

Features

- 200 kHz to 10 GHz Balun (Balanced to Unbalanced Transformer)
- Matched 50 Ohm Impedance on Input and Output Ports
- Tuned for Optimal Phase/Amplitude Balance
- Applications: Analog to Digital Converters, Balanced Receivers, Baseband Digital Modulation, Signal Integrity
- <u>BAL-0010.s3p</u>

BAL-0010



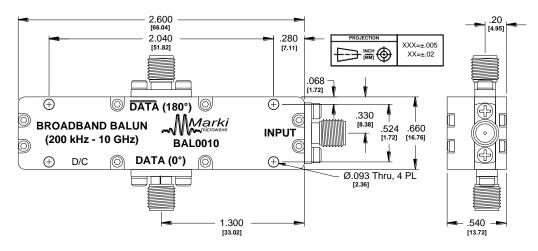
Electrical Specifications - Specifications guaranteed from -55 to +100°C, measured in a 50Ω system.

Parameter	Frequency Range	Min	Тур	Max
Nominal Insertion Loss (dB)	-		6	
Nominal Phase Shift (Degrees)			180	
Amplitude Balance (dB)			±0.2	±0.6
Phase Balance (Degrees)	1		±2	±6
Common Mode Rejection (dB)	200 kHz to 10 GHz	25	35	
Excess Insertion Loss (dB) ¹			2	3.5
Isolation (dB)			9	
VSWR (Input)			1.45	
VSWR (Output)			1.8	
Risetime /Falltime (ps) ²			20	
Total Input Power (W)				1
Weight (g)			32	

¹Excess Insertion Loss = (Common Port to Output Port Insertion Loss) – 6 dB. ²Specified as 90%/10%. Calculated from $\tau_{\text{balun}}^2 = (\tau_{\text{out}}^2 - \tau_{\text{in}}^2)$

Model Number	Description	
BAL-0010	200 kHz to 10 GHz Balun with SMA connectors ¹	

¹Default is SMA female connectors. Consult factory for other connector options.



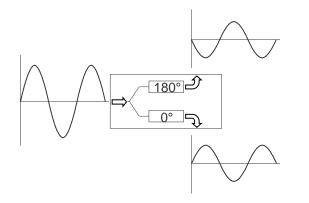
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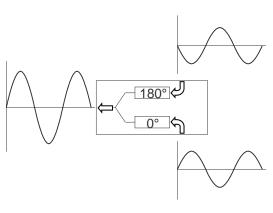
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Block Diagram



Single ended to differential



Differential to single ended



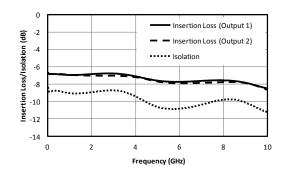


Fig. 1. Common to output port insertion loss and output to output port Isolation.

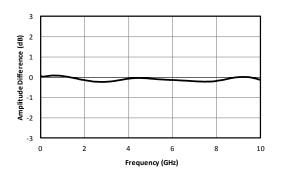


Fig. 3. Amplitude balance between output ports.

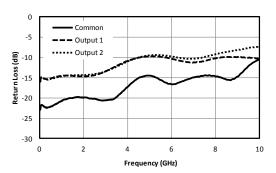
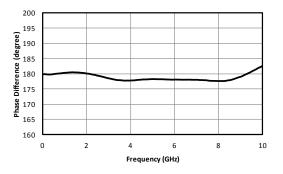
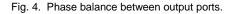


Fig. 2. Return loss for common port and output ports.





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Tynical Performance



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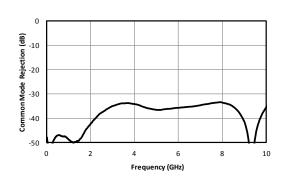
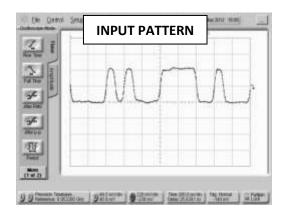
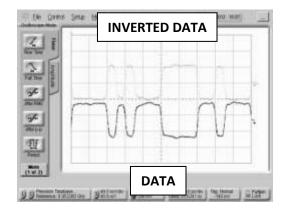
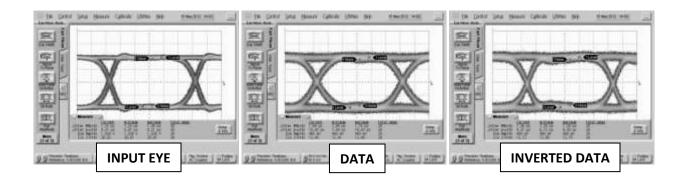
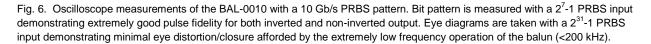


Fig. 5. Common mode rejection.









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DC Interface

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

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