

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

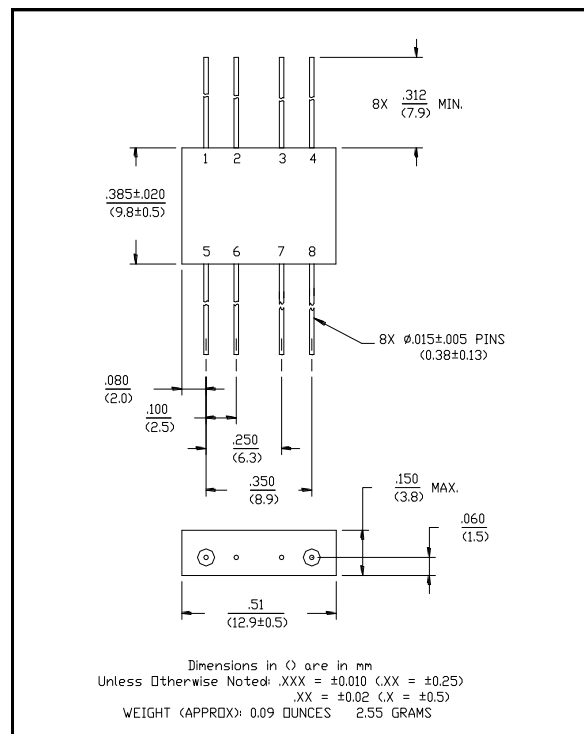
Description

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 | | | ISO | -90° | 0° |
| B | | ISO | | 0° | -90° |
| C | | -90° | 0° | | ISO |
| D | | 0° | -90° | ISO | |

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 Specifications¹: T_A = -55°C to +85°C

| Parameter | Test Conditions | Frequency | Units | Min | Typ | Max |
|-----------------------------|-----------------|-----------|-------|-----|-----|-------|
| Insertion Loss ² | 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 |

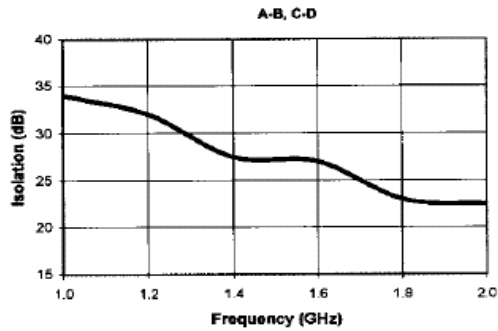
1. All specifications apply with 50 ohm source and load impedance.

2. Average of coupled output less 3 dB.

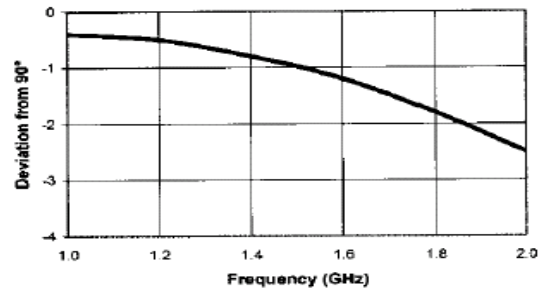
This product contains elements protected by United States Patent Number 3,484,724.

Typical Performance Curves

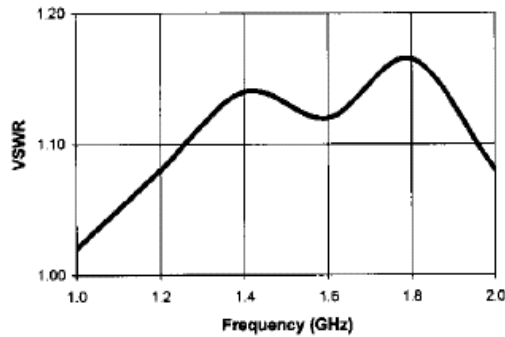
Isolation



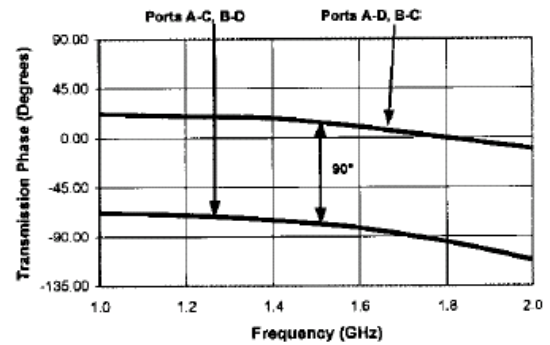
Deviation from Quadrature



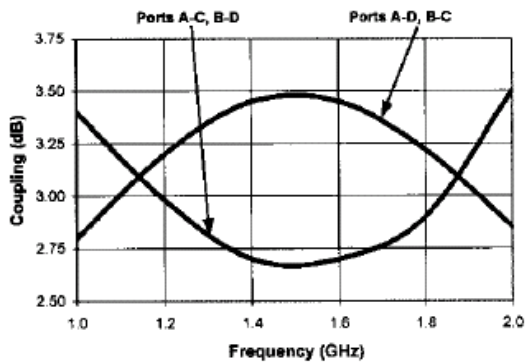
VSWR



Transmission Phase



Coupling



Ordering Information

| Part Number | Package |
|-------------|---------|
| JH-141 PIN | FP-2 |

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