

# HH- / HHS-110 / HH-127

Hybrid Junction, 10 - 500 MHz

Rev. V3

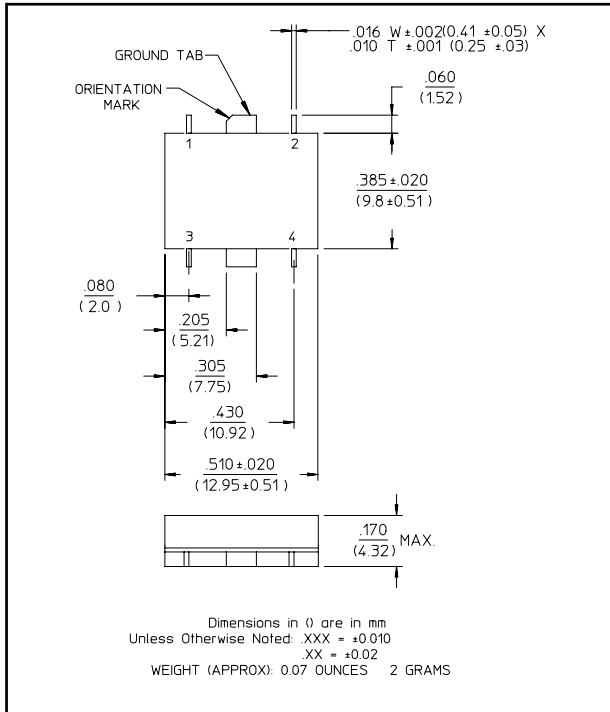
## Features

- Broad Frequency Range
- Fully Hermetic Package (HHS-110)
- High Isolation: Typically 30 dB
- Impedance: 50 Ohms Nominal
- Input Power: 1 Watt Maximum
- MIL-STD-202 Screening Available

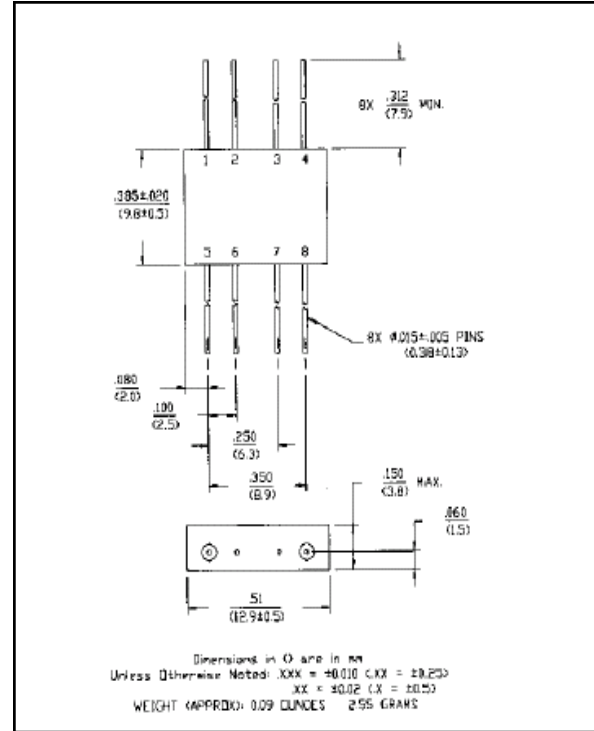
## Description

3 dB Hybrids are ideal for dividing a signal into two signals of equal amplitude and a constant 90° or 180° phase differential and for Quadrature combining or performing summation/differential combining.

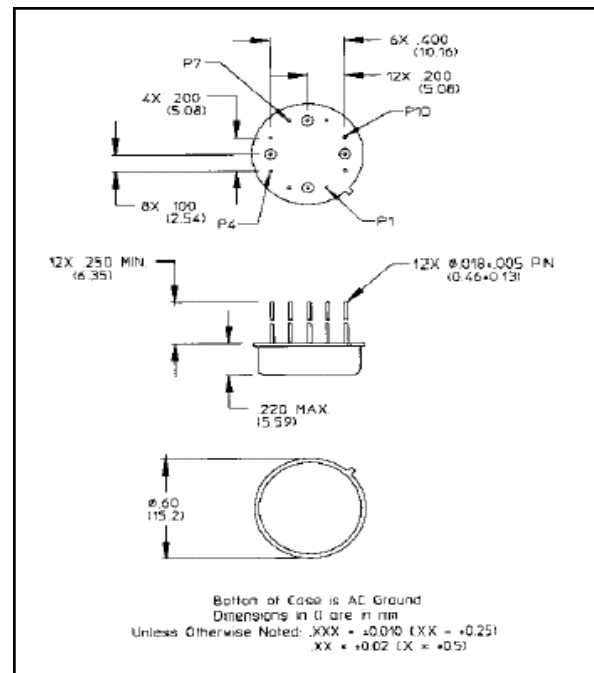
### SF-1 (HHS-110)



### FP-2 (HH-110)



### TO-8-2 (HH-127)



**ADVANCED:** Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.  
**PRELIMINARY:** Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

• **North America** Tel: 800.366.2266 • **Europe** Tel: +353.21.244.6400  
• **India** Tel: +91.80.4155721 • **China** Tel: +86.21.2407.1588  
Visit [www.macomtech.com](http://www.macomtech.com) for additional data sheets and product information.

M/A-COM Technology Solutions Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice.

## Pin Configuration (HH-110)

Pin No.	Function	Pin No.	Function
1	A	5	B
2	GND	6	GND
3	GND	7	GND
4	C	8	D

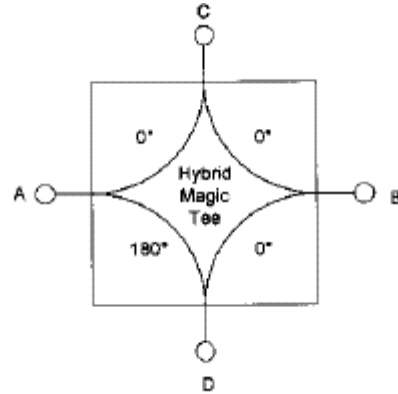
## Pin Configuration (HHS-110)

Pin No.	Function	Pin No.	Function
1	A	3	B
2	C	4	D

## Pin Configuration (HH-127)

Pin No.	Function	Pin No.	Function
1	GND	7	GND
2	C	8	B
3	GND	9	GND
4	GND	10	GND
5	A	11	D
6	GND	12	GND

## Functional Diagram

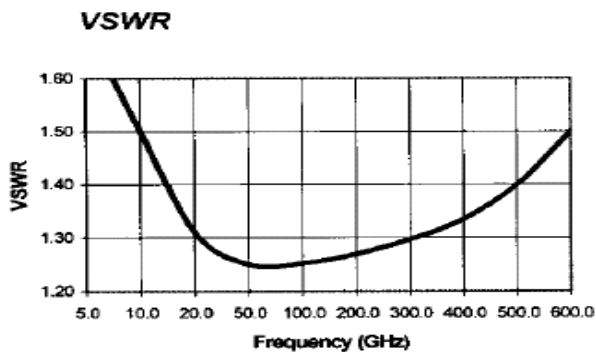
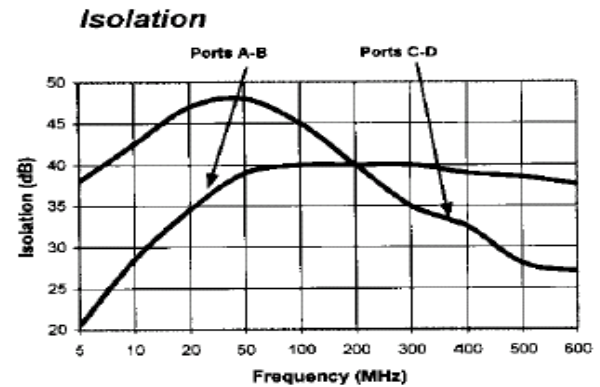
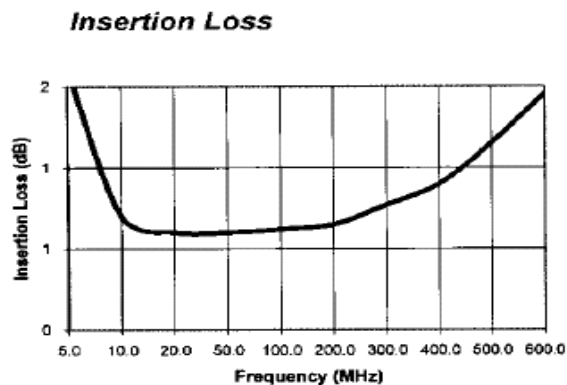


## Electrical Specifications<sup>1</sup>: $T_A = -55^{\circ}\text{C}$ to $+85^{\circ}\text{C}$

Parameter	Test Conditions	Frequency	Units	Min	Typ	Max
Insertion Loss	Less Coupling	10 - 500 MHz	dB	—	—	1.4
		25 - 200 MHz	dB	—	—	1.0
Isolation		10 - 500 MHz	dB	20	—	—
		25 - 200 MHz	dB	30	—	—
Amplitude Balance	—	10 - 500 MHz	dB	—	—	0.6
		25 - 200 MHz	dB	—	—	0.4
VSWR	—	10 - 500 MHz	Ratio	—	—	2.0:1
		25 - 200 MHz	Ratio	—	—	1.6:1
Phase Balance	—	10 - 500 MHz	°	—	—	7
		25 - 200 MHz	°	—	—	5

1. All specifications apply with 50 ohm source and load impedance.

## Typical Performance Curves



## Ordering Information

Part Number	Package
HH-110 PIN	FP-2
HHS-110	SF-1
HH-127 PIN	TO-8-2