

PBR-0012

High Isolation Power Combiner

DEVICE OVERVIEW

General Description

The PBR-0012 is a 300 kHz to 12 GHz high isolation power combiner. This power combiner features a unique hand tuned construction based on a bridge coupler that enables 35 dB typical isolation across the operational bandwidth. High isolation power combiners are ideal for power combining uncorrelated signals, such as when performing intermodulation distortion (IMD) tests like IP2 and IP3. Their higher insertion loss and uncontrolled phase balance makes them unsuitable for power dividing applications.



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Features

- 300kHz to 12 GHz Power Combiner
- 40 dB Typ Isolation

Applications

- IP3 Measurement
- High Isolation test Set-ups

Functional Block Diagram

N/A

Part Ordering Options

Part Number	Description	Connectors	Green Status	Product Lifecycle	Export Classification
PBR-0012	High Isolation Power Combiner	<u>Standard</u>	REACH RoHS	Released	EAR99

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Revision History

Revision Code	Revision Date	Comment
-	2015-09-03	Datasheet Initial Release

Port Configuration and Functions

Port Functions

Port	Function	Connector Type	Description	DC Equivalent Circuit
Common	Common	SMAF	Combined output port.	-
IN 1	Input 1	SMAF	RF input 1 of the combiner.	-
IN 2	Input 2	SMAF	RF input 2 of the combiner.	-

Specifications

Absolute Maximum Ratings

Parameter	Maximum Rating	Unit
RF Power Handling, Average	1	W

Package Information

Parameter	Details	Rating
Weight	-	40g
Dimensions	-	66.04 x 16.76 mm

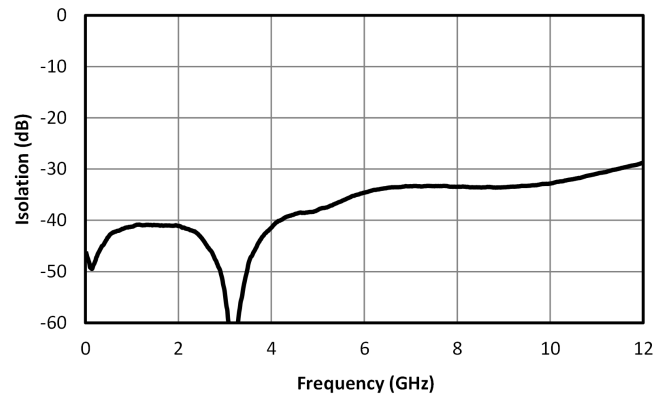
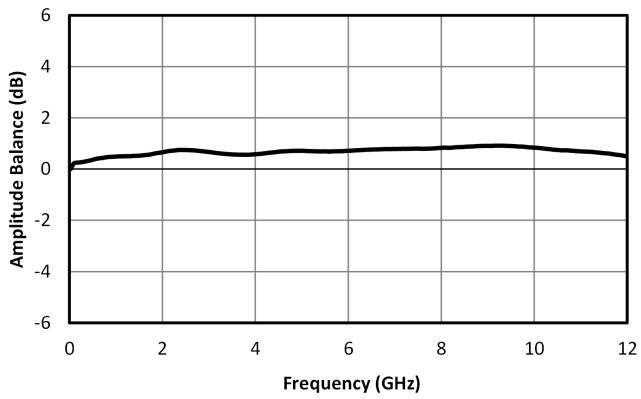
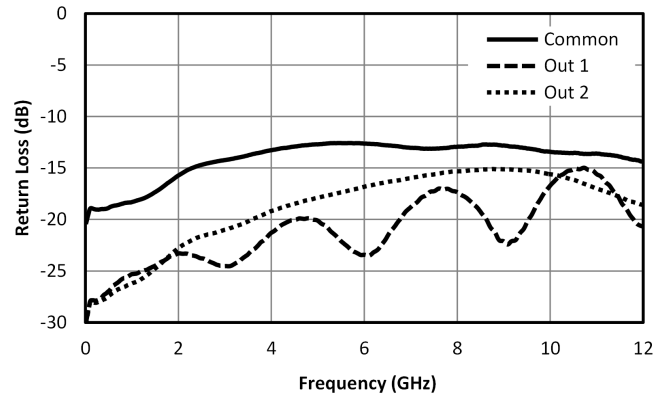
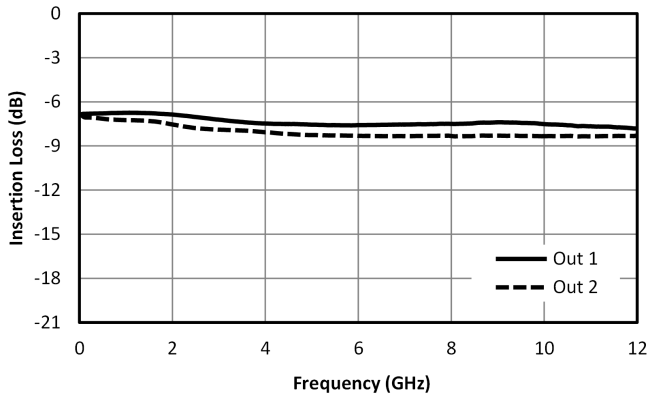
Electrical Specifications

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

Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
Amplitude Balance	-	0.0003	12	-	0.6	1.2	dB
Excess Insertion Loss ¹	-	0.0003	12	-	1.5	3	dB
Input and Common Port VSWR	-	0.0003	12	-	1.4	-	
Isolation	-	0.01	12	15	35	-	dB
Isolation	-	0.3	10	15	30	-	dB
Nominal Power Splitting	-	0.0003	12	-	6	-	dB

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

Typical Performance



Application Information

IP3 measurement using high isolation power combiner.

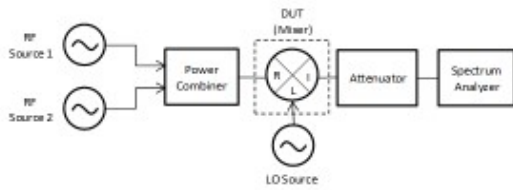


Fig. 1. Mixer IP3 measurement

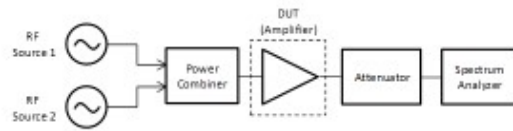
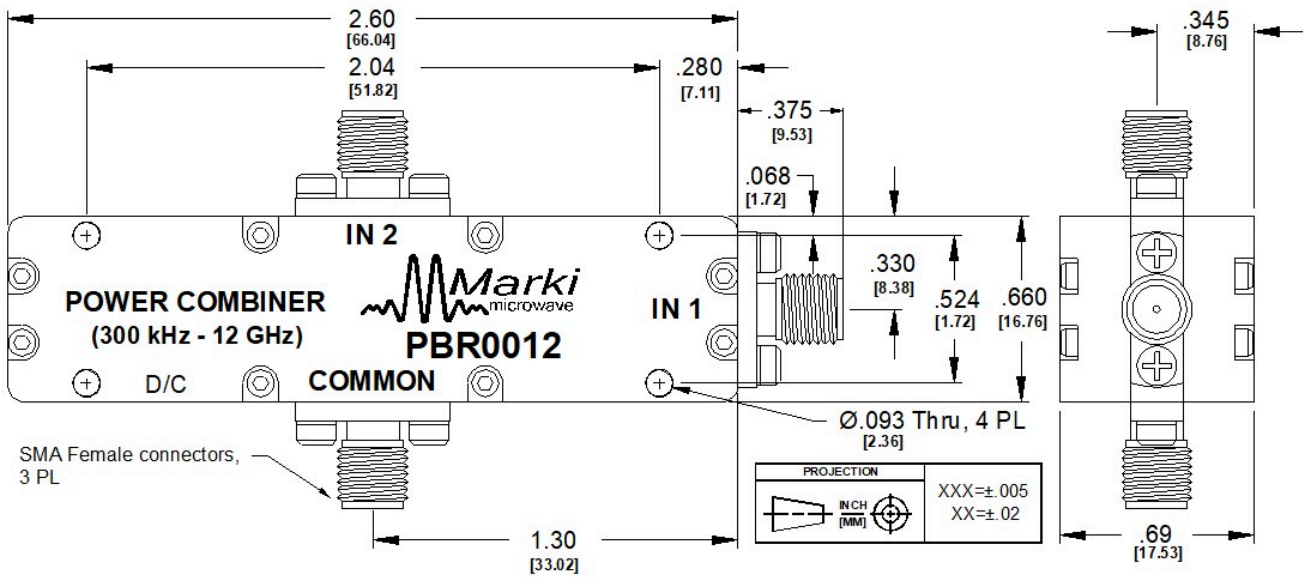


Fig. 2. Amplifier IP3 measurement

Mechanical Data

Outline Drawing

Download : [Outline 2D Drawing](#) | [Outline 3D Drawing](#) | [Outline 3D STP](#)



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