

## High Frequency Quadrature Hybrid, 1 - 2 GHz

Rev. V3

### Features

- Octave Bandwidth
- Low VSWR: 1.25:1 Typical
- Miniature Size: 1/2" x 3/8" Flatpack
- Impedance: 50 Ohms Nominal
- Input Power: 25 Watts Max @ +25°C, Derated to 1 Watt @ +85°C
- MIL-STD-202 Screening Available

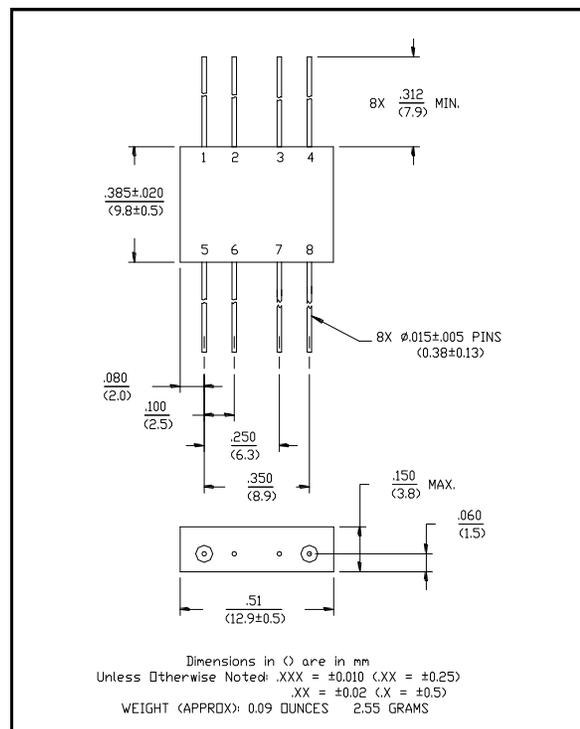
### Description

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.

### Phasing Diagram

IN	OUT	A	B	C	D
A	<del>A</del>	ISO	<del>B</del>	-90°	0°
B	ISO	<del>A</del>	0°	<del>C</del>	-90°
C	-90°	0°	<del>A</del>	ISO	<del>D</del>
D	0°	-90°	ISO	<del>A</del>	<del>D</del>

### FP-2



### Pin Configuration

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<sub>A</sub> = -55°C to +85°C

Parameter	Test Conditions	Frequency	Units	Min	Typ	Max
Insertion Loss <sup>2</sup>	Less Coupling	1- 2 GHz	dB	—	—	0.3
Isolation	—	1- 2 GHz	dB	18	—	—
Amplitude Balance	—	1- 2 GHz	dB	—	—	1.0
VSWR	—	1- 2 GHz	Ratio	—	—	1.5:1
Deviation from Quadrature	—	1- 2 GHz	°	—	—	5

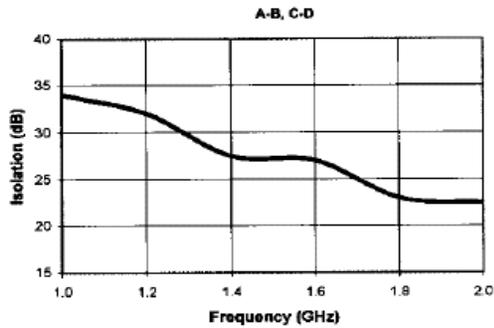
1. All specifications apply with 50 ohm source and load impedance.

2. Average of coupled output less 3 dB.

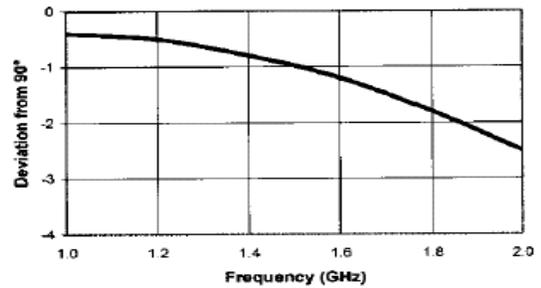
This product contains elements protected by United States Patent Number 3,484,724.

### Typical Performance Curves

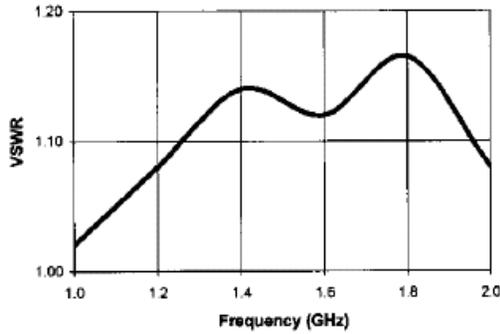
**Isolation**



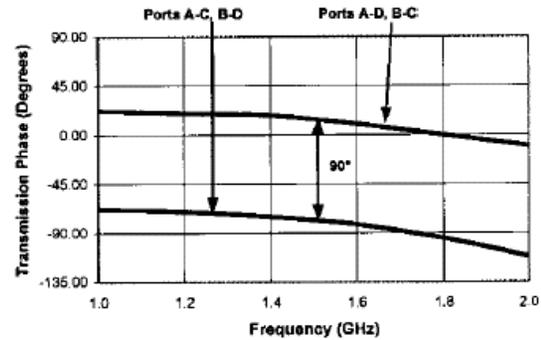
**Deviation from Quadrature**



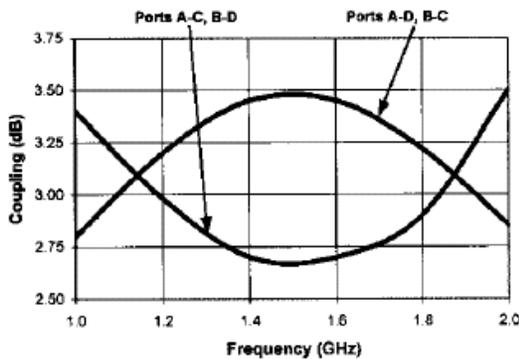
**VSWR**



**Transmission Phase**



**Coupling**



### Ordering Information

Part Number	Package
JH-141 PIN	FP-2

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