# Surface Mount Quadrature Hybrid, 200 - 400 MHz

### **Features**

- **Fully Hermetic** •
- Octave Bandwidth
- Low VSWR: 1.1:1 Typical .
- Impedance: 50 Ohms Nominal •
- Input Power: 5 Watts Max @ +25°C, Derated to 1 • Watt @ +85°C
- Typical Phase Linearity: 3° from straight line •
- 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**

OUT IN	А	В	С	D
А	>	ISO	-90°	0°
В	ISO	$\left \right>$	0°	-90°
С	-90°	0°	$\times$	ISO
D	0°	-90°	ISO	$\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{$

# **Pin Configuration**

Pin No.	Function	Pin No.	Function	
1	А	3	D	
2	В	4	С	

# Electrical Specifications<sup>1</sup>: Freq. = 200 - 400 MHz, T<sub>A</sub> = -55°C to +85°C

Parameter	Test Conditions	Units	Min	Тур	Max
Insertion Loss <sup>2</sup>	Less Coupling	dB	—	—	0.5
Isolation	_	dB	18	_	_
Amplitude Balance		dB		_	1.0
VSWR		Ratio			1.3:1
Deviation from Quadrature	—	0	—	_	4

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.

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14 32 Differences in 0 are in min Unless Offermise Noted XXX - 40.010 XX - 40.02 WEIGHT (APPROXI 0.07 CUNCES 2 GRAMS)

### 305 751 430 (10.921

3

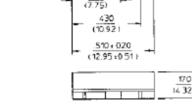
205 (521)

GROUND TAB

ORENTATION MARK

.<u>080</u> +2.0

SF-1



Rev. V3

016 W = 002(0.41 +0.05) × 010 T ±.001 (0.25 ±.03)

(152)

385 x.020 (9.8±0.51)

MAX

<sup>1</sup> 

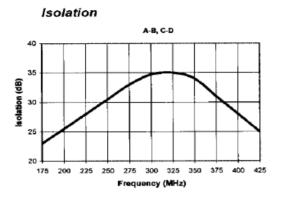
JHS-142



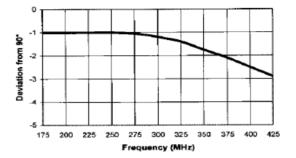
Rev. V3

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# **Typical Performance Curves**



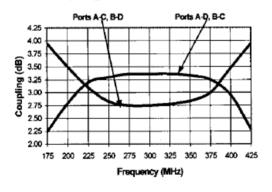
### **Deviation from Quadrature**



## **Ordering Information**

Part Number	Package	
JHS-142 PIN	SF-1	

Coupling



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2