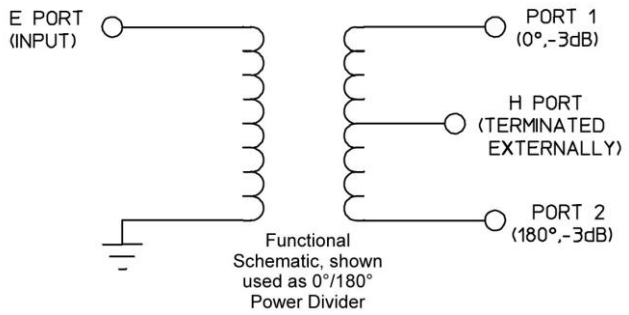
# HJF-A SERIES – 0°/180° POWER DIVIDERS/COMBINERS

## TECHNICAL FEATURE

## FEATURES

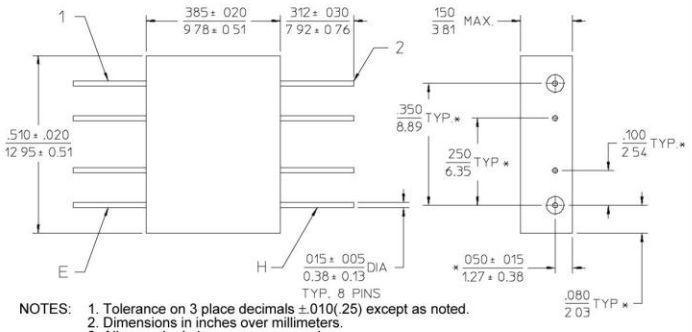
- 5 to 500 MHz
- 4-Port Hybrid Junction
- High Isolation
- Low Insertion Loss
- Hi-Rel Hermetic Package




## PRINCIPAL SPECIFICATIONS

| Model Number | Frequency Range, MHz | Performance Bandwidth, MHz | Isolation, E - H Ports, dB, Min | Insertion Loss, dB, Max. | Amplitude Balance, dB, Max. | Phase Balance, Max. | VSWR, Max. |
|---|---|---|---|---|---|---|---|
| HJF-A-200 | 5 - 400 | 5 - 10 | 30 | 1.5 | 0.4 | ± 3° | 1.5:1 |
| | | 10 - 200 | 30 | 1.0 | 0.3 | ± 3° | 1.3:1 |
| | | 200 - 400 | 30 | 1.5 | 0.4 | ± 3° | 1.5:1 |
| HJF-A-300 | 100 - 500 | 100 - 500 | 25 | 1.5 | 0.4 | ± 4° | 1.4:1 |

### A-Size Flatpack Outline




NOTES:
1. Tolerance on 3 place decimals ±.010(.25) except as noted.
2. Dimensions in inches over millimeters.
3. All unmarked pins are case ground.
4. Dimensions marked with * apply only at body.

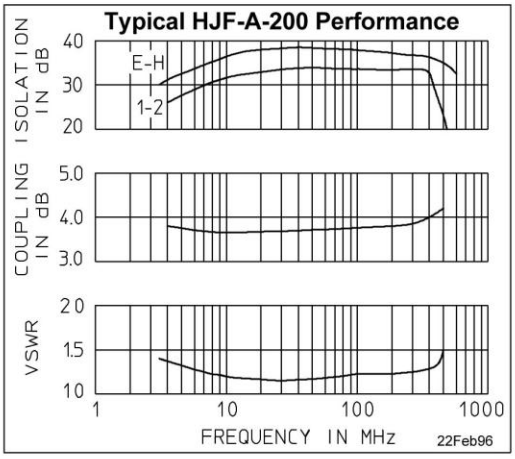
### GENERAL SPECIFICATIONS

| | |
|---|---|
| Impedance: | 50 Ω nom. |
| Coupling: | – 3 dB nom. |
| CW Input: | 1 Watt max. |
| Weight: | 0.1 oz (2.8 g)nom. |
| Operating Temperature: | – 55° to +85°C |

### Input/Output Relationships

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

### Typical HJF-A-200 Performance




**General Notes:**

1. The HJF-A series of four port hybrid junctions uses lumped element circuits to provide a variety of signal processing functions. Among these are:

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

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

   c) **Vector addition**: Simultaneous application of signals to both E and H arms results in their vector addition to one co-linear port and vector subtraction at the other. Correction for the phase difference between E and H paths to the co-linear ports must be made . This phase equalization may be applied externally or factory installed within the unit at additional cost.

2. 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.

**Crane Aerospace & Electronics**
Microwave Solutions – Merrimac Industries
41 Fairfield Place, West Caldwell, NJ 07006
+ 1.973.575.1300 ext. 1309 • mw@crane-eg.com
www.craneae.com/mw