

Electronics

# Quadrature Hybrid, 7 - 14 MHz

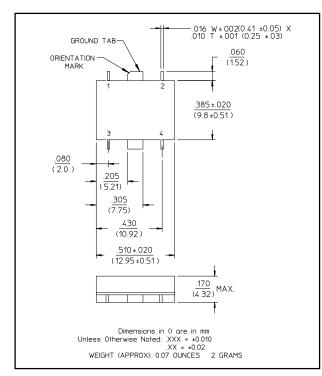
### Features

- 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  $90^{\circ}$  or  $180^{\circ}$  phase differential and for Quadrature combining or performing summation/differential combining.

### SF-1 (JHS-113)



## Pin Configuration (JHS-113)

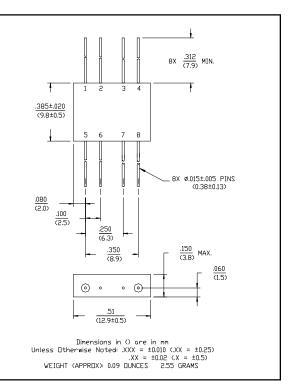
Pin No.	Function	Pin No.	Function
1	А	3	D
2	В	4	С

<sup>1</sup> 

M/A-COM Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. M/A-COM makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does M/A-COM assume any liability whatsoever arising out of the use or application of any product(s) or information.



# FP-2 (JH-113)



## Pin Configuration (JH-113)

Pin No.	Function	Pin No.	Function
1	А	5	D
2	GND	6	GND
3	GND	7	GND
4	В	8	С

• North America Tel: 800.366.2266 / Fax: 978.366.2266

- Europe Tel: 44.1908.574.200 / Fax: 44.1908.574.300
- Asia/Pacific Tel: 81.44.844.8296 / Fax: 81.44.844.8298

Visit www.macom.com for additional data sheets and product information.





# Quadrature Hybrid, 7 - 14 MHz

JH-/JHS-113 V3

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

Parameter	Test Conditions	Frequency	Units	Min	Тур	Мах
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	0	—	—	3

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

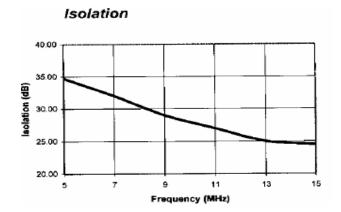
2. Average of coupled output less 3 dB.

# **Phasing Diagram**

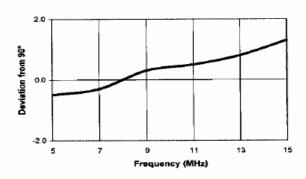
	A	В	С	D
А	$\times$	ISO	0°	-90°
В	ISO	$\times$	-90°	0°
С	0°	90°	$\times$	ISO
D	-90°	0°	ISO	$\times$

All other pins and case are ground.

# **Typical Performance Curves**



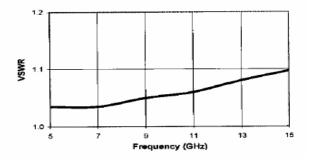
### Deviation from Quadrature



<sup>2</sup> 

M/A-COM Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. M/A-COM makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does M/A-COM assume any liability whatsoever arising out of the use or application of any product(s) or information.

VSWR (All Ports)



• North America Tel: 800.366.2266 / Fax: 978.366.2266

• Europe Tel: 44.1908.574.200 / Fax: 44.1908.574.300

• Asia/Pacific Tel: 81.44.844.8296 / Fax: 81.44.844.8298

Visit www.macom.com for additional data sheets and product information.

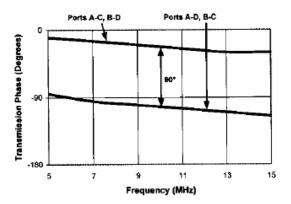


Quadrature Hybrid, 7 - 14 MHz



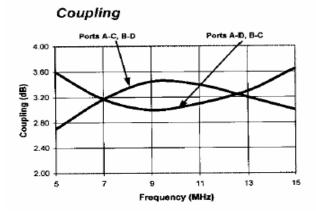
### **Typical Performance Curves**

#### Transmission Phase



# **Ordering Information**

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



M/A-COM Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. M/A-COM makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does M/A-COM assume any liability whatsoever arising out of the use or application of any product(s) or information.

3

- North America Tel: 800.366.2266 / Fax: 978.366.2266
- Europe Tel: 44.1908.574.200 / Fax: 44.1908.574.300
- Asia/Pacific Tel: 81.44.844.8296 / Fax: 81.44.844.8298

Visit www.macom.com for additional data sheets and product information.