

QH-0867

3 dB Quadrature Hybrid

DEVICE OVERVIEW

General Description

The QH-0867 is a 8-67 GHz, multi-purpose broadband 3dB quadrature hybrid. The multisection tri-plate stripline design exhibits excellent amplitude balance with broadband quadrature phasing (90°) between the output ports. Applications include single sideband upconverters, image rejection downconverters, IQ modulators, balanced amplifiers, microwave correlators and microwave Butler matrices. Custom designs are also available; contact the factory for details.



[Download s-parameters here](#)

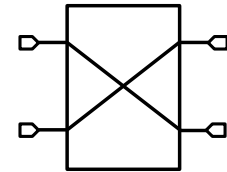
Features

- Broadband performance
- Excellent amplitude and phase balance
- High isolation
- Low VSWR

Applications

N/A

Functional Block Diagram



Part Ordering Options

Part Number	Description	Connectors	Green Status	Product Lifecycle	Export Classification
QH-0867	3 dB Quadrature Hybrid	<u>Standard</u>	REACH RoHS	Released	EAR99

Table Of Contents

■ Device Overview

- General Description
- Features
- Applications
- Functional Block Diagram

■ Port Configuration and Functions

- Port Diagram
- Port Functions

■ Specifications

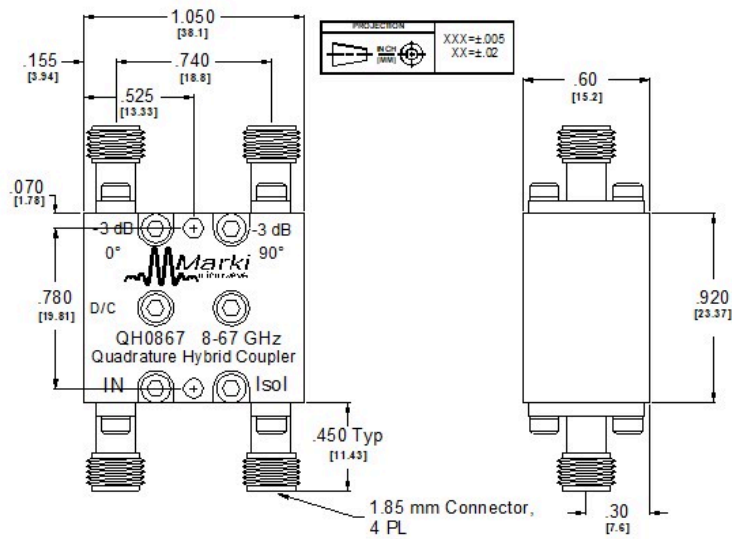
- Package Information
- Electrical Specifications
- Typical Performance

■ Mechanical Data

- Outline Drawing

Port Configuration and Functions

Port Diagram



Port Functions

Port	Function	Connector Type	Description	DC Equivalent Circuit
Port 1	0° Output	1.85F	Port 1 is DC short to port 3 and open to ground.	
Port 2	90° Output	1.85F	Port 2 is DC short to port 4 and open to ground	
Port 3	Isolated	1.85F	Port 3 is DC short to port 1 and open to ground.	
Port 4	Input	1.85F	Port 4 is DC short to port 2 and open to ground	

Specifications

Package Information

Parameter	Details	Rating
Weight	-	36g
Dimensions	-	38.81 x 23.37 mm

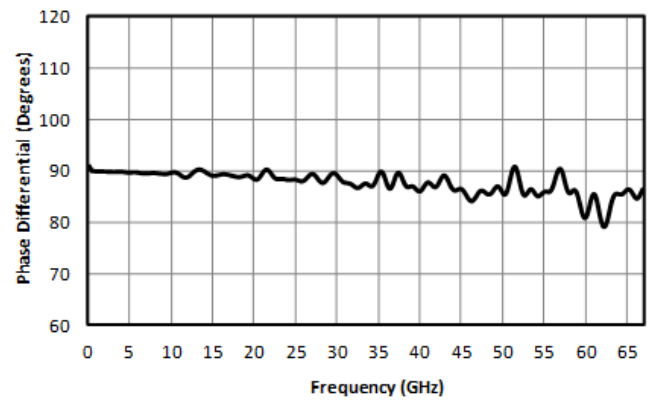
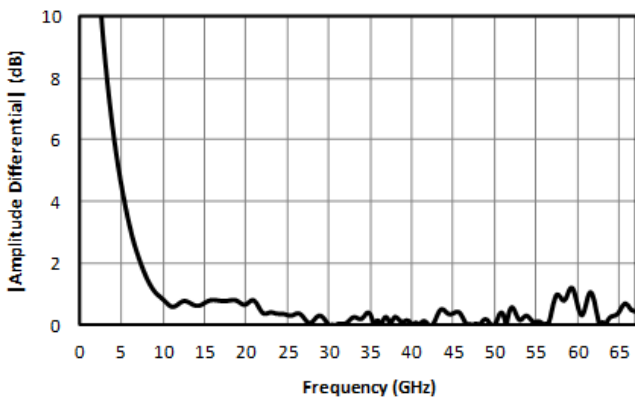
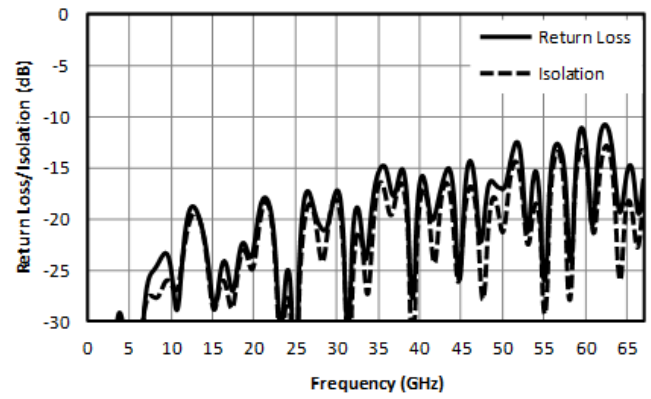
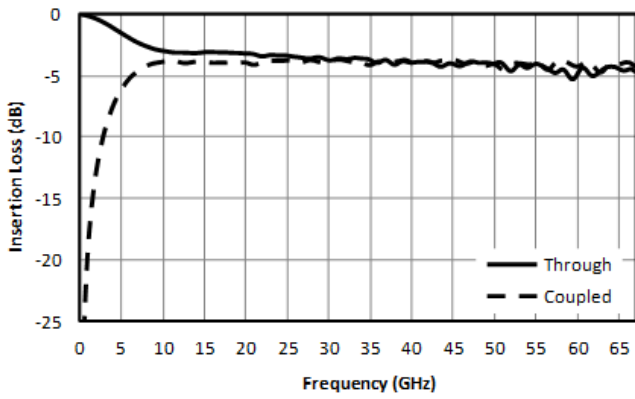
Electrical Specifications

Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
Amplitude Balance ¹	-	8	67	-	0.6	1.2	dB
Excess Insertion Loss ²	-	8	67	-	1.2	-	dB
Isolation	-	50	67	9	13	-	dB
Isolation	-	8	50	13	18	-	dB
Mean Coupling	-	8	67	-	3	-	dB
Nominal Phase Shift	-	8	67	-	90	-	°
Phase Balance	-	8	67	-	6	18	°
VSWR	-	8	40	-	1.3	1.65	
VSWR	-	40	67	-	1.6	-	

^[1] Maximum amplitude differential is twice the magnitude of the amplitude balance

^[2] Excess Insertion Loss = (Input to Output Insertion Loss) – 3 dB.

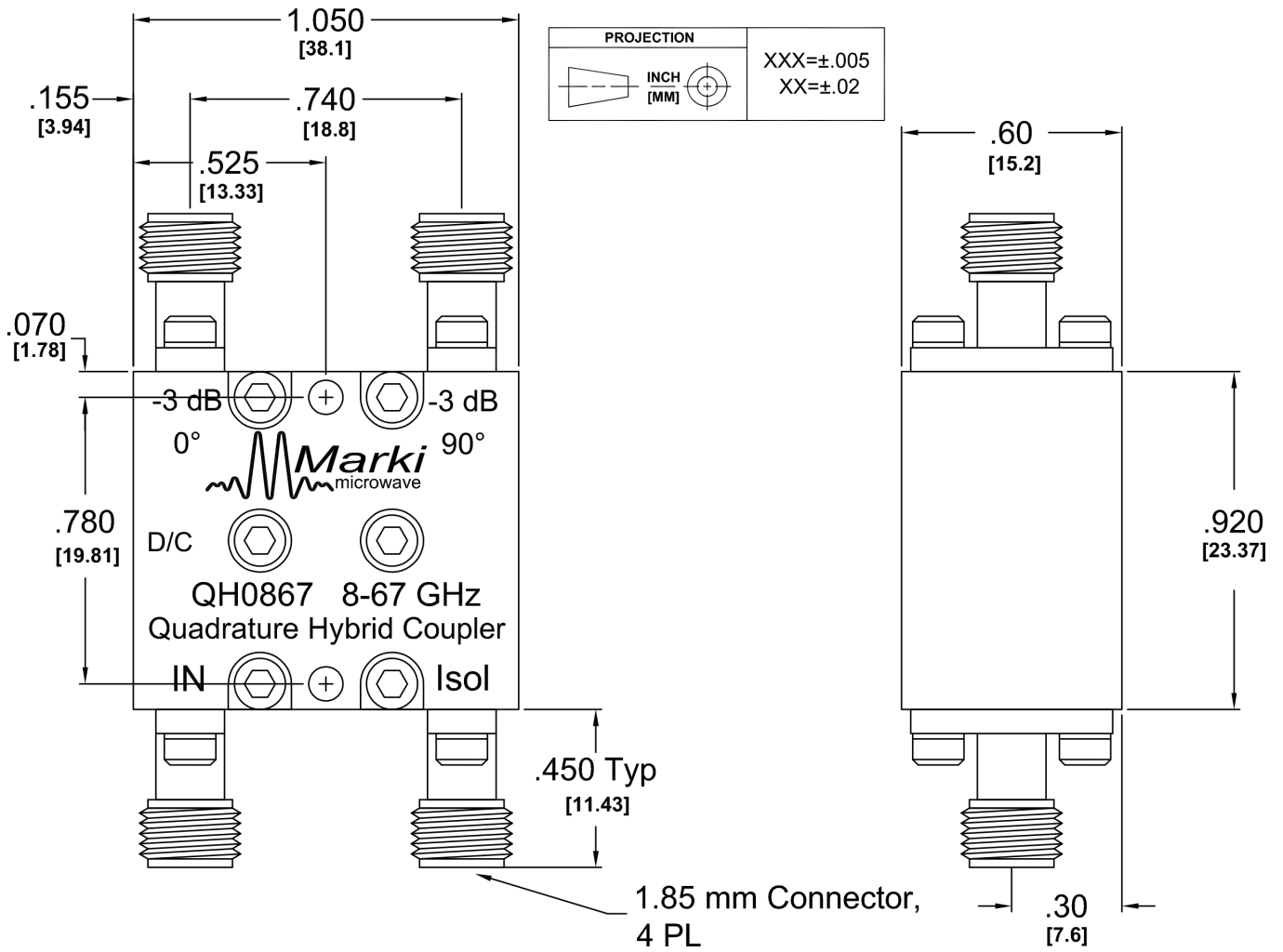
Typical Performance



Mechanical Data

Outline Drawing

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



DISCLAIMER

MARKI MICROWAVE, LLC., ("MARKI") PROVIDES TECHNICAL SPECIFICATIONS AND DATA (INCLUDING DATASHEETS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, AND OTHER INFORMATION AND RESOURCES "AS IS" AND WITH ALL FAULTS. MARKI DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT.

These resources are intended for developers skilled in the art designing with Marki products. You are solely responsible for (1) selecting the appropriate products for your application, (2) designing, validating, and testing your application, and (3) ensuring your application meets applicable standards and other requirements. Marki makes no guarantee regarding the suitability of its products for any particular purpose, nor does Marki assume any liability whatsoever arising out of your use or application of any Marki product.

Marki grants you permission to use these resources only for development of an application that uses Marki products. Other reproduction or use of these resources is strictly prohibited. No license is granted to any other Marki intellectual property or to any third-party intellectual property. Marki reserves the right to make changes to the product(s) or information contained herein without notice.

MARKI MICROWAVE and T3 MIXER are trademarks or registered trademarks of Marki Microwave, LLC. All other trademarks used are the property of their respective owners.

© 2022 - 2026, Marki Microwave, LLC