

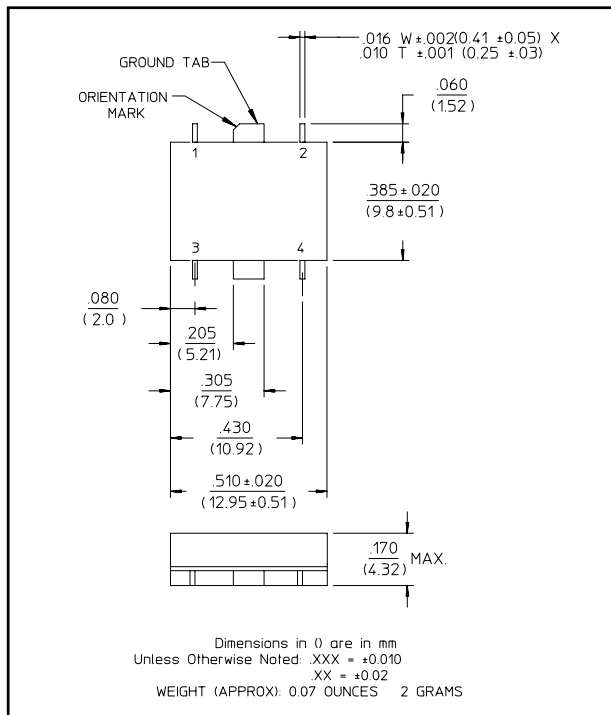
## Features

- Octave Bandwidth
- Low VSWR: 1.2:1
- Low Loss: 0.5 dB Max.
- Impedance: 50 Ohms Nominal
- Input Power: 4 Watts Max. @ 25°C
- 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.

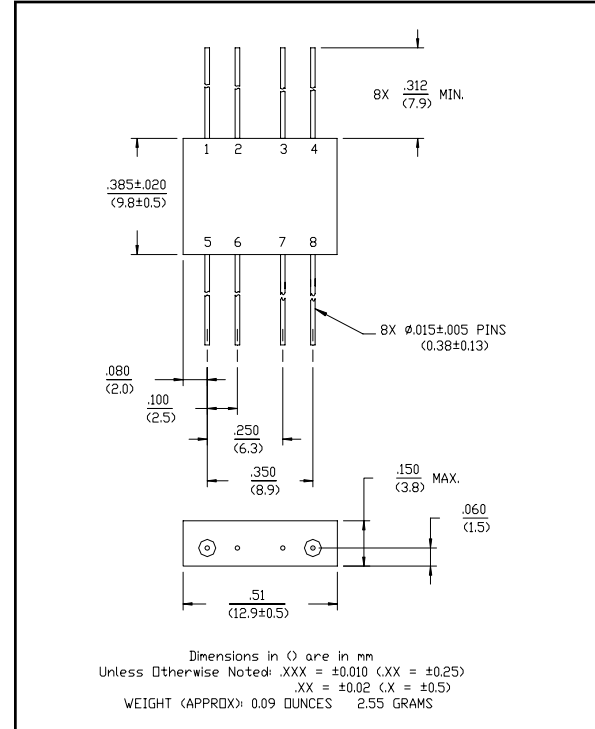
## SF-1 (JHS-113)



## Pin Configuration (JHS-113)

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

## FP-2 (JH-113)



## Pin Configuration (JH-113)

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

## 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 <sup>2</sup>	Less Coupling	7 - 14 MHz	dB	—	—	0.5
Isolation	—	7 - 14 MHz	dB	20	—	—
Amplitude Balance	—	7 - 14 MHz	dB	—	—	0.75
VSWR	—	7 - 14 MHz	Ratio	—	—	1.2:1
Deviation from Quadrature	—	7 - 14 MHz	°	—	—	3

- All specifications apply with 50 ohm source and load impedance.
- Average of coupled output less 3 dB.

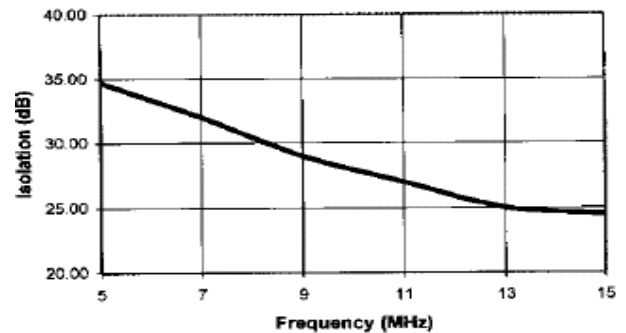
## Phasing Diagram

OUT \ IN	A	B	C	D
A		ISO	0°	-90°
B	ISO		-90°	0°
C	0°	90°		ISO
D	-90°	0°	ISO	

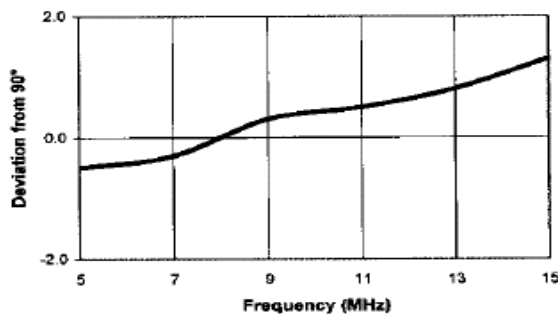
All other pins and case are ground.

## Typical Performance Curves

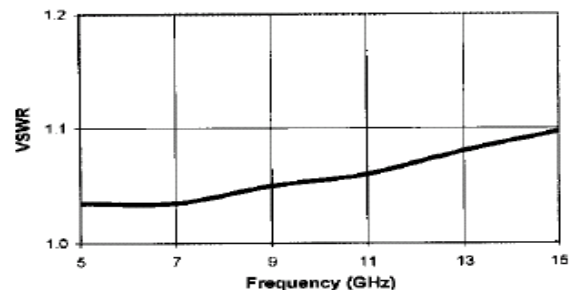
**Isolation**



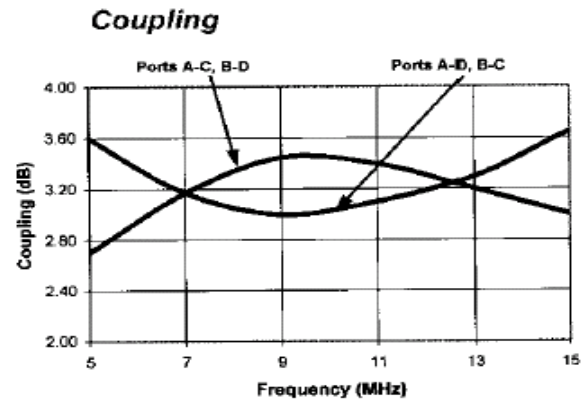
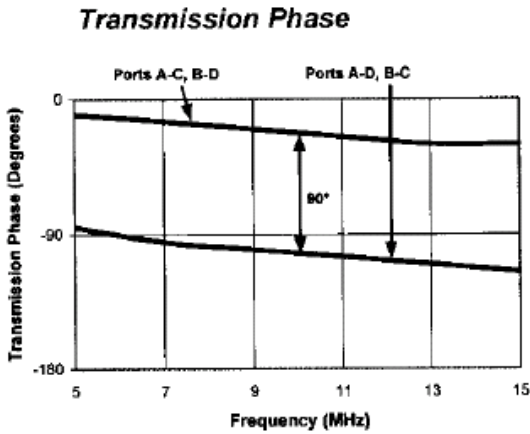
**Deviation from Quadrature**



**VSWR (All Ports)**



## Typical Performance Curves



## Ordering Information

Part Number	Package
JH-113 PIN	FP-2
JHS-113 PIN	SF-1