



### Hybrid Couplers 3 dB, 90°



#### Description

The 1D1304-3 is a low profile 3dB hybrid coupler in an easy to use surface mount package covering the AMPS and GSM bands. The 1D1304-3 is ideal for balanced amplifiers and signal distribution and can be used in most high power designs. Parts have been subjected to rigorous qualification testing and units are 100% tested. They are manufactured using materials with x and y thermal expansion coefficients compatible with common substrates such as FR4, G-10 and polyamide.

#### Features:

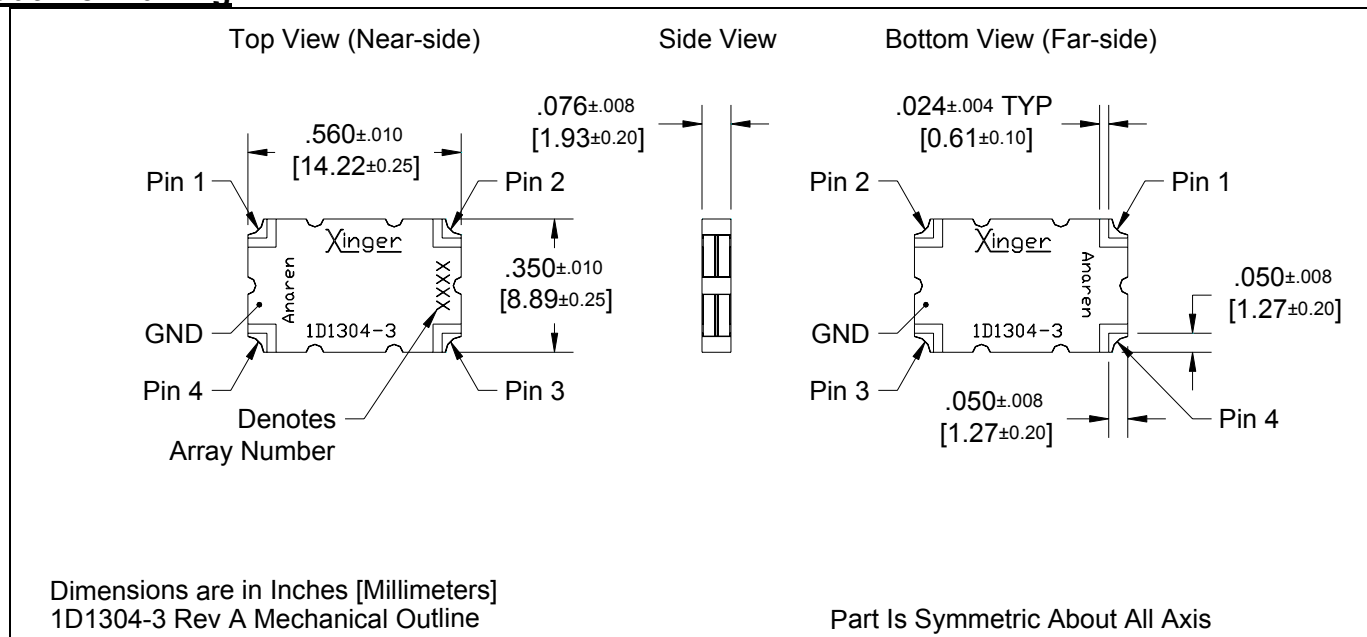
- 800 – 1200 MHz
- Low Loss
- High Isolation
- 90° Quadrature
- Surface Mountable
- Tape And Reel
- Convenient Package
- 100% Tested

#### ELECTRICAL SPECIFICATIONS\*\*

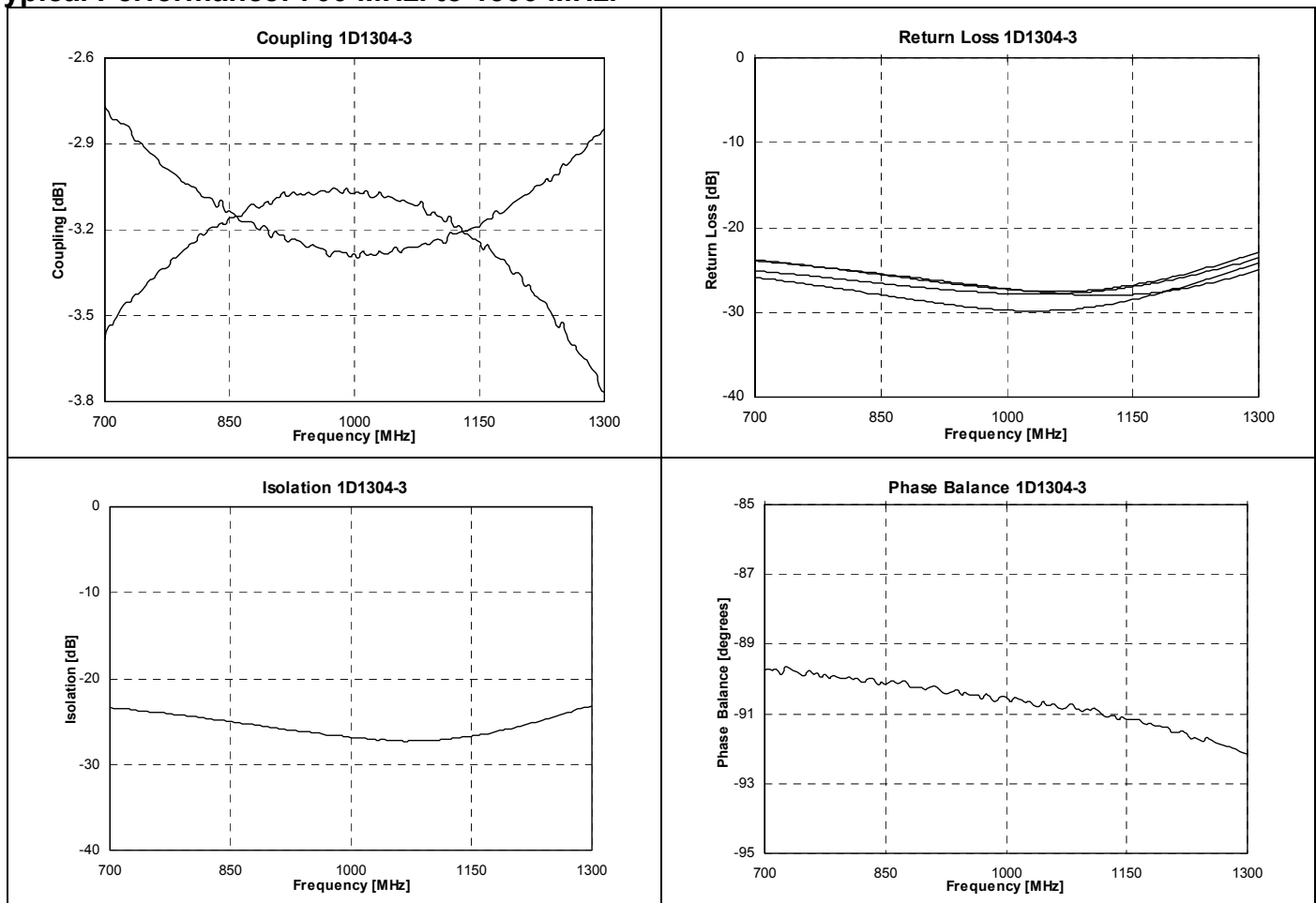
Frequency	Isolation	Insertion Loss	VSWR		
MHz	dB Min	dB Max	Max:1		
815 – 960	22	0.23	1.18		
800 – 1200	21	0.25	1.20		
Amplitude Balance	Phase Balance	Power	ΘJC	Operating Temp.	
dB Max	Degrees	Ave. CW Watts	°C/Watt	°C	
± 0.30	± 3	150	12.3	-55 to +85	
± 0.40	± 3	150	12.3	-55 to +85	

\*\*Specification based on performance of unit properly installed on microstrip printed circuit boards with 50 Ω nominal impedance. Specifications subject to change without notice.

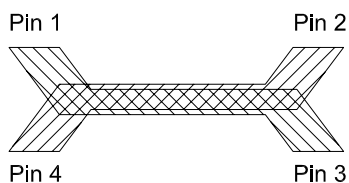
#### Outline Drawing



### Typical Performance: 700 MHz. to 1300 MHz.



### Pin Configuration

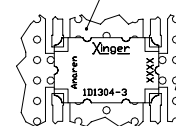


Hybrid Coupler Pin Configuration

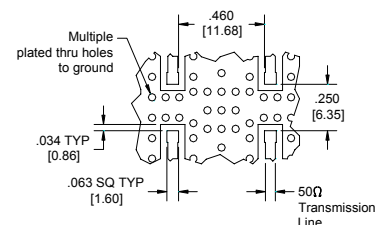
	Pin 1	Pin 2	Pin 3	Pin 4
Configuration #1	Input	Isolated	-3dB, -90°	-3dB, 0°
Configuration #2	Isolated	Input	-3dB, 0°	-3dB, -90°
Configuration #3	-3dB, -90°	-3dB, 0°	Input	Isolated
Configuration #4	-3dB, 0°	-3dB, -90°	Isolated	Input

### Mounting Footprint

To ensure proper electrical and thermal performance there must be a ground plane with 100% solder connection underneath the part



Part Is Symmetric About All Axis



Dimensions are in Inches [Millimeters]  
1D1304-3 Rev A Mounting Footprint

USA/Canada: (315) 432-8909  
Toll Free: (800) 544-2414  
Europe: +44 2392-232392

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