

# QH-0226

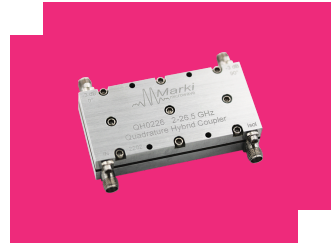
## 3 dB Quadrature Hybrid

### DEVICE OVERVIEW

#### General Description

The QH-0226 is a 2 to 26 GHz, multi-purpose broadband 3 dB quadrature hybrid. The multisection tri-plate stripline design exhibits excellent amplitude balance with broadband quadrature phasing (90°) between the output ports. Custom designs are also available; contact the factory for details.

[Download s-parameters here](#)



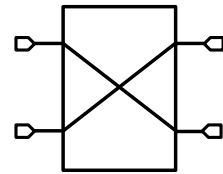
#### Features

- Broadband Performance
- Excellent amplitude and phase balance
- Excellent isolation
- Low VSWR

#### Applications

- Single Sideband Upconverters
- Image Rejection Downconverters
- IQ Modulators
- Balanced Amplifiers
- Microwave Correlators
- Microwave Butler Matrices

#### Functional Block Diagram



#### Part Ordering Options

Part Number	Description	Connectors	Green Status	Product Lifecycle	Export Classification
QH-0226	3 dB Quadrature Hybrid	<u>Standard</u>	REACH RoHS	Released	EAR99

## Table Of Contents

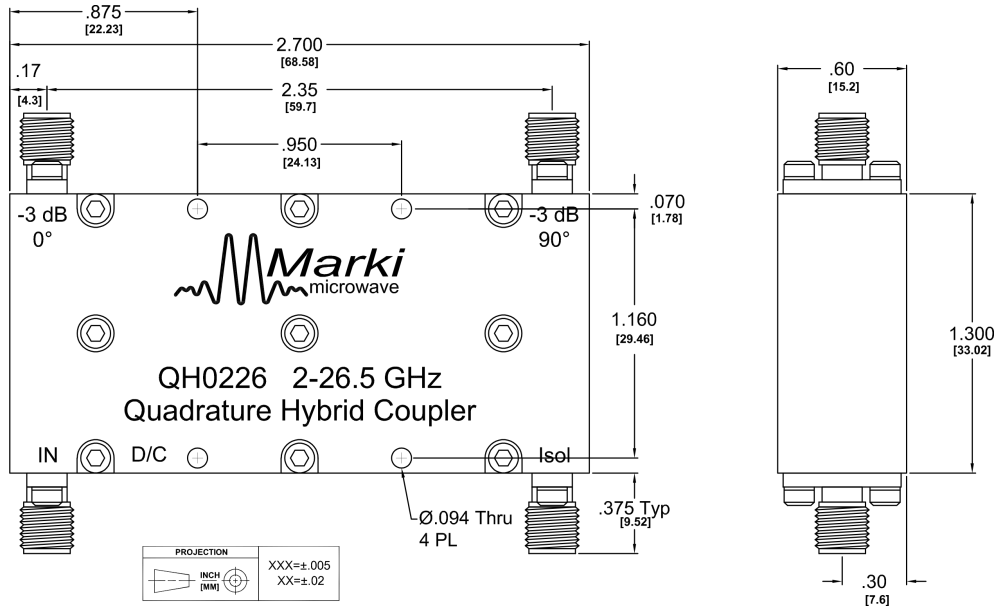
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## Revision History

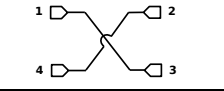
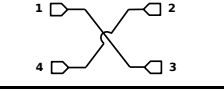
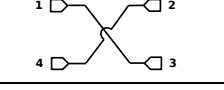
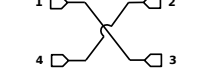
Revision Code	Revision Date	Comment
-	2020-01-06	Datasheet Initial Release

## Port Configuration and Functions

### Port Diagram



### Port Functions

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

## Specifications

### Package Information

Parameter	Details	Rating
Weight	-	100g
Dimensions	-	68.58x33.02mm

### Electrical Specifications

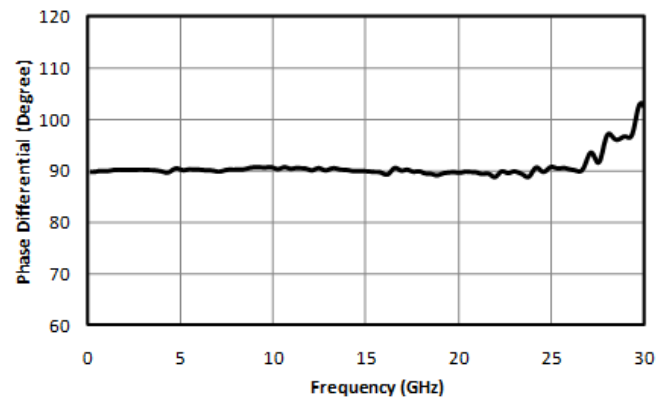
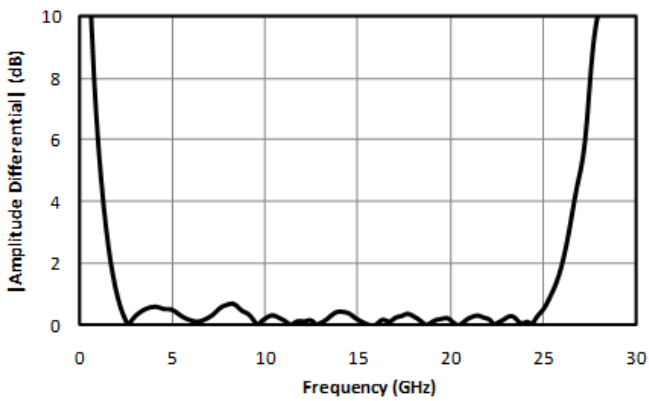
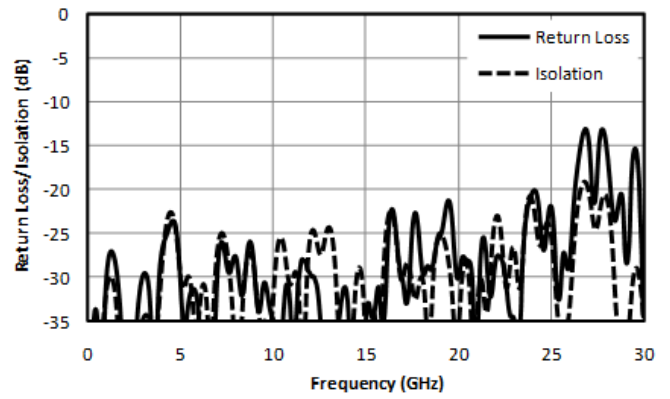
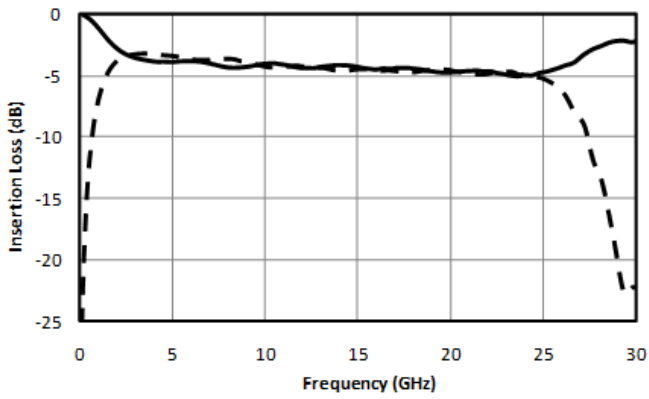
Specifications guaranteed when operated in a 50Ω system.

Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
Amplitude Balance <sup>1</sup>	-	2	26	-	0.25	1	dB
Excess Insertion Loss <sup>2</sup>	-	2	26	-	-	3	dB
Isolation	-	20	26	13	18	-	dB
Mean Coupling	-	2	26	-	-	3	dB
Nominal Phase Shift	-	2	26	-	90	-	°
Phase Balance	-	2	26	-	2	10	°
VSWR	-	20	26	-	-	1.65	

<sup>[1]</sup> Maximum amplitude differential is twice the magnitude of the amplitude balance (see Fig. 3).

<sup>[2]</sup> Excess Insertion Loss = (Input to Output Insertion Loss) – 3 dB

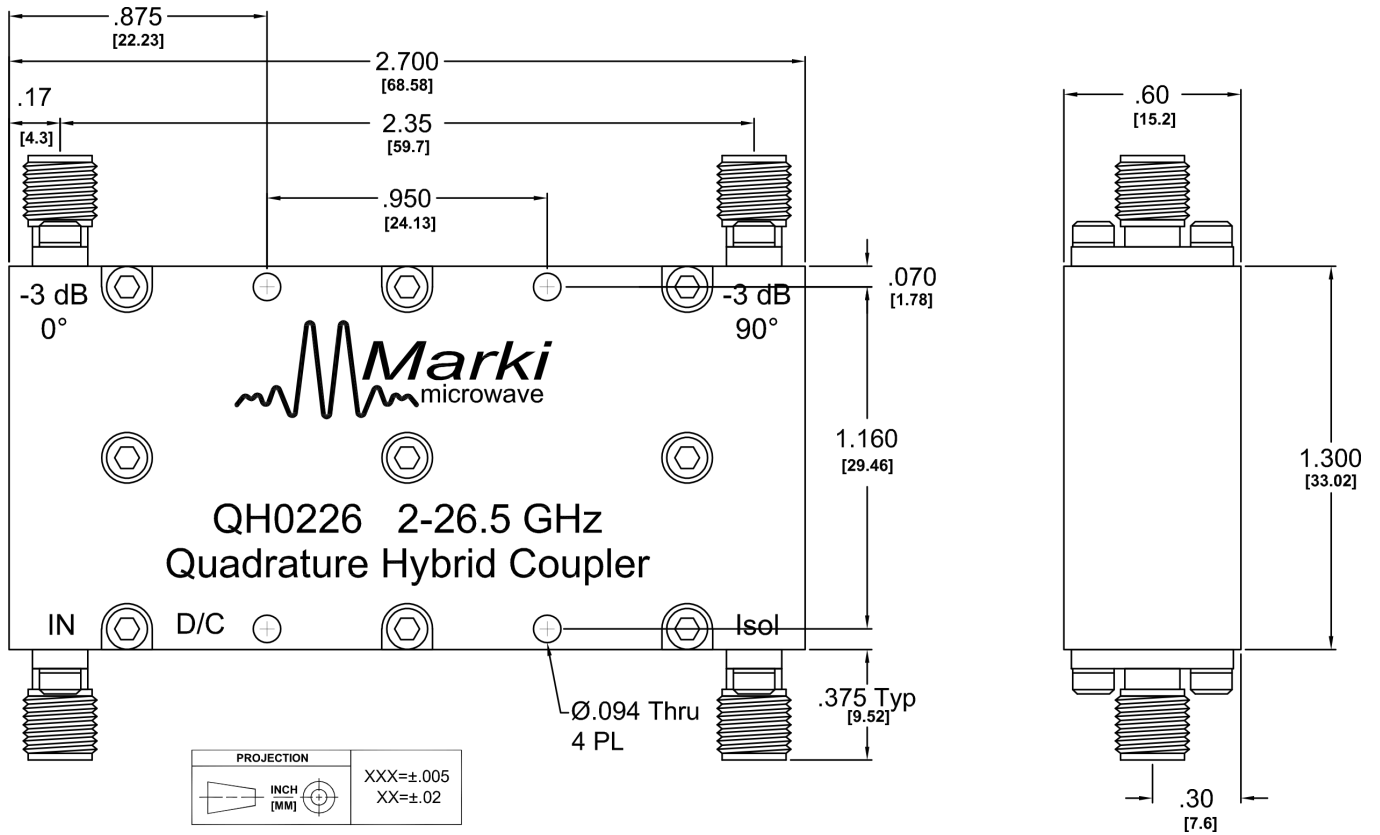
**Typical Performance Plots**



**Mechanical Data**

**Outline Drawing**

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



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