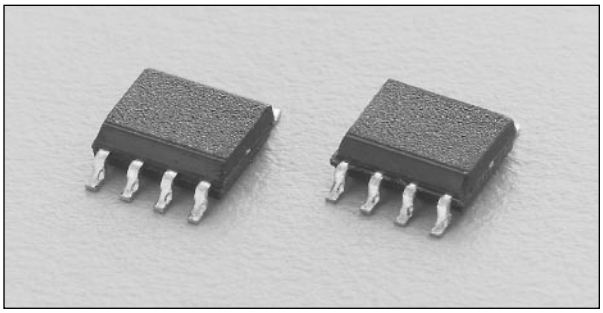
# 90 Degree Hybrid 1.71–1.88 GHz

**HY17-12**

## Features

- Low Cost
- Low Profile
- Small SOIC-8 Package
- Tape & Reel



## Description

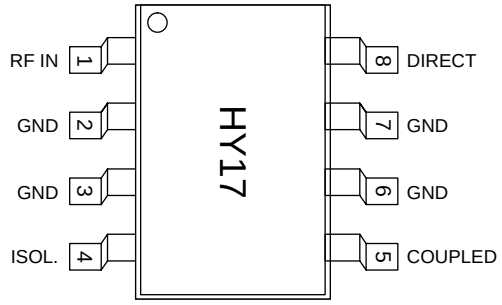
The HY17-12 is a 90 degree hybrid tuned for the 1.71–1.88 GHz band. The monolithic circuitry is 100% passive and offers low loss, high isolation and exceptional phase/amplitude balance. It is available in the SOIC-8 leaded surface mount package.

## Electrical Specifications at 25°C

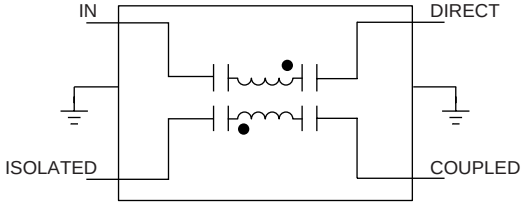
| Parameter | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|
| Frequency | 1.71 | | 1.88 | GHz |
| Insertion Loss[1] | | .5 | .6 | dB |
| Isolation | 19 | 20 | | dB |
| VSWR All Ports | | 1.2:1 | 1.3:1 | |
| Amplitude Balance | | ±.5 | ±1.0 | dB |
| Phase Balance | | ±1.0 | ±2.0 | Deg. |

1. Less 3 dB power split.

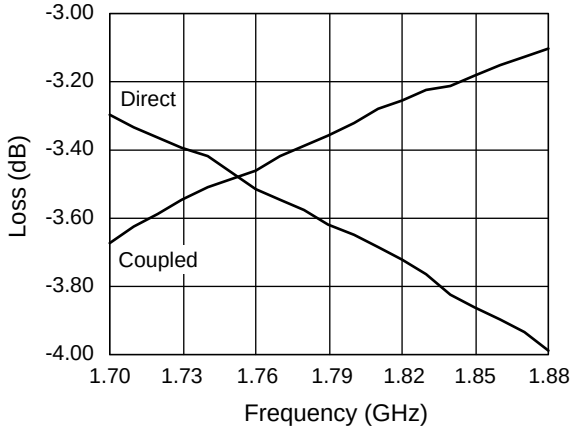
## Pin Out



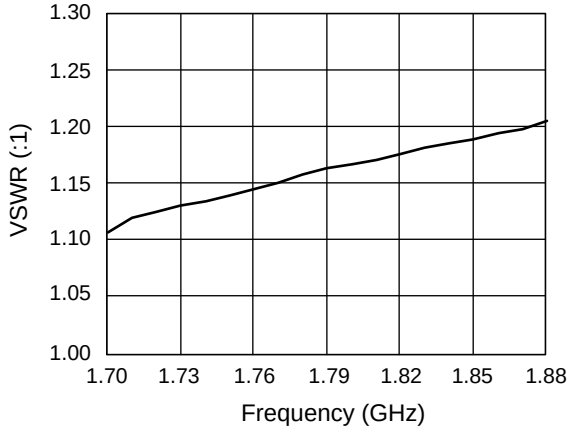

## Block Diagram



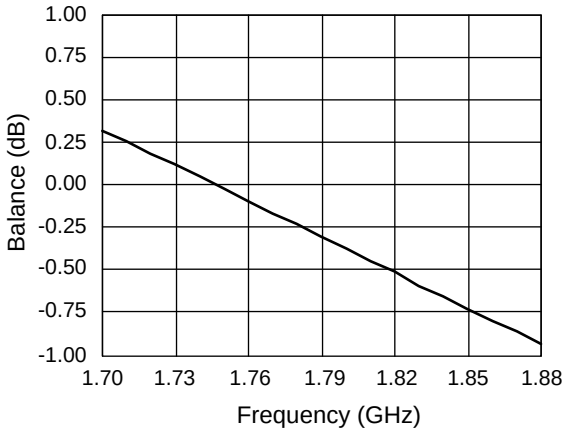
## Typical Performance Data



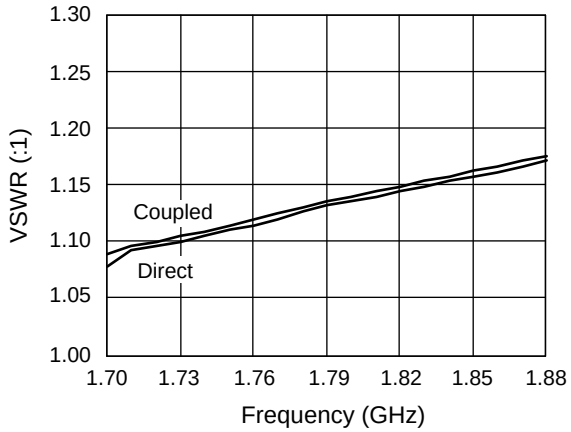

**Path Losses vs. Frequency**



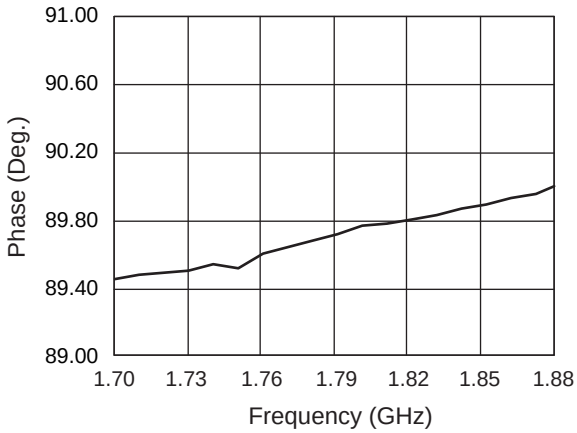

**Input VSWR vs. Frequency**



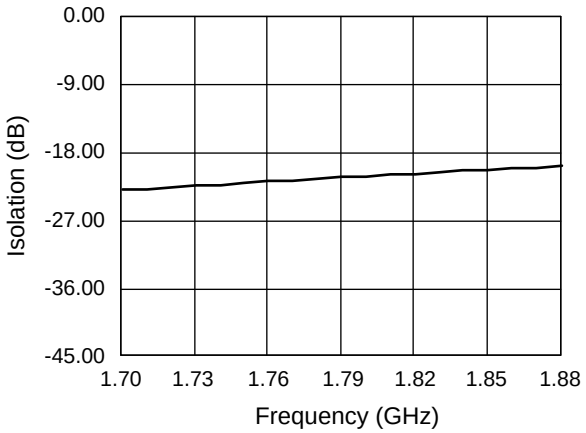

**Amplitude Balance vs. Frequency**




**Output VSWR vs. Frequency**




**Coupled – Direct Phase vs. Frequency**



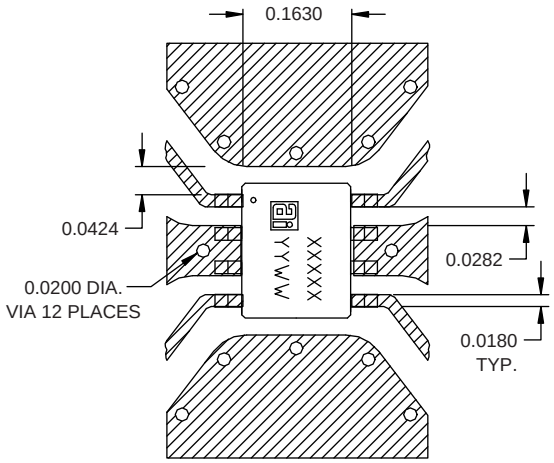

**Isolation vs. Frequency**

## Absolute Maximum Ratings

| Characteristic | Value |
|---|---|
| Input Power[1] | +4 W |
| Operating Temperature | -40°C to +85°C |
| Storage Temperature | -65°C to +150°C |
| Electrostatic Discharge | +125 V |

1. Exceeding these parameters may cause irreversible damage.

## Recommended Board Layout




Materials 10 mil FR-4.
Dimensions are in inches.

## SOIC-8