

LEAD-FREE / RoHS-COMPLIANT HIGH ISOLATION POWER COMBINER

PBR-0003

Features

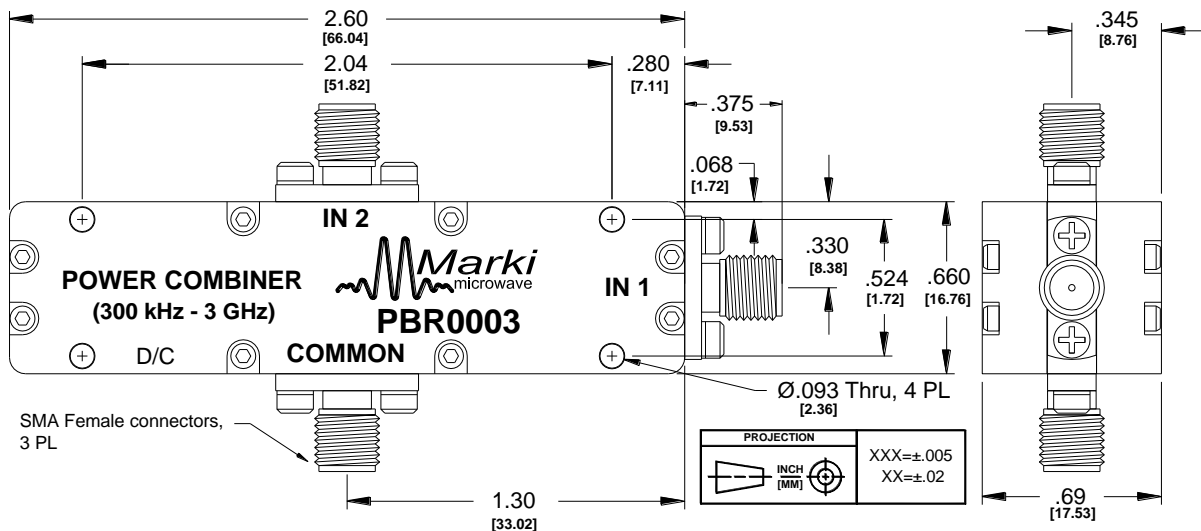
- 300kHz to 3 GHz Power Combiner
- 45 dB Typ Isolation
- Applications: IP3 Measurement and High Isolation Test Set-ups
- [Microwave Power Dividers & Couplers App Note](#)



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

| Parameter | Frequency Range | Min | Typ | Max |
|---|-------------------|-----|------|------|
| Nominal Power Splitting (dB) | 300 kHz to 3 GHz | | 6 | |
| Amplitude Balance (dB) | | | ±0.5 | ±1 |
| Excess Insertion Loss (dB) ¹ | | | 1.25 | 2.5 |
| Input Port VSWR | | | 1.15 | 1.45 |
| Common Port VSWR | | | 1.3 | 1.7 |
| Isolation (dB) | 10 MHz to 3 GHz | 37 | 45 | |
| | 300 kHz to 10 MHz | 15 | 30 | |
| Power As Divider (W) | | | | 1 |
| Power As Combiner (W) | | | | |
| Weight (g) | | | 38 | |

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



IP3 measurement using high isolation power combiner

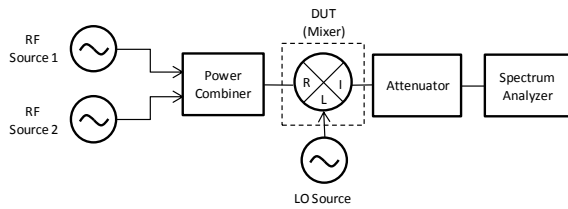


Fig. 1. Mixer IP3 measurement

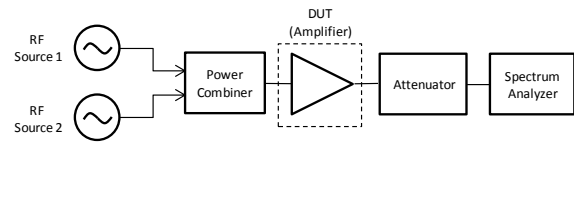


Fig. 2. Amplifier IP3 measurement

Typical Performance

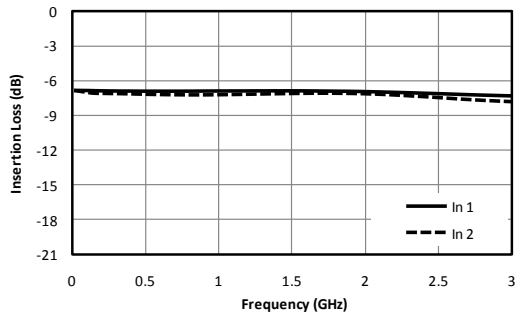


Fig. 3. Input port to common port insertion loss.

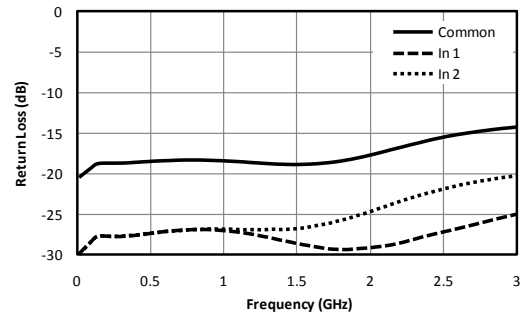


Fig. 4. Return loss for input and common ports.

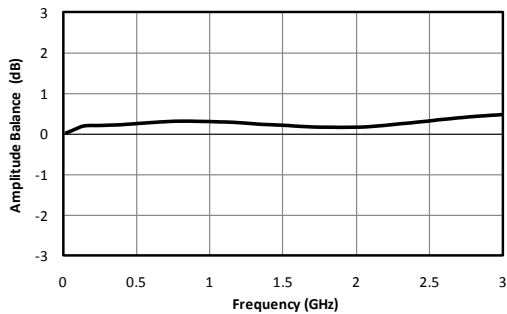


Fig. 5. Amplitude balance between input ports.

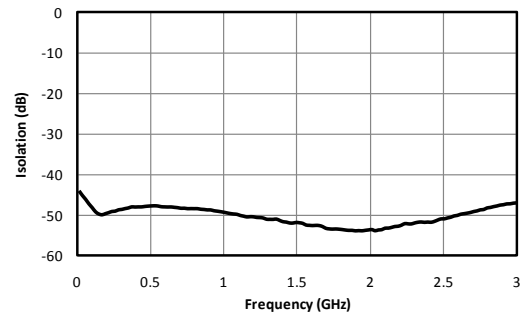


Fig. 6. Isolation between input ports.



| Model Number | Description |
|--------------|---|
| PBR-0003 | 300 kHz – 3 GHz Power Combiner with SMA connectors ¹ , LEAD-FREE/RoHS COMPLIANT |

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

Revision History

| Revision code | Revision Date | Comment |
|---------------|----------------|--------------------------------|
| - | October 2011 | Initial Datasheet release |
| A | September 2015 | Amplitude balance specs update |
| B | November 2019 | RoHS Compliant Assembly |

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