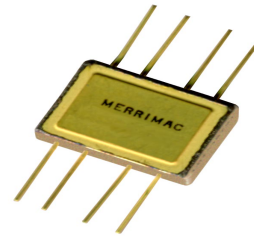
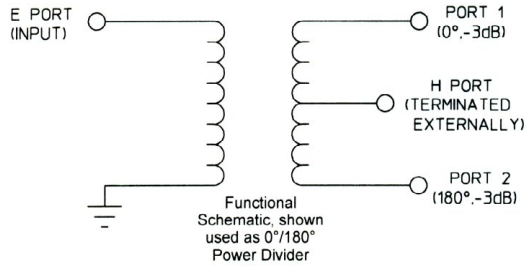




HJF-A-500  
HJSF-A-500

# BROAD BAND HYBRID JUNCTION

5 to 1000 MHz / High Isolation / Low Insertion / Hi-Rel / Hermetic Pkg Symmetrical And Assymetrical



## TECHNICAL DESCRIPTION / APPLICATION

1. The HJF-A Series of assymetrical hybrid junctions uses lumped element circuits to provide very compact and light weight solutions to a variety of signal processing functions. Among these are applications in beamformers, quadrapole networks and hybrid added amplifiers.

a) **Power division with phase shift:** Signals applied to the delta ( $\Delta$ ) port, or E-arm, will divide equally between output ports 1 and 2 (colinear arms) and be 180 out of phase.

b) **Power division with no phase shift:** Signals applied to the sum ( $\Sigma$ ) port, or H-arm, will divide equally between output ports 1 and 2 (colinear arms) and be in phase.

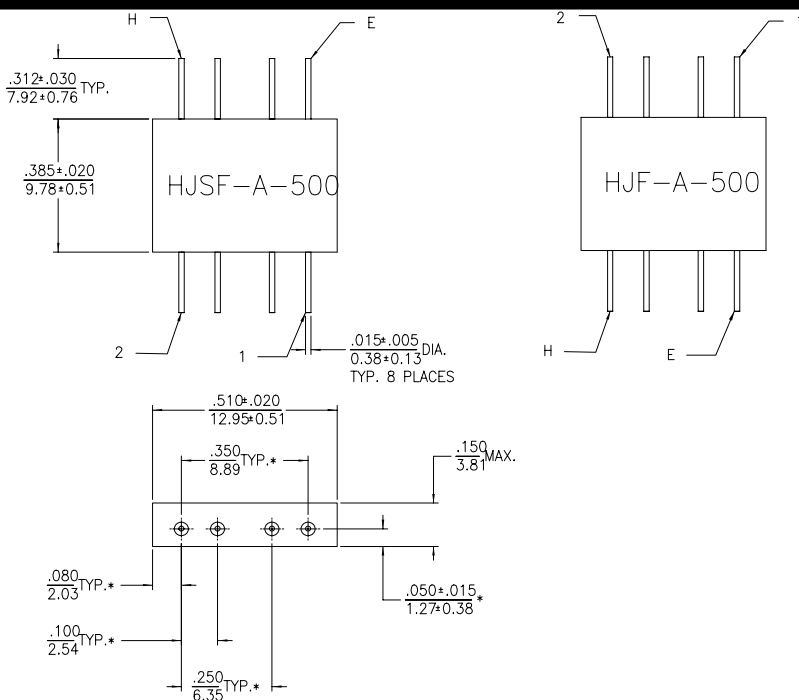
2. The HJSF-A Series, is fully symmetrical, i.e. insertion phase of E-1 equals that of H-1 allowing its use in beamforming applications, or any application requiring vector addition.

3. All units comply with MIL-P-23971 and can be supplied screened for compliance with additional specifications for military and aerospace applications requiring the highest reliability.

## PRINCIPAL SPECIFICATIONS

Model Number	Frequency Range, MHz	Isolation, E-H Ports, dB, Min	Insertion Loss, dB Max.	Phase Balance, Max.	Amplitude Balance, dB, Max.	VSWR, Max.	Type
HJSF-A-500	5-1000	25	1.7	$\pm 4^\circ$	0.4	1.4:1	Symmetrical
HJF-A-500	5-1000	25	1.7	$\pm 4^\circ$	0.4	1.4:1	Assymetrical

## PACKAGE OUTLINE



## GENERAL SPECIFICATIONS

Coupling:	-3dB nom.
Impedance:	50 $\Omega$ nom.
CW Input:	1 Watt max.
Weight:	0.1 oz / 2.8g, max.
Operating Temperature:	-55 to +85 C

E	H	1	2
Isol.	In	0° ref.	0°
In	Isol.	0°	-180°

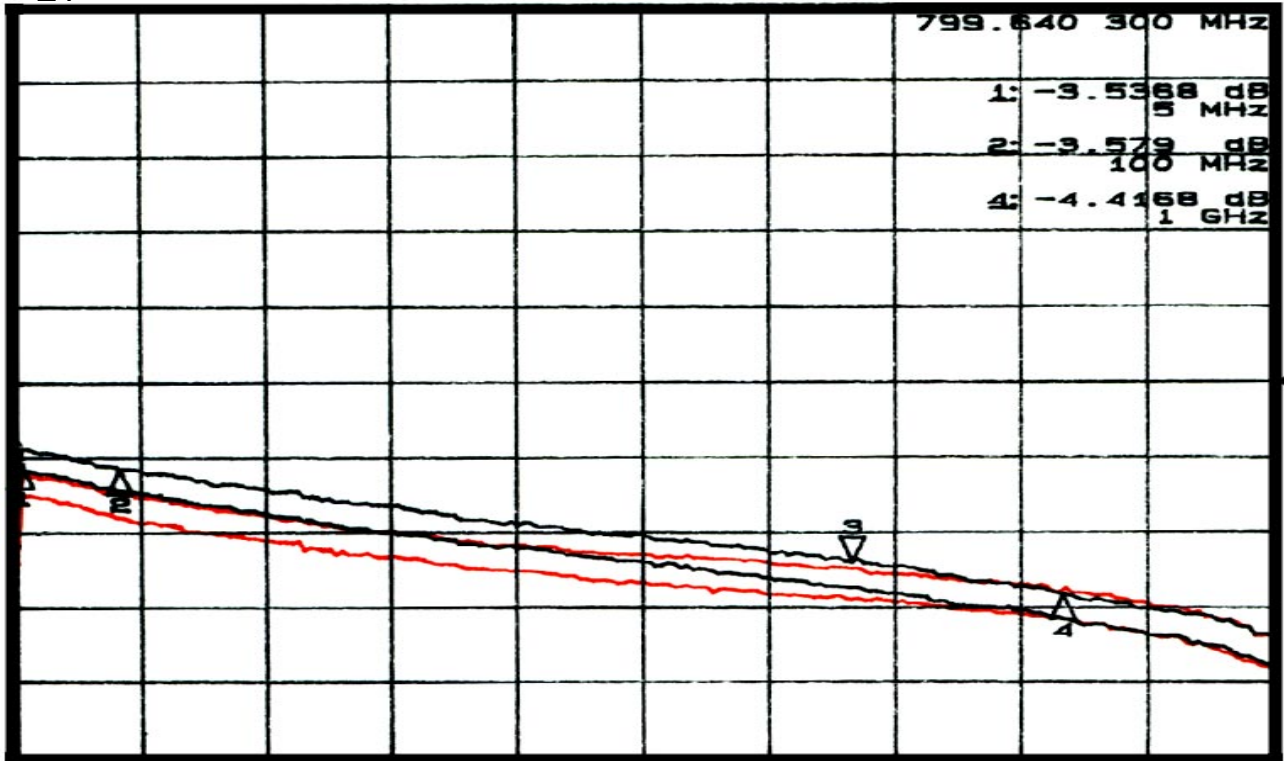
# TYPICAL PERFORMANCE

## LOSS

S<sub>21</sub>/M los MAG

0.5 dB/DIV REF -3 dB

3: -4.2004 dB



START 1.000 000 MHz

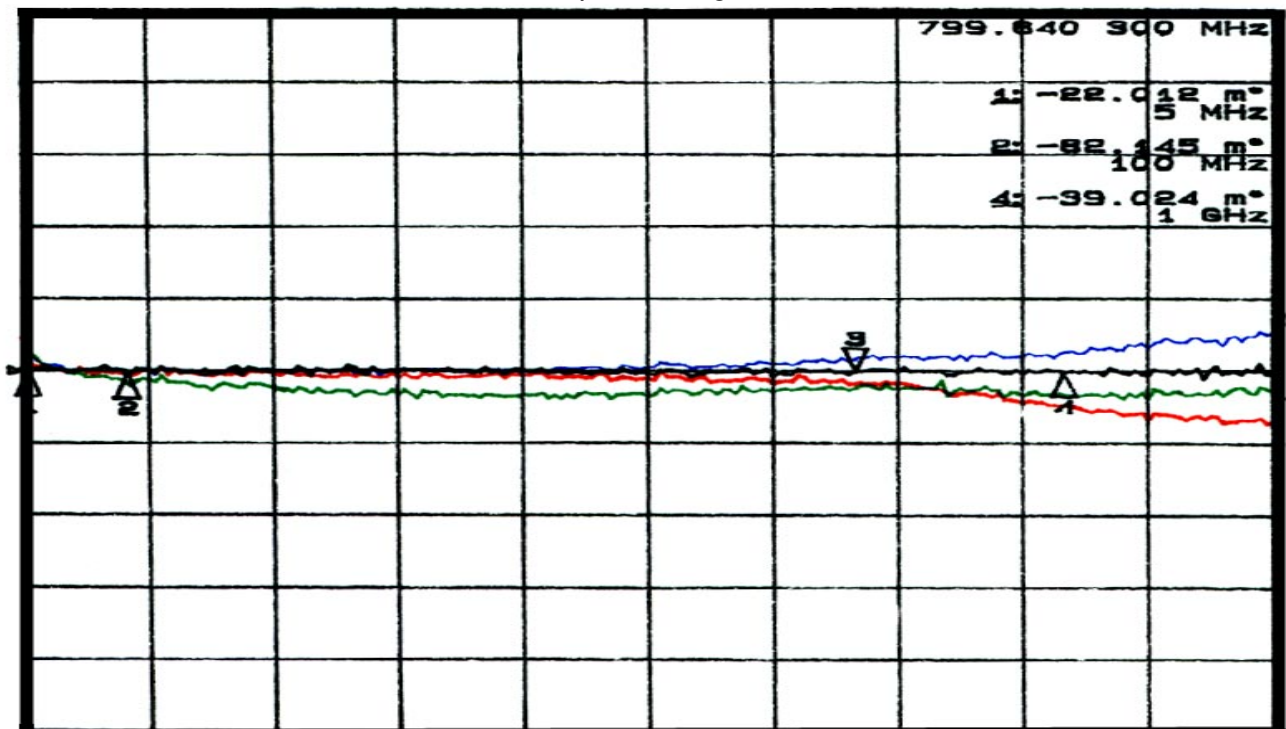
STOP 1 200.000 000 MHz

## PHASE

S<sub>21</sub>/M phase

2°/ REF 0°

3: -25.373 m°



START 1.000 000 MHz

STOP 1 200 000 MHz