

DATA SHEET

HY92-12, HY92-12LF: 90-Degree Hybrid 0.88–0.96 GHz

Features

- Low cost
- Low profile
- Small SOIC-8 package
- Available on tape and reel
- Available lead (Pb)-free and RoHS-compliant MSL-1 @ 260 °C per JEDEC J-STD-020

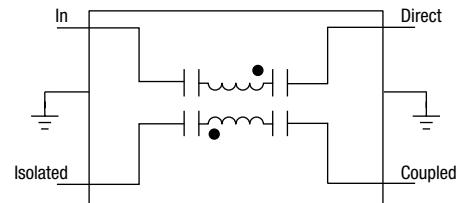
Description

The HY92-12 is a 90-degree hybrid tuned for the 0.88–0.96 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 surface mount package.

NEW Skyworks offers lead (Pb)-free, RoHS (Restriction of Hazardous Substances)-compliant packaging.



Block Diagram



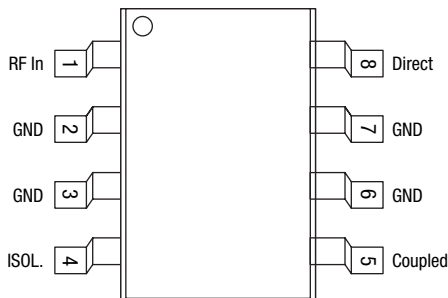
Electrical Specifications at 25 °C

Z₀ = 50 Ω, unless otherwise noted

Parameter	Frequency	Min.	Typ.	Max.	Unit
Frequency		0.88		0.96	GHz
Insertion loss ⁽¹⁾			0.4	0.5	dB
Isolation		20	25		dB
VSWR all ports			1.1:1	1.2:1	
Amplitude balance			±0.5	±0.8	dB
Phase balance			±1	±2	Deg.

1. Less 3 dB power split.

Pin Out

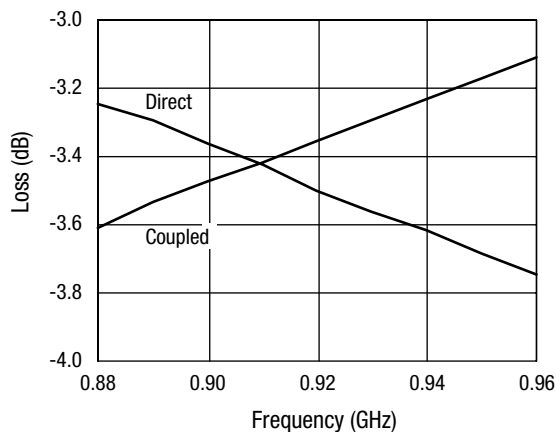


The Pin Out diagram shows the HY92-12 configured for a divider/coupler with Pin 1 as the input port and a 50 Ω termination to be placed at Pin 3. Since the HY92-12 is symmetric, any nonground pin may be used as the input port. The following table shows the possible pin connection combinations for the HY92-12 used as a divider/coupler:

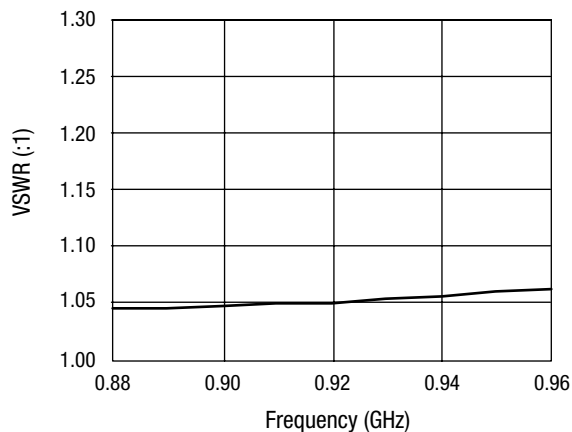
Input	Termination	Direct	Coupled
Pin 1	Pin 4	Pin 8	Pin 5
Pin 4	Pin 1	Pin 5	Pin 8
Pin 5	Pin 8	Pin 4	Pin 1
Pin 8	Pin 5	Pin 1	Pin 4

Typical Performance Data

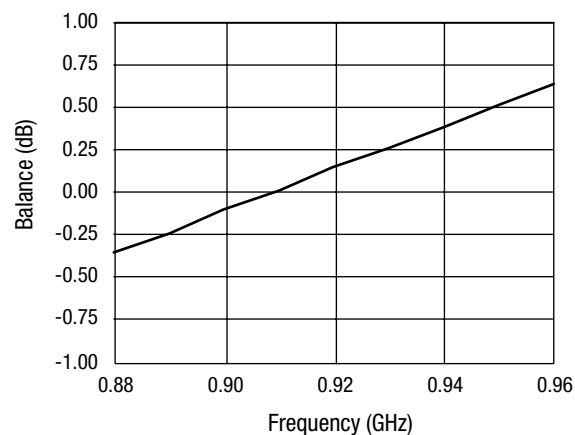
$Z_0 = 50 \Omega$, unless otherwise noted



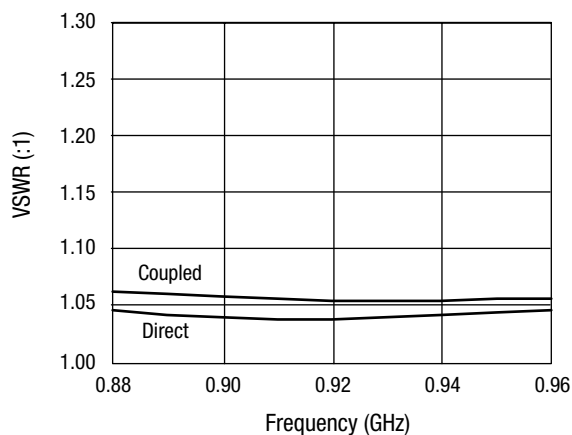
Path Losses vs. Frequency



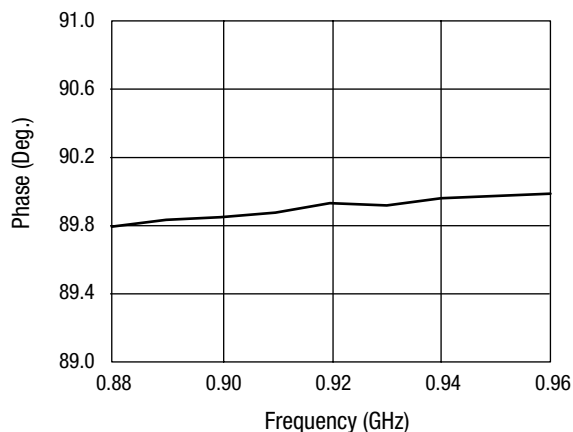
Input VSWR vs. Frequency



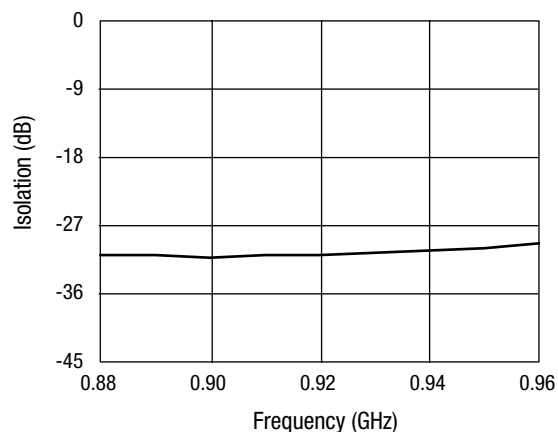
Amplitude Balance vs. Frequency



Output VSWR vs. Frequency



Coupled - Direct Phase vs. Frequency



Isolation vs. Frequency

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