



WIDEBAND WILKINSON POWER DIVIDER

PD-0450

Features

- 4 to 50 GHz In-phase Power Splitting
- Low Insertion Loss
- Outstanding Phase and Amplitude Balance
- [Microwave Power Dividers & Couplers App Note](#)



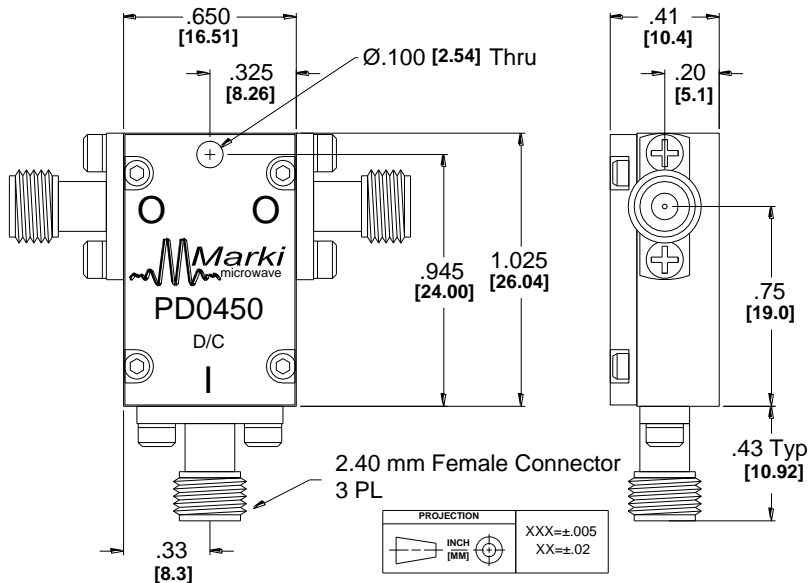
Electrical Specifications - Specifications guaranteed from -55 to +100°C, measured in a 50Ω system.

Parameter	Frequency Range (GHz)	Min	Typ	Max	
Nominal Power Splitting (dB)	4 to 50		3		
Nominal Phase Shift (Degrees)			0		
Amplitude Balance (dB)			±0.5	±1.5	
Phase Balance (Degrees)			±5	±15	
Excess Insertion Loss (dB) ¹				1.2	2.8
VSWR				1.55	
Isolation (dB)			13	18	
Weight (g)				35	

¹Excess Insertion Loss = (Common Port to Output Port Insertion Loss) – 3 dB.

Model Number	Description
PD-0450	4 – 50 GHz Power Divider with 2.40 mm connectors ¹

¹Default is 2.40 mm female connectors. Consult factory for other connector options.



Typical Performance

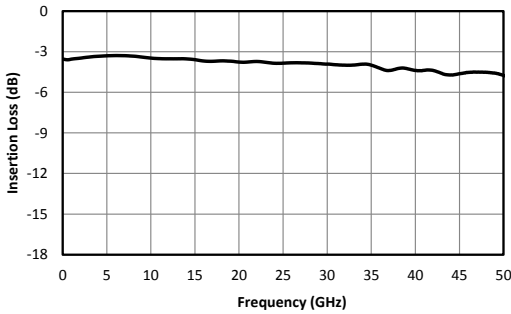


Fig. 1. Common port to output port insertion loss.

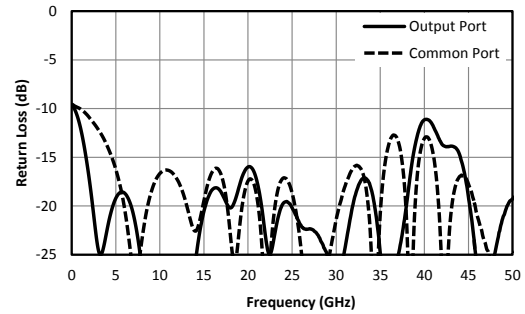


Fig. 2. Return loss for output and common ports.

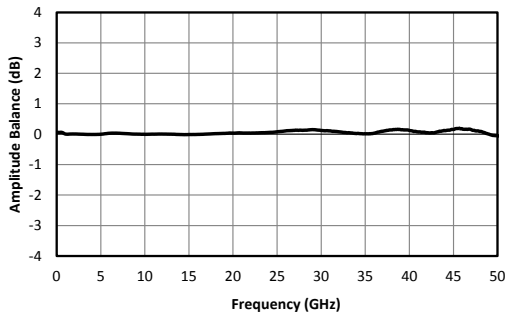


Fig. 3. Amplitude balance between output ports.

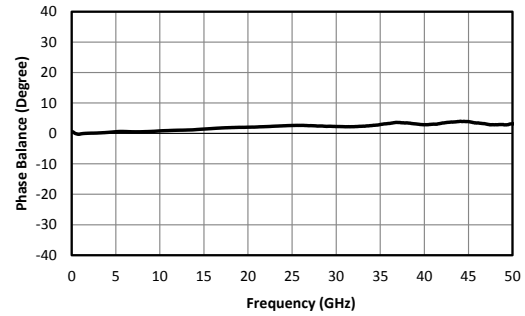


Fig. 4. Phase balance between output ports.

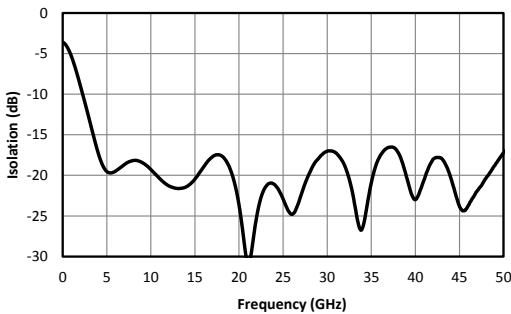


Fig. 5. Isolation between output ports.

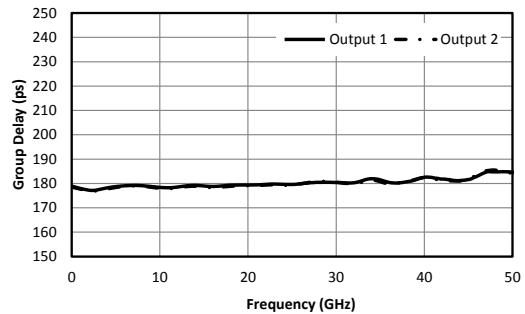


Fig. 6. Group Delay

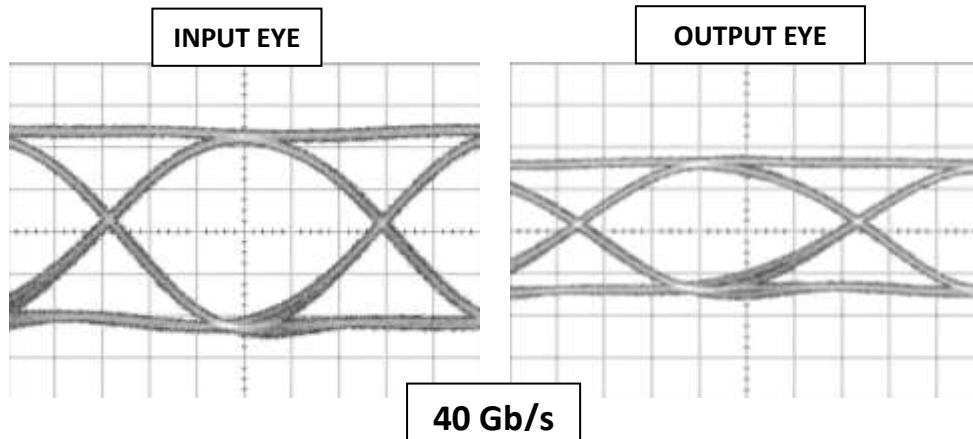


Fig. 7. Oscilloscope measurements of the PD-0450 with a 40 Gb/s PRBS pattern in power splitting mode. Eye diagrams are taken with a $2^{31}-1$ PRBS input demonstrating minimal eye distortion/closure afforded by the DC operation of the power splitter.

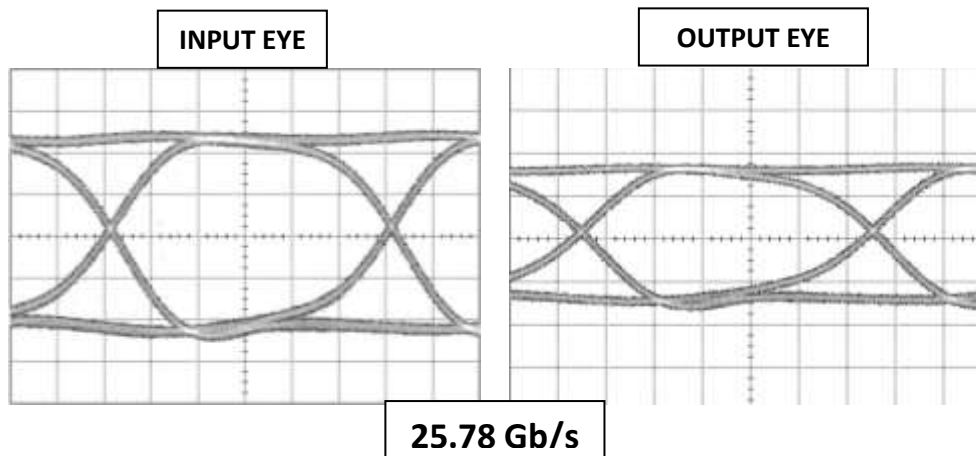


Fig. 8. Oscilloscope measurements of the PD-0450 with a 25.78 Gb/s PRBS pattern in power splitting mode. Eye diagrams are taken with a $2^{31}-1$ PRBS input demonstrating minimal eye distortion/closure afforded by the DC operation of the power splitter.

WIDEBAND WILKINSON POWER DIVIDER

PD-0450

Page 4

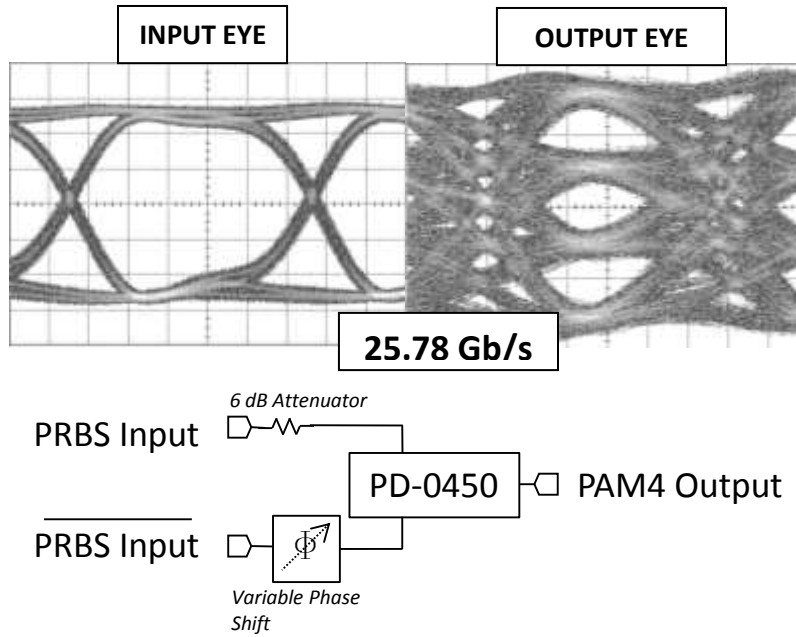


Fig. 9. Oscilloscope measurements of the PD-0450 generating a 25.78 Gb/s pattern in power combining mode. Eye diagrams are taken with a $2^{10}-1$ PRBS input but without phase/amplitude tuning capability. For more information see the blog post "[Yes, Wilkinson power dividers also work for combining data](#)".

Marki Microwave reserves the right to make changes to the product(s) or information contained herein without notice. Marki Microwave makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Marki Microwave assume any liability whatsoever arising out of the use of or application of any product.