# 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**

	A	В	С	D
А	$\times$	ISO	-90°	0°
В	ISO	$\times$	0°	-90°
С	-90°	0°	$\times$	ISO
D	0°	-90°	ISO	$\times$

# traight line e a signal into two

SF-1

GROUND TAB

ORIENTATION MARK



Dimensions in 0 ore in mm Unless Otherwise Noted XXX - 40.00 XX - 40.02 WEIGHT (APPROXI 0.07 OUNCES - 2 GRAMS)

## **Pin Configuration**

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

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

Parameter	Test Conditions	Frequency	Units	Min	Тур	Max
Insertion Loss <sup>2</sup>	Less Coupling	200– 400 MHz	dB			0.5
Isolation	_	200– 400 MHz	dB	18	_	—
Amplitude Balance	—	200– 400 MHz	dB	_	_	1.0
VSWR	—	200– 400 MHz	Ratio	_	—	1.3:1
Deviation from Quadrature	_	200– 400 MHz	0	_	_	4

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

2. Average of coupled output less 3 dB.

Commitment to produce in volume is not guaranteed.

1

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

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.

- 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 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.



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

(152)

Rev. V3

# JHS-142



Rev. V3

# Surface Mount Quadrature Hybrid, 200 - 400 MHz

## **Typical Performance Curves**



#### **Deviation from Quadrature**



### **Ordering Information**

Part Number	Package
JHS-142 PIN	SF-1

#### Coupling

2



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.

Visit 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.