 0.2 | 0.6 | 0.2 | 0.6 | | dB |
| • Surface Mountable | Phase Balance | | 1 | 3 | 1 | 3 | | Degrees |
| • Tape & Reel | CMRR | | 36 | | 36 | | | dB |
| • Non-conductive Top Surface | Power Handling @85C | | | 2 | | 2 | | Watts |
| • RoHS Compliant | Power Handling @105C | | | 1.2 | | 1.2 | | Watts |
| • Halogen Free | Operating Temperature | -55 | | +105 | -55 | | +105 | °C |

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

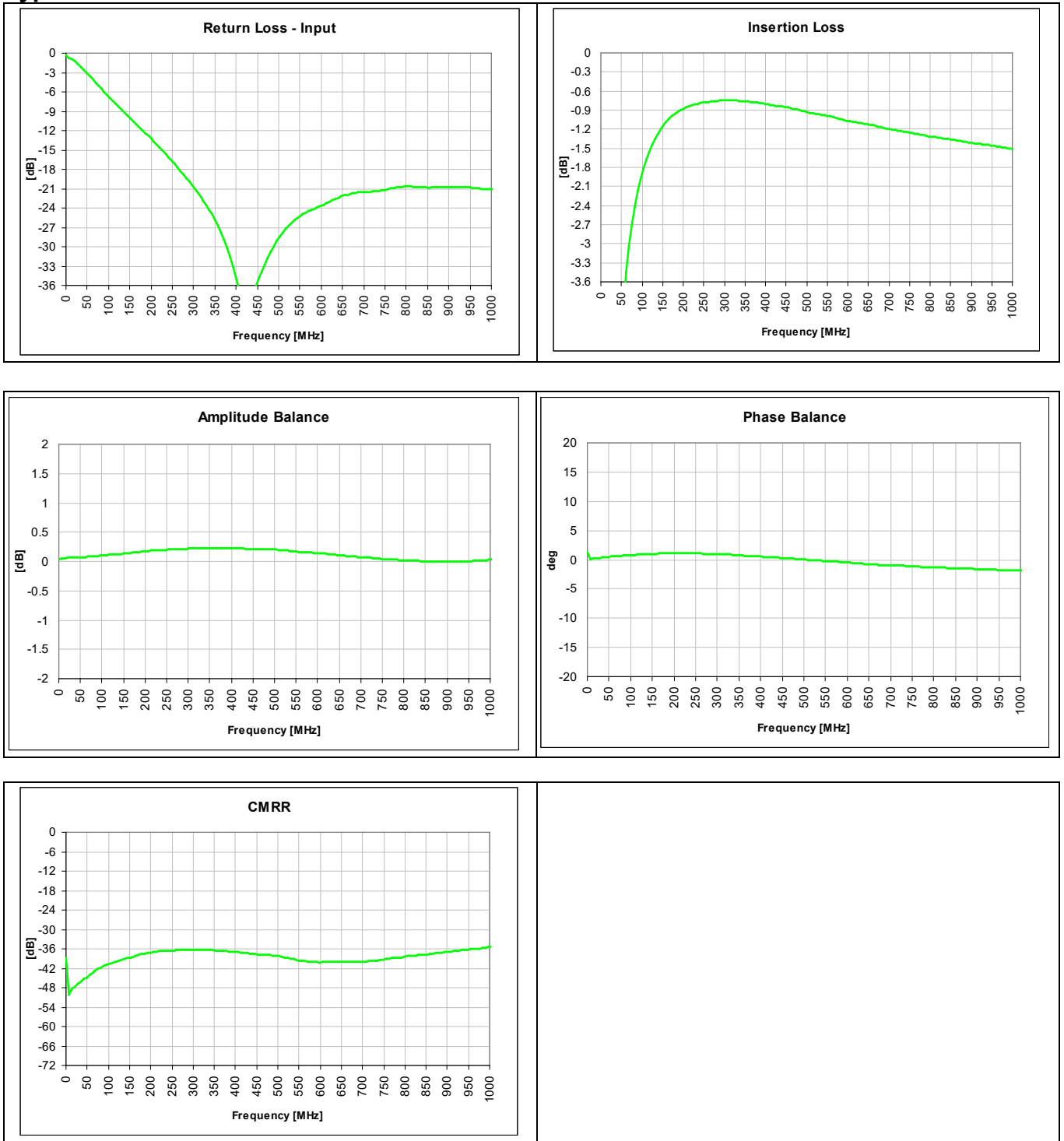
Outline Drawing:



Typical Broadband Performance: 0 - 8.0 GHz.



Typical Performance: 0 MHz. to 1000 MHz.

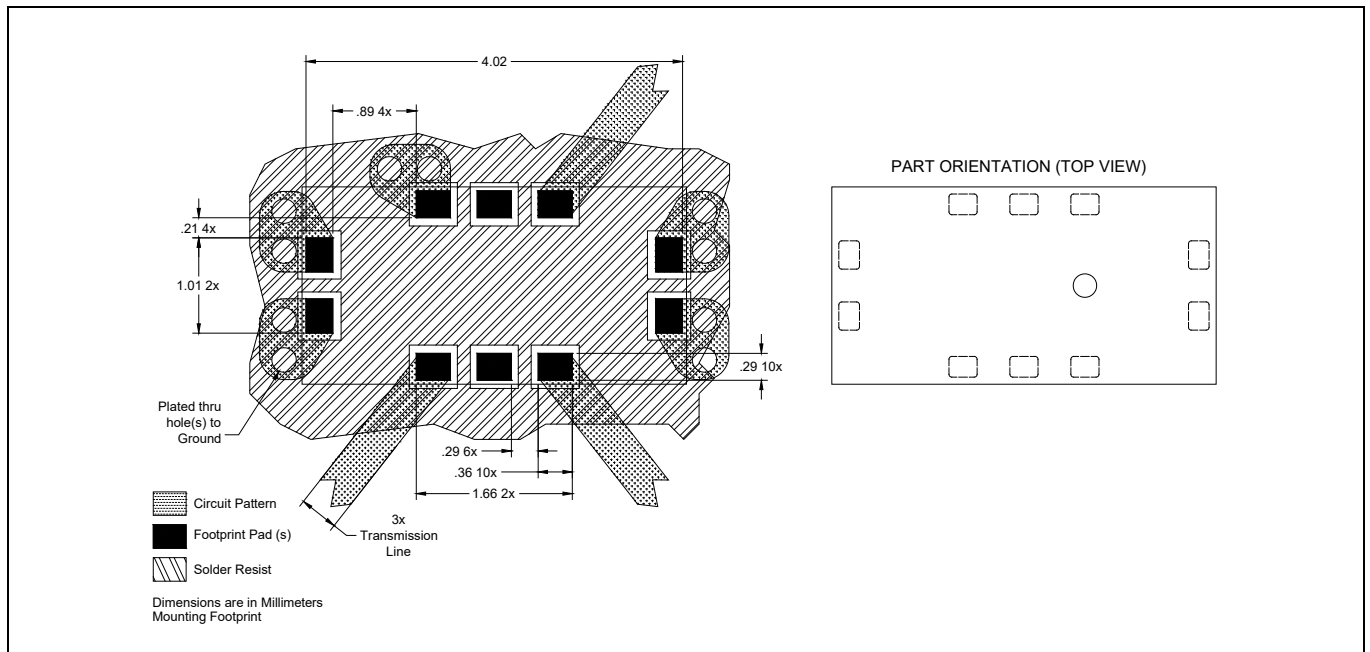


Mounting Configuration:

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.

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.



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.

Available upon request

Contact us:
rf&s_support@ttm.com