

HIGH FREQUENCY BALUN ADAPTER

For 150 Ω Fibre Channel , 100 Ω Gigabit Ethernet and 78 Ω High Speed 1553
Military/Aerospace Grade/Specialty Components



- 🔌 Transforms a balanced differential signal to a 50 Ω, grounded, unbalanced signal for testing differential cable
- 🔌 Designed for standard test equipment with SMA connectors
- Wide bandwidth 1.0 MHz – 1.2 GHz
- 🔌 Operating temperature range from
- 🔌 0° C to 70° C

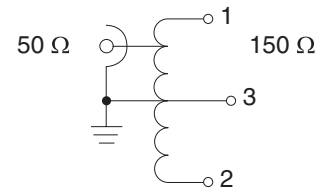
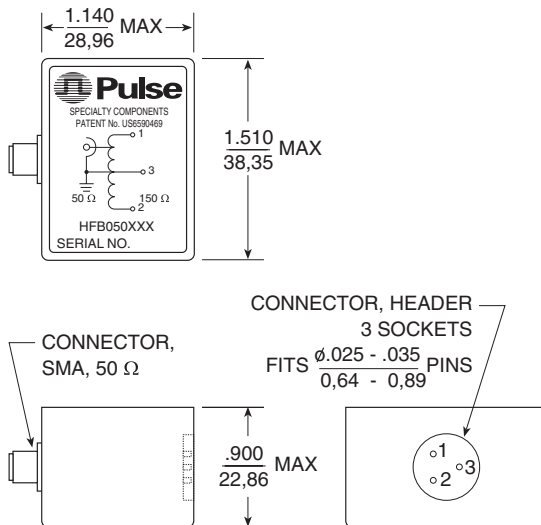
Electrical Specifications @ 25°C — Operating Temperature 0° C to +70° C

| Part Number* | Impedance (Ω) | Rated (A) | Insertion Loss (dB MAX) 1.0 MHz - 1.2 GHz | Return Loss (dB MIN) 1.0 MHz - 1.2 GHz |
|--------------|---------------|-----------|--|---|
| | Unbalanced | Balanced | | |
| HFB050150 | 50 | 150 | -2 | 15 |
| HFB050100 | 50 | 100 | -2 | 15 |
| HFB050078 | 50 | 78 | -2 | 15 |

Mechanical

Schematic

HFB050XXX



Weight 40.0 grams MAX
Packaging 1 per box

Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified, all tolerances are $\pm .010$
0,25

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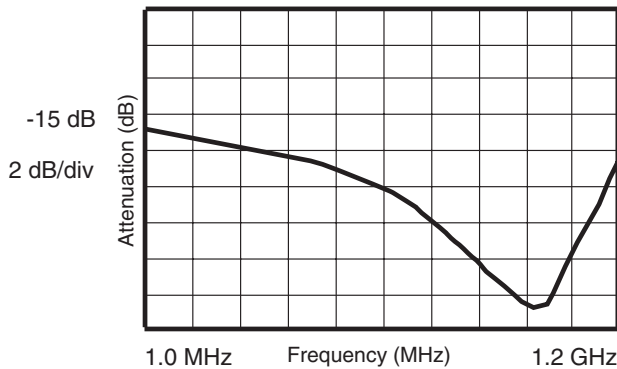
Application Notes

The Specialty Components Division has developed a high frequency BALUN for test and measurement applications. Wide bandwidth and high frequency response makes this device ideal for differential mode measurement in high

speed applications such as Fibre Channel, Gigabit Ethernet and next generation MIL-STD-1553. The BALUN allows design engineers to characterize differential mode devices using single-ended test equipment as shown below.

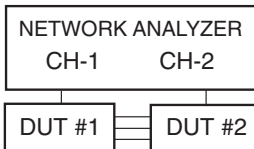
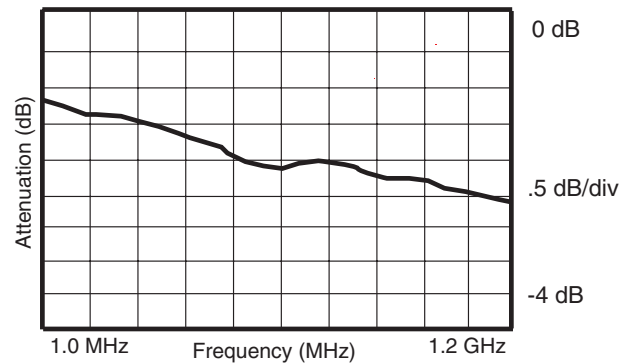
Typical Return Loss - S11

50 ohm Unbalanced Port



Typical Insertion Loss - S21

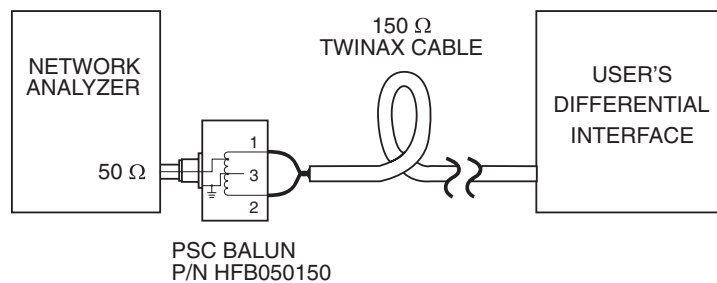
Two Baluns Configured Back to Back



Insertion loss S21 is measured with two units connected back to back as shown.

Note 1: Correct value of S21 for each DUT will be 1/2 of the value shown in graph.

Note 2: Return loss S11 is measured on 50 ohm port with 150 ohms termination on balance port.



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