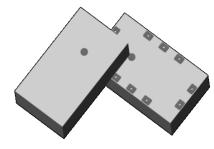


DOOM (250C)





# 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 50 and a 200 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.

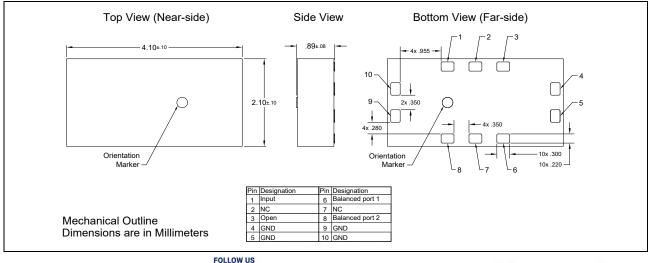
# **Detailed Electrical Specifications:**

Specifications subject to change without notice.

| Features:   | Parameter                 | Min. | Тур. | Max        | Unit    |
|---|---------------------------|------|------|------------|---------|
| <ul> <li>125 –700 MHz (IL 3dB BW)</li> </ul>                      | Frequency                 | 200  |      | 500        | MHz     |
| • 200 – 500 MHz (IL 1dB BW)                                       | Unbalanced Port Impedance |      | 50   |            | Ω       |
| 0.83 mm Height Profile  | Balanced Port Impedance   |      | 200  |            | Ω       |
| <ul> <li>50 Ohm to 2 x 100 Ohm</li> <li>Excellent CMRR</li> </ul> | Return Loss               | 13.9 | 17.7 |            | dB      |
| <ul> <li>Input to Output DC Isolation</li> </ul>                  | Insertion Loss*           | 10.0 | 1.3  | 1.6        | dB      |
| Surface Mountable   | Amplitude Balance         |      | 0.1  | 0.4        | dB      |
| Tape & Reel   | Phase Balance             |      | 1.3  | 0.4<br>3.1 | Degrees |
| Non-conductive Top Surface  | CMRR                      |      |      | 5.1        | •       |
| RoHS Compliant  |                           |      | 38.2 | 0          | dB      |
| Halogen Free  | 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:**



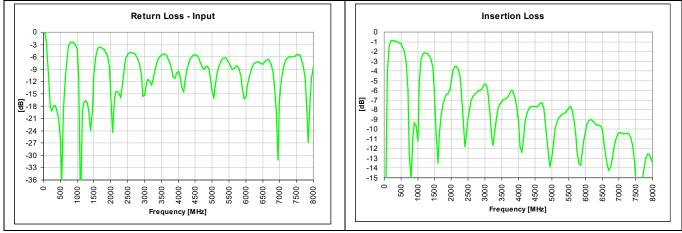
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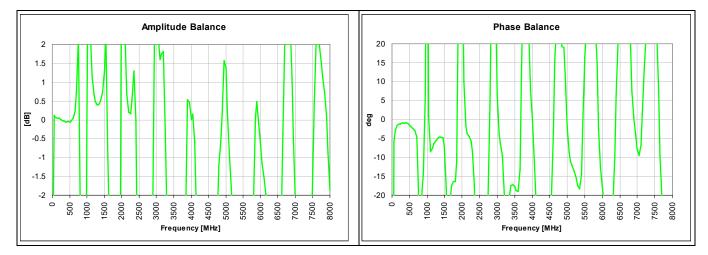
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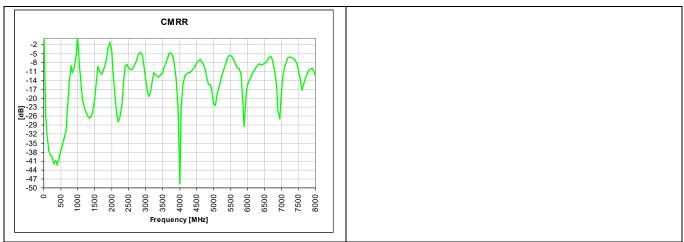


B0205F50200AHF Rev C

## Typical Broadband Performance: 0 - 8.0 GHz.







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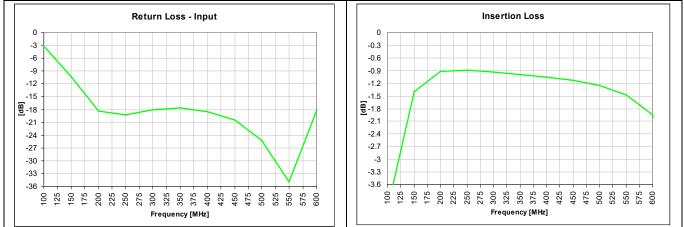
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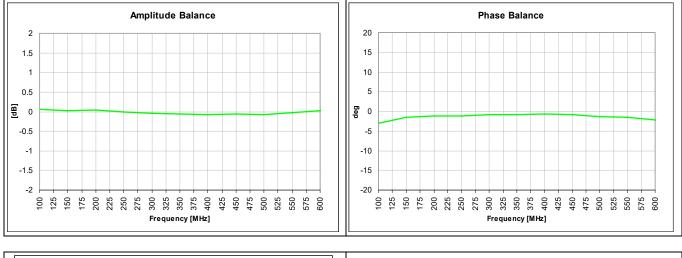
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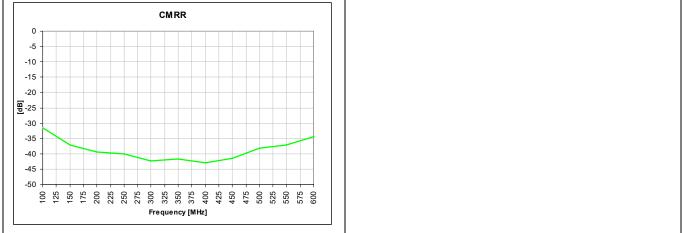


B0205F50200AHF Rev C

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







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