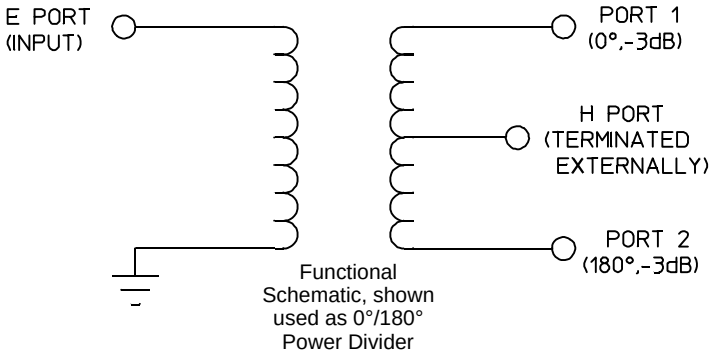
HJF-A Series 0°/180° POWER DIVIDERS/COMBINERS

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

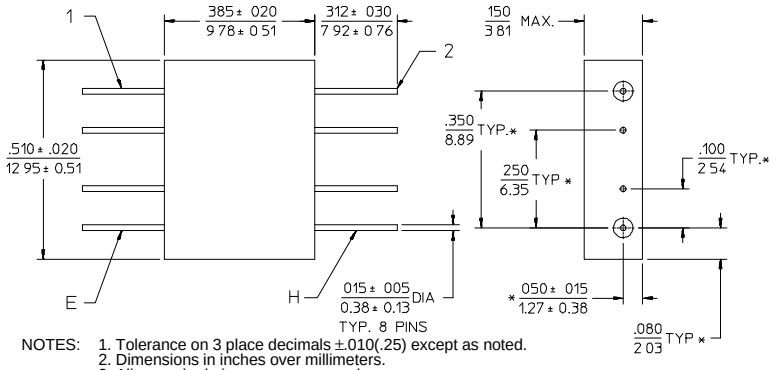


Functional Schematic, shown used as 0°/180° Power Divider

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.

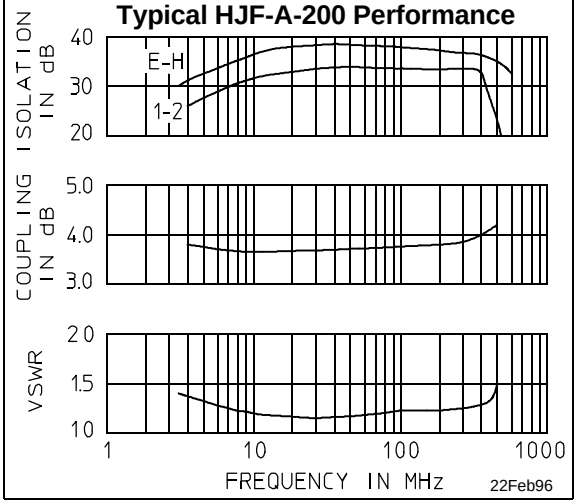
GENERAL SPECIFICATIONS

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.

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