

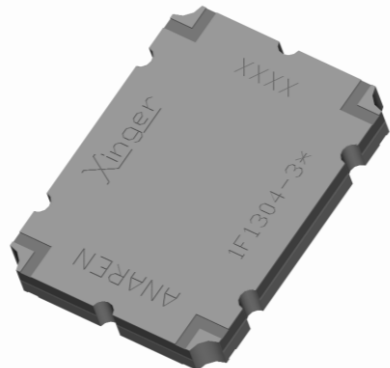


**THE DATASHEET OF
1F1304-3S**



Xinger®

Hybrid Couplers 3 dB, 90°



Description

The 1F1304-3S is a low profile 3dB hybrid coupler in an easy to use surface mount package covering 470 to 860 MHz. The 1F1304-3S 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 polyimide. Available in both 5 of 6 tin lead (1F1304-3) and 6 of 6 tin immersion (1F1304-3S) RoHS compliant finishes.

Features:

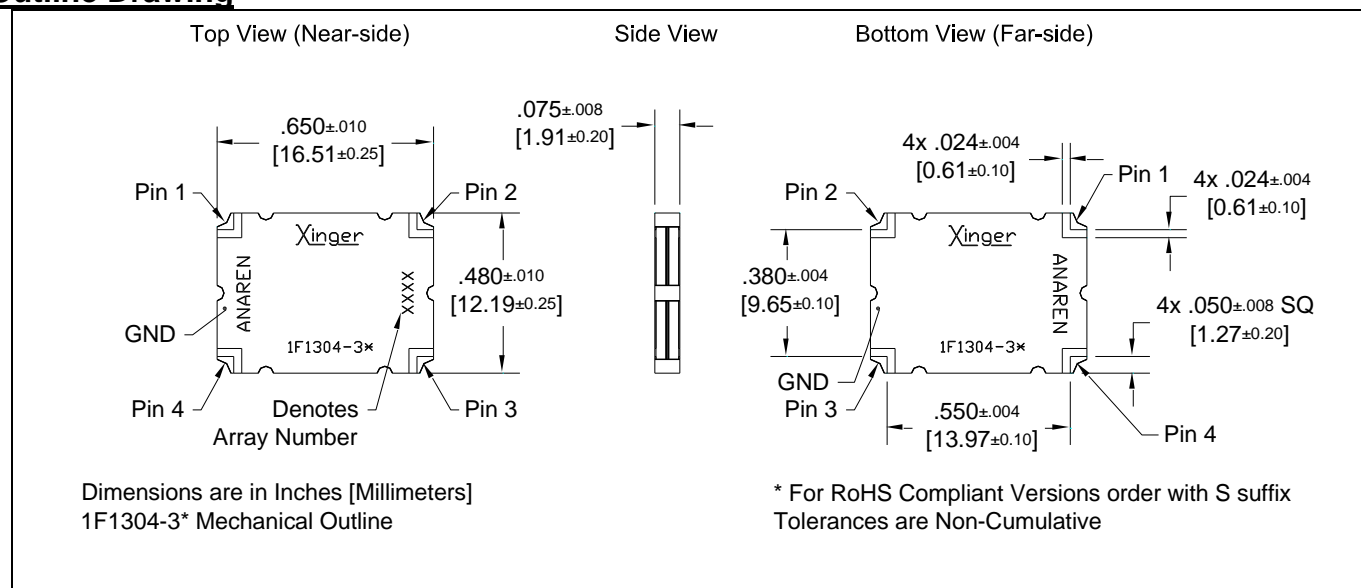
- 470 - 860 MHz
- Low loss
- High Isolation
- 90° Quadrature
- Surface Mountable
- Tape And Reel
- Convenient Package
- 100% Tested
- Lead Free Available

ELECTRICAL SPECIFICATIONS**

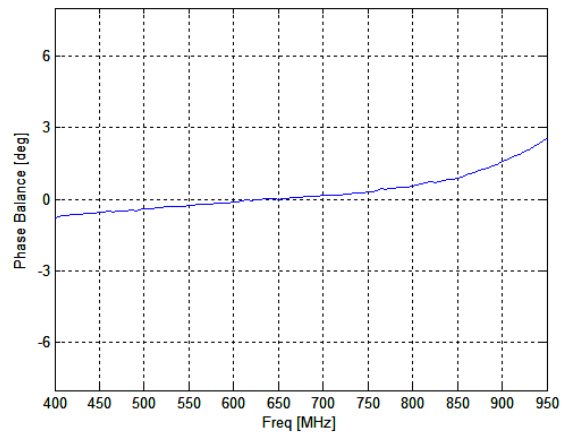
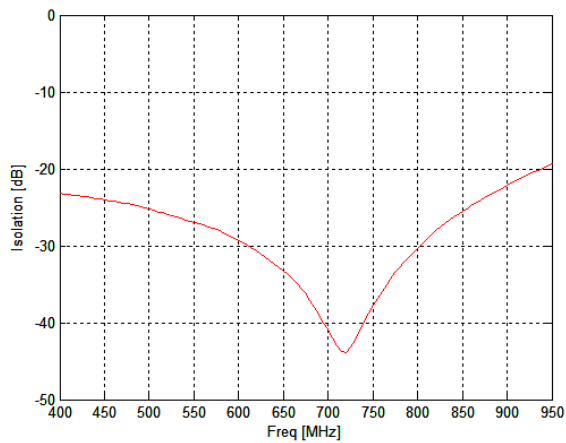
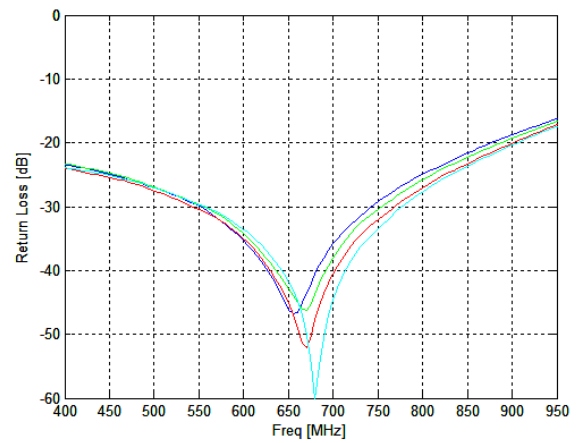
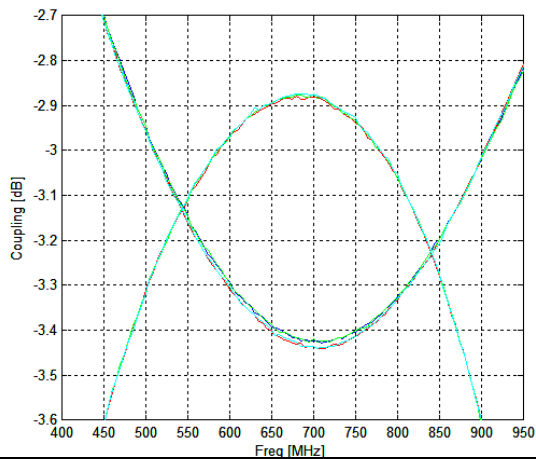
| Frequency | Isolation | Insertion Loss | VSWR | |
|-------------------|---------------|----------------|----------|-----------------|
| MHz | dB Min | dB Max | Max:1 | |
| 470 - 860 | 21 | 0.40 | 1.25 | |
| Amplitude Balance | Phase Balance | Power | θJC | Operating Temp. |
| dB Max | Degrees | Ave. CW Watts | °C/ Watt | °C |
| ± 0.50 | ± 3 | 100 | 8.6 | -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.

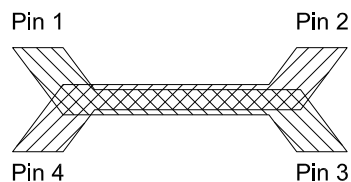
Outline Drawing



Typical Performance: 400 MHz. to 950 MHz.



Pin Configuration

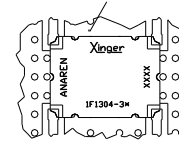


Hybrid Coupler Pin Configuration

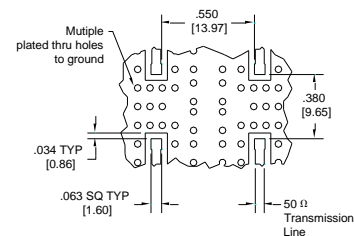
| | Pin 1 | Pin 2 | Pin 3 | Pin 4 |
|------------------|------------|------------|------------|------------|
| Configuration #1 | Input | Isolated | -3dB, -90° | -3dB, 0° |
| Configuration #2 | Isolated | Input | -3dB, 0° | -3dB, -90° |
| Configuration #3 | -3dB, -90° | -3dB, 0° | Input | Isolated |
| 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]
1F1304-3* Mechanical Footprint

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Available on Tape and Reel For Pick and Place Manufacturing.

