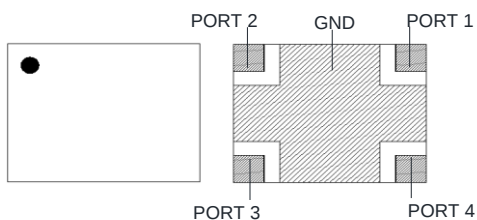


Description

The YCPQ00903 is a compact 3dB hybrid coupler designed for high performance in various applications. The RoHS-compliant, halogen-free surface-mount package excels where power sensing, signal injection, and low insertion loss signal monitoring are required.

The YCPQ00903 is customized for pick and place operations in high volume manufacturing and is available on tape and reel.



Applications

- ◆ Cellular Infrastructure
- ◆ Narrow & Wideband amplifiers
- ◆ Test Instrumentation

Features

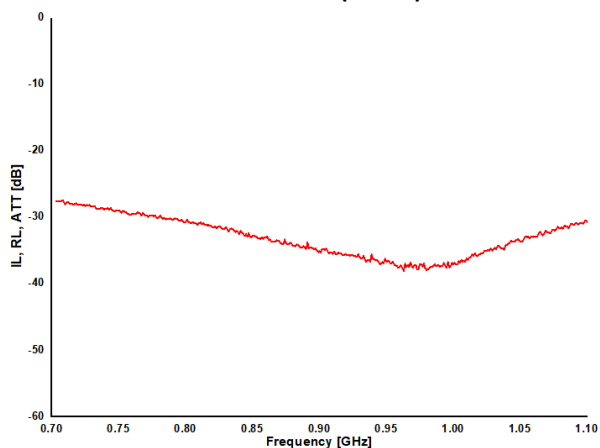
- ◆ 800 - 1000MHz
- ◆ Low Loss Silver Conductor
- ◆ Surface Mount Type
- ◆ Gold Plating Finish
- ◆ RoHS Compliant

Electrical Specification

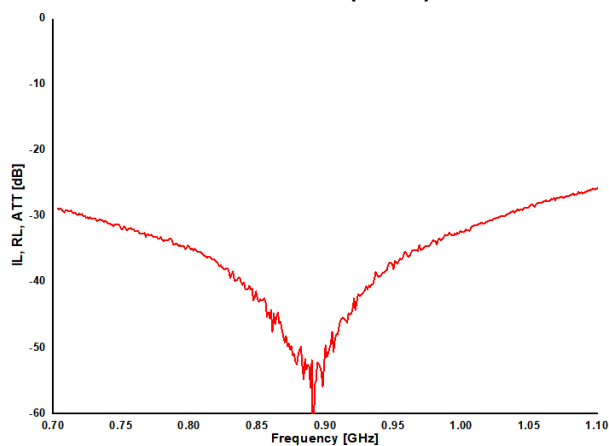
Parameter	Specification			Unit
	Min.	Typ.	Max.	
Frequency	800	-	1000	MHz
VSWR	-	-	1.15	-
Insertion Loss	-	-	0.22	dB
Isolation	23	-	-	dB
Phase	-	90	-	Degree
Amplitude Balance	-	-	±0.25	dB
Power Capacity	-	-	200	W
Operation Temperature Range	-55	-	125	°C

Performance Plots

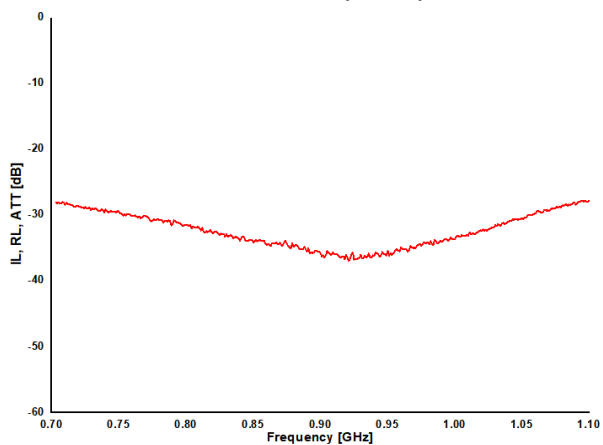
Return Loss (Port 1)



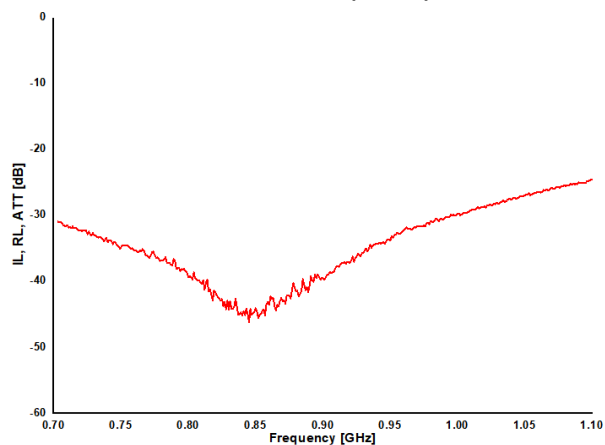
Return Loss (Port 2)



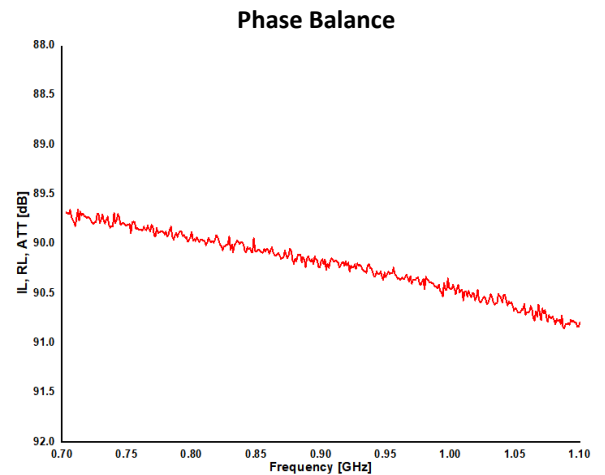
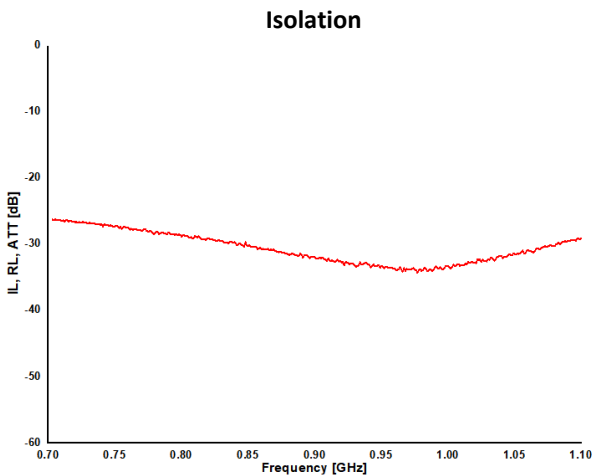
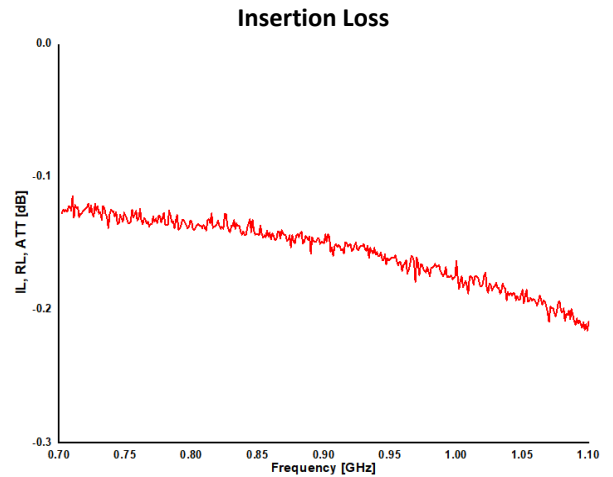
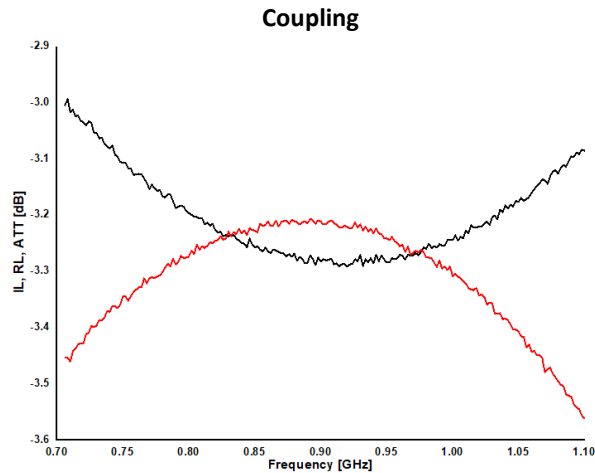
Return Loss (Port 3)



Return Loss (Port 4)



Performance Plots

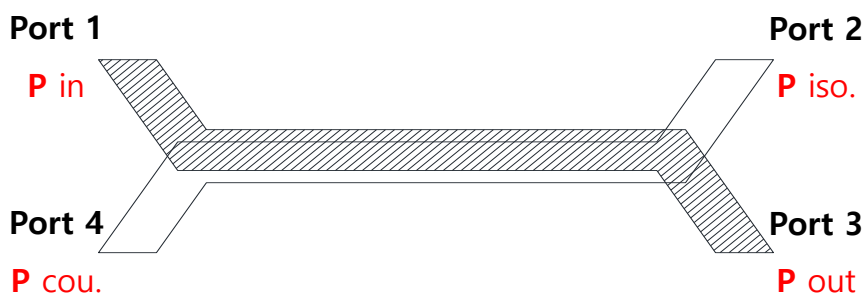


Notes:

1. Return Loss through Port 1 to Port 1 (S11)
2. Coupling through Port 1 to Port 4 (S41)
3. Transmission through Port 1 to Port 2 (S31)
4. Isolation through Port 1 to Port 2 (S21)
5. Insertion Loss and Amplitude Balance is function of the below mathematical formula.

Parameter	Mathematical formula
Insertion Loss (dB)	$10 \cdot \log \left[\frac{P_{in}}{P_{cou} + P_{out}} \right]$
Amplitude Balance (dB)	$10 \cdot \log \left[\frac{P_{cou}}{P_{cou} + P_{out}} \right]$

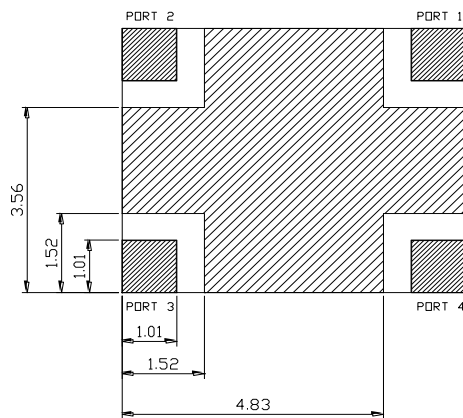
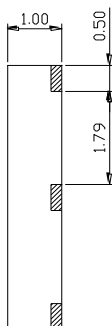
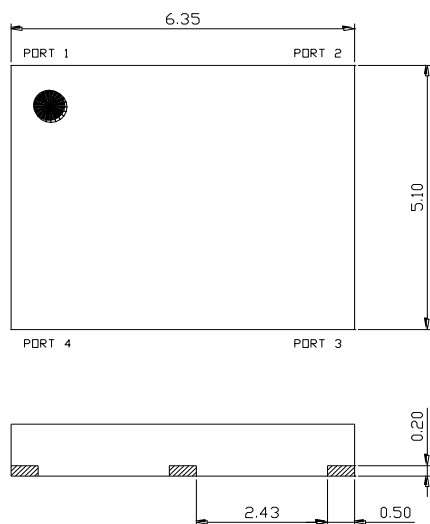
Schematic Drawing



Port Configuration

Configuration	Port 1	Port 2	Port 3.	Port 4
Case 1.	Input	Isolated	Output -3dB, -90°	Coupling -3dB, 0°
Case 2.	Isolated	Input	Coupling -3dB, 0°	Output -3dB, -90°
Case 3.	Output -3dB, -90°	Coupling -3dB, 0°	Input	Isolated
Case 4.	Coupling -3dB, 0°	Output -3dB, -90°	Isolated	Input

Package Outline Drawing



Unit : mm