

LEAD-FREE / RoHS-COMPLIANT

HIGH ISOLATION POWER COMBINER

PBR-0003SMG

Features

- 10 MHz to 3 GHz Power Combiner/Divider
- 40 dB Typ Isolation
- Applications: High Isolation Power Combining for Test Equipment
- [Microwave Power Dividers & Couplers App Note](#)



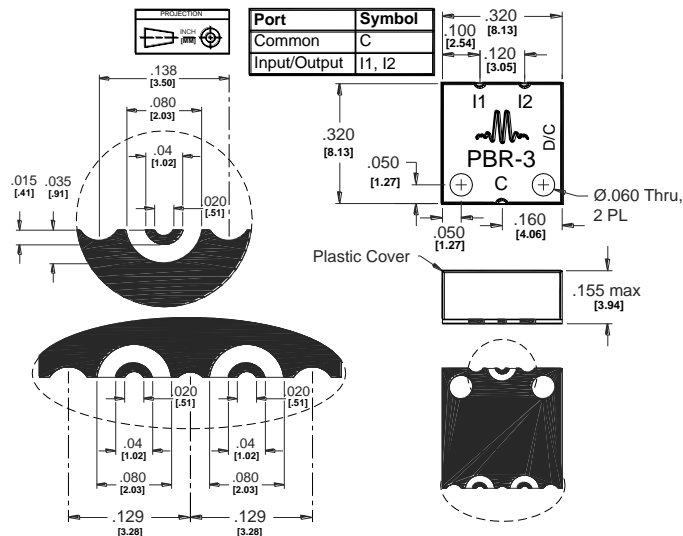
Electrical Specifications - Specifications guaranteed from -55 to +100°C, measured in a 50Ω system.

Parameter	Frequency Range	Min	Typ	Max	
Nominal Power Splitting (dB)	10 MHz to 3 GHz		6		
Amplitude Balance (dB)			±0.8	±1.6	
Excess Insertion Loss (dB) ¹				1.5	3
Input Port VSWR				1.2	
Common Port VSWR				1.4	
Isolation (dB)			28	40	
Power (W)					1

¹Excess Insertion Loss = (Input Port to Common Port Insertion Loss) – 6 dB.

Model Number	Description
PBR-0003SMG	10 MHz to 3 GHz Power Combiner, Surface Mount, LEAD-FREE/RoHS COMPLIANT

Connectorized evaluation fixtures available. Consult factory.



Substrate material is 8-mil thick Rogers 4003, 1 Oz Electrodeposited Cu. I/O Pads & Ground Plane Finish is Gold Flash, 5 to 10 μ-inches, over Electroplated Nickel, 100-200 μ-inches, over Cu. See [PBRSMG-PCB](#) for suggested PCB layout. Drying bake required after aqueous wash.

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IP3 measurement using high isolation power combiner

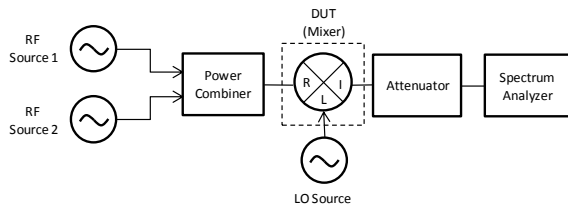


Fig. 1. Mixer IP3 measurement

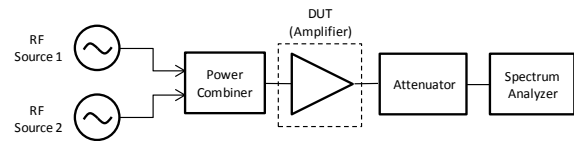


Fig. 2. Amplifier IP3 measurement

Typical Performance

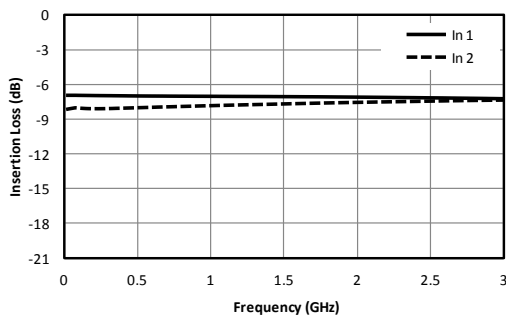


Fig. 3. Input port to common port insertion loss.

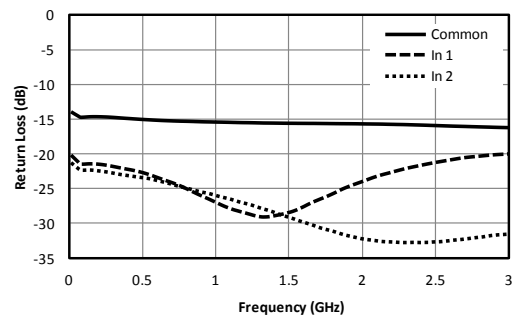


Fig. 4. Return loss for input and common ports.

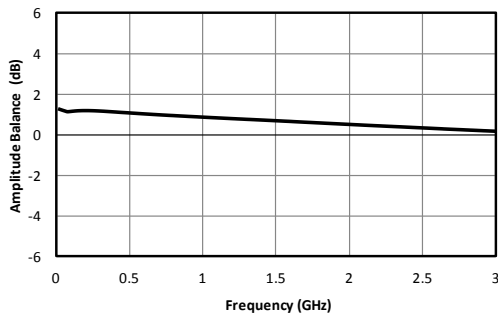


Fig. 5. Amplitude balance between input ports.

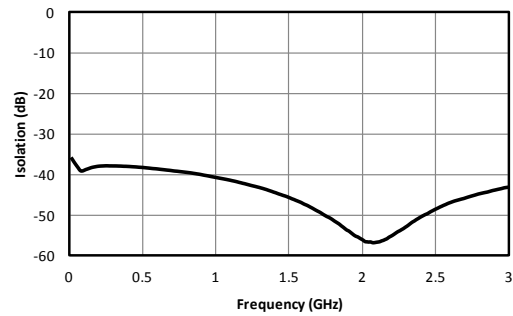


Fig. 6. Isolation between input ports.

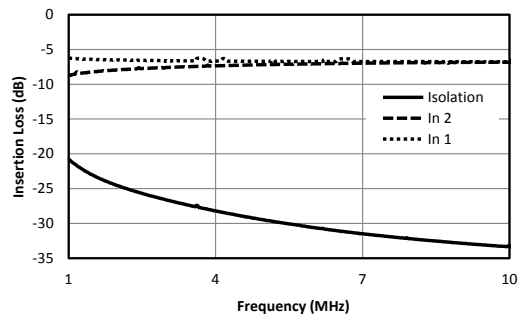


Fig. 7. Low Frequency Performance.

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