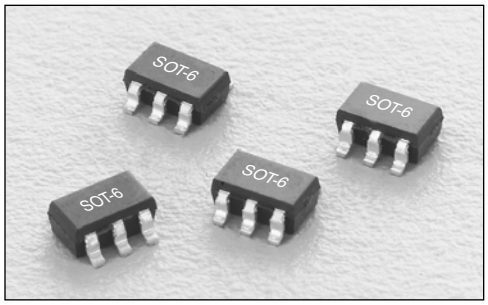
# 90 Degree Hybrid 2.1–2.3 GHz

Alpha

## HY22-73

## Features

- Low Cost
- Low Profile
- Small SOT-6 Package
- Tape & Reel



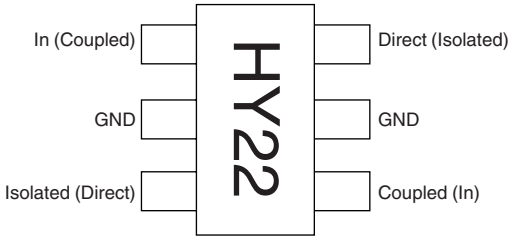

## Description

The HY22-73 is a 50 Ω, 90 degree hybrid tuned for the 2.1–2.3 GHz band. The monolithic circuitry is 100% passive and offers low loss, high isolation and exceptional phase/amplitude balance. It is available in the SOT-6 leaded surface mount package.

## Electrical Specifications at 25°C, 50 Ω System

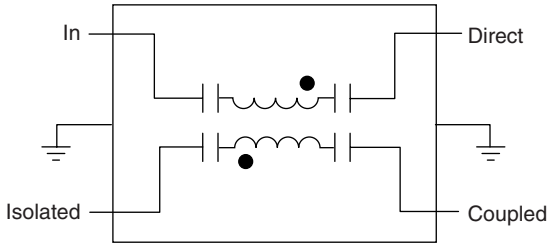
| Parameter | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|
| Frequency | 2.1 | | 2.3 | GHz |
| Insertion Loss Less 3 dB Split | | 0.55 | 0.7 | dB |
| Isolation | 20.0 | 23.00 | | dB |
| Input VSWR | | 1.2:1 | 1.5:1 | |
| Output VSWR | | 1.2:1 | 1.5:1 | |
| Amplitude Balance | | ±0.40 | ±1.1 | dB |
| Phase Balance | | ±2.00 | ±4.0 | Deg. |

## Pin Out

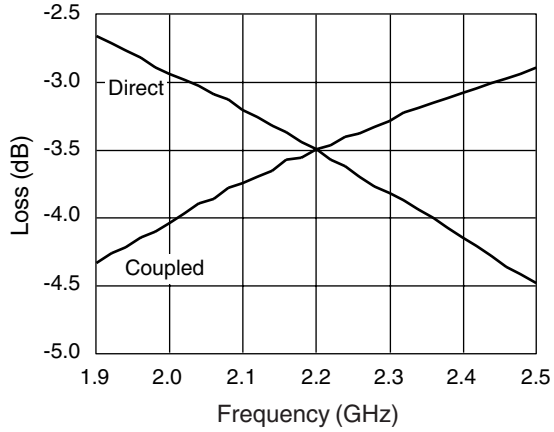



Note: This device is symetrical such that the “In” port can be swapped with the “coupled” port.
HY22 is the part marking.

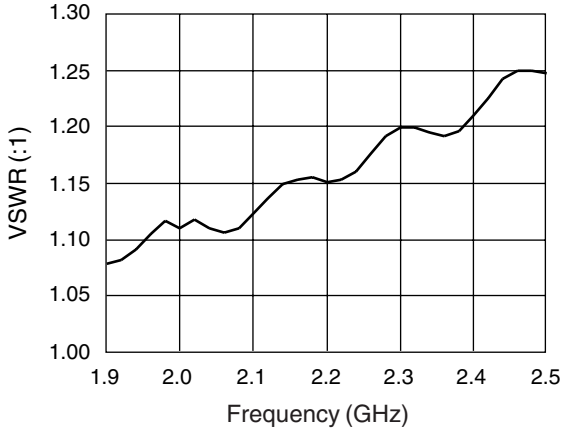
## Block Diagram



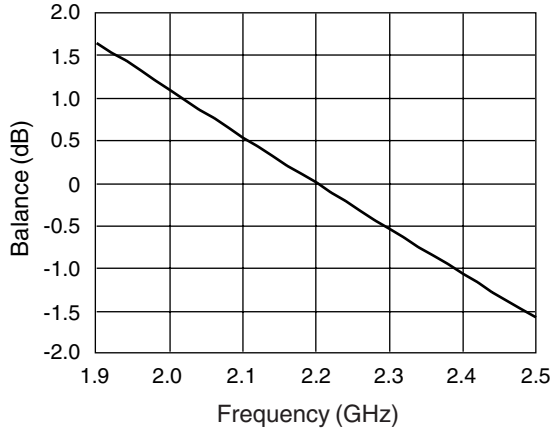
## Typical Performance Data



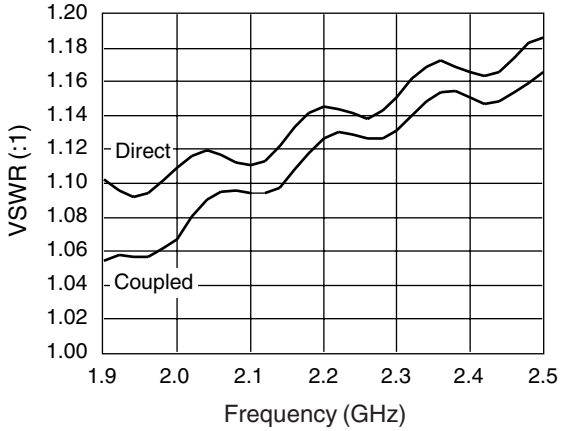

**Path Losses vs. Frequency**



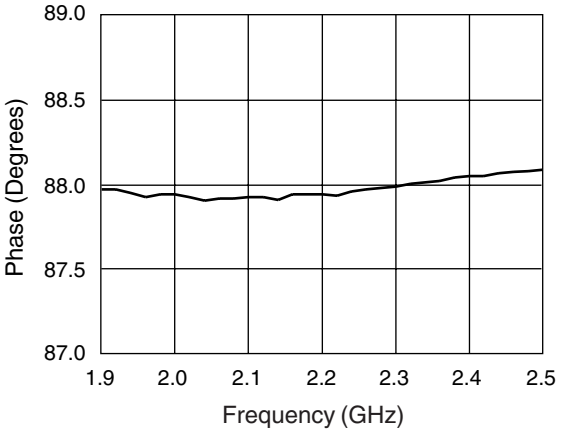

**Input VSWR vs. Frequency**



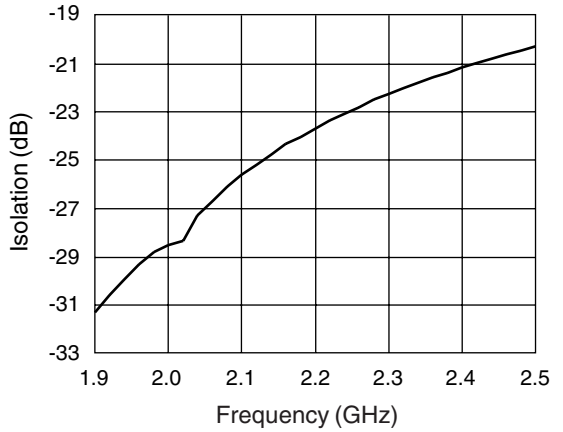

**Amplitude Balance vs. Frequency**




**Output VSWR vs. Frequency**

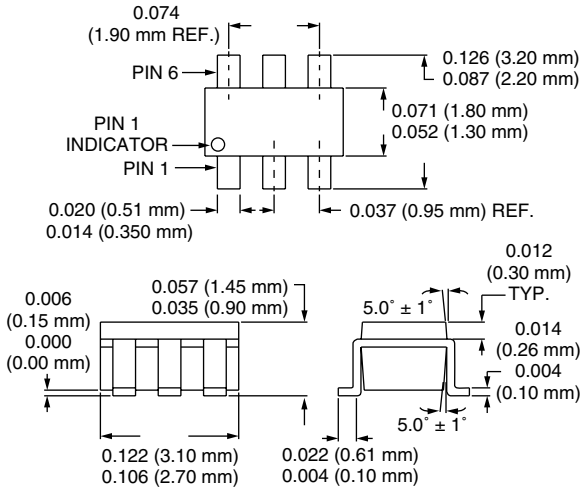



**Coupled-Direct Phase vs. Frequency**

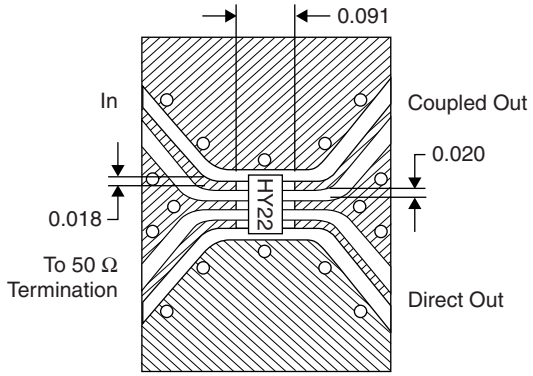



**Isolation vs. Frequency**

## SOT-6




## Recommended Board Layout




Material is FR-4. Dimensions are in inches.

## Absolute Maximum Ratings

| Characteristic | Value |
|---|---|
| Input Power[1] | 2 W CW |
| Input Power[2] | 1 W CW |
| Operating Temperature | -40°C to +85°C |
| Storage Temperature | -65°C to +150°C |

1. When used as a power divider with a 2.0:1 maximum VSWR on all ports.
2. When used as a power combiner with a 2.0:1 maximum VSWR on all ports.