

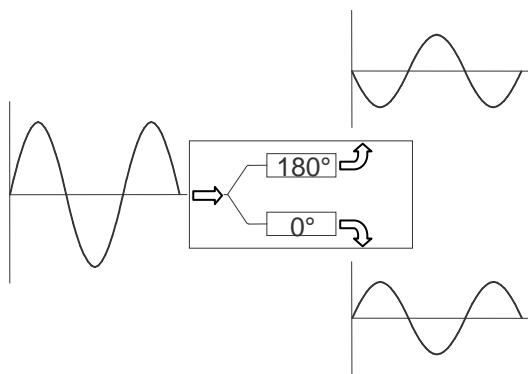


# BROADBAND BALUN (200 kHz to 6 GHz)

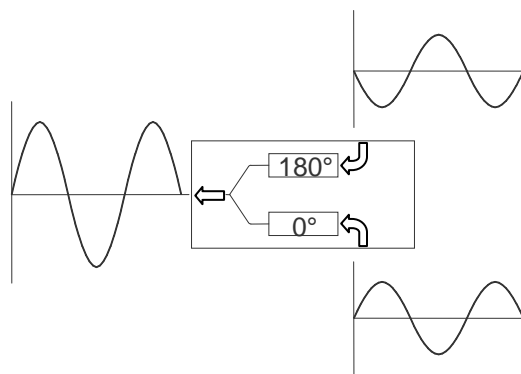
**BAL-0006**

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## Block Diagram



**Single ended to differential**



**Differential to single ended**

## Typical Performance

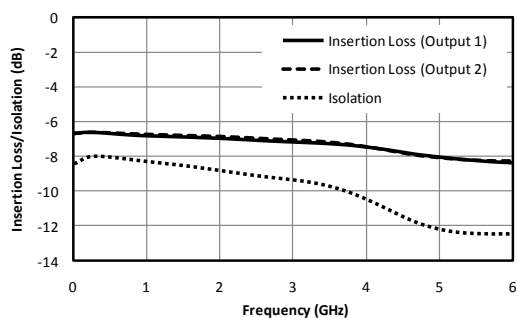


Fig. 1. Common to output port insertion loss and output to output port Isolation.

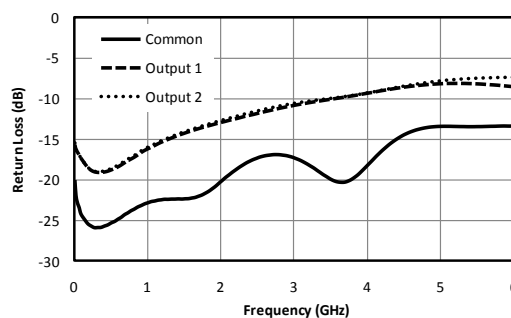


Fig. 2. Return loss for common port and output ports.

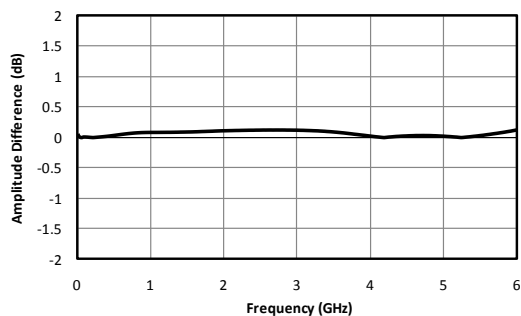


Fig. 3. Amplitude balance between output ports.

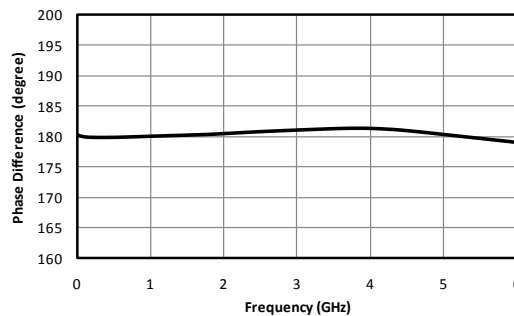


Fig. 4. Phase balance between output ports.

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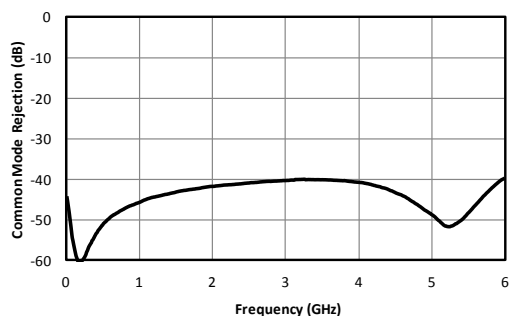


Fig. 5. Common mode rejection.

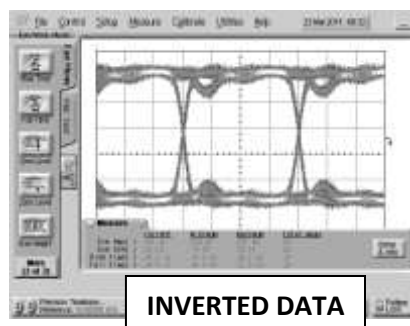
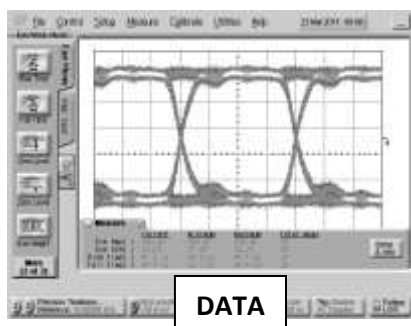
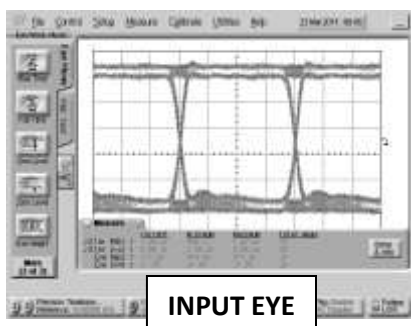
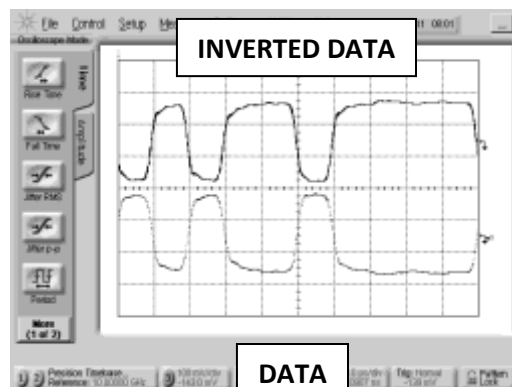
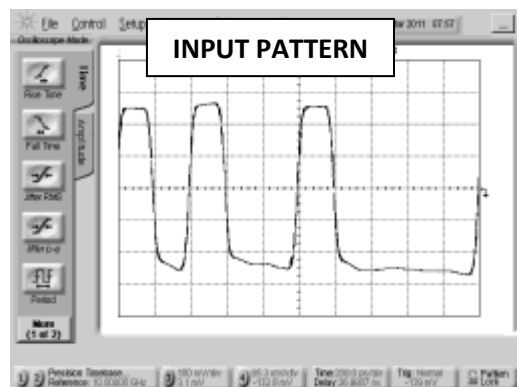


Fig. 6. Oscilloscope measurements of the BAL-0006 with a 5 Gb/s PRBS pattern. Bit pattern is measured with a  $2^7-1$  PRBS input demonstrating extremely good pulse fidelity for both inverted and non-inverted output. Eye diagrams are taken with a  $2^{31}-1$  PRBS input demonstrating minimal eye distortion/closure afforded by the extremely low frequency operation of the balun (<200 kHz).

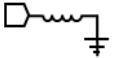
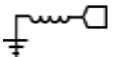
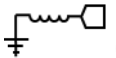


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### DC Interface

Port	Description	DC Interface Schematic
Common Port / In (Unbalanced)	The common port is DC short to ground.	 Common Port (Unbalanced)
Out 1 / 0° Port (Balanced)	The 0° port is DC short to ground.	 0° Port (Balanced)
Out 2 / 180° Port (Balanced)	The 180° port is DC short to ground.	 180° Port (Balanced)

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