







#### **Description**

The 11304-3 is a low profile 3dB hybrid coupler in an easy to use surface mount package covering 500 to 1000 MHz. The 11304-3 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 polyimide.

#### Features:

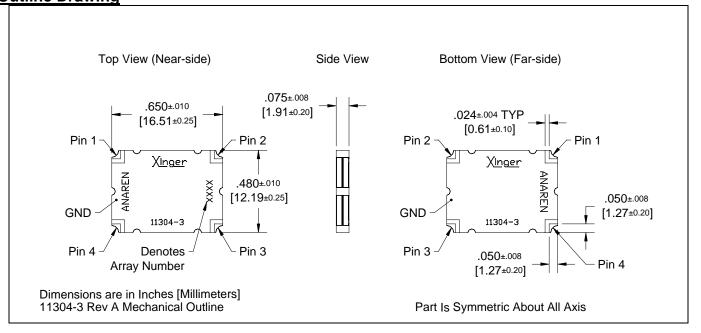
- 500 1000 MHz
- Low loss
- High Isolation
- 90<sup>O</sup> Quadrature
- Surface Mountable
- Tape And Reel
- Convenient Package
- 100% Tested

#### **ELECTRICAL SPECIFICATIONS\*\***

| Frequency            | Isolation        | Insertion<br>Loss    | VSWR                   |                    |  |  |  |  |
|----------------------|------------------|----------------------|------------------------|--------------------|--|--|--|--|
| MHz                  | dB Min           | dB Max               | Max:1                  |                    |  |  |  |  |
| 500 – 1000           | 20               | 0.35                 | 1.25                   |                    |  |  |  |  |
|                      |                  |                      |                        |                    |  |  |  |  |
| Amplitude<br>Balance | Phase<br>Balance | Power                | ΘJC                    | Operating<br>Temp. |  |  |  |  |
| -                    |                  | Power  Ave. CW Watts | <b>⊚JC</b><br>°C/ Watt | •                  |  |  |  |  |

<sup>\*\*</sup>Specification based on performance of unit properly installed on microstrip printed circuit boards with 50  $\Omega$  nominal impedance. Specifications subject to change without notice.

### **Outline Drawing**







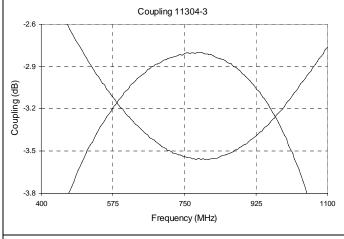
Available on Tape and Reel For Pick and Place Manufacturing.

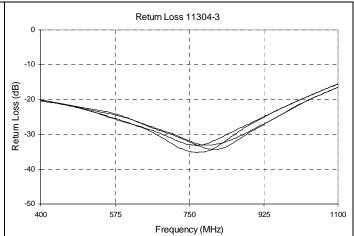
USA/Canada: (315) 432-8909 Toll Free: (800) 544-2414 Europe: +44 2392-232392

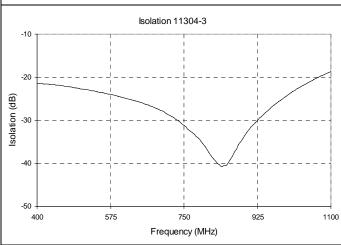


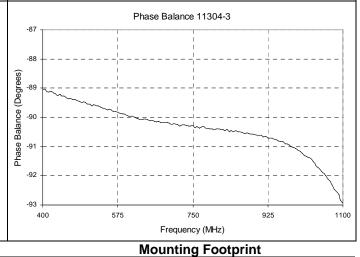


## Typical Performance: 500 MHz. to 1000 MHz.

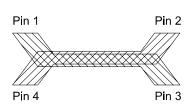








#### **Pin Configuration**



| Ну               | Hybrid Coupler Pin Configruation |            |            |            |  |  |
|------------------|----------------------------------|------------|------------|------------|--|--|
|                  | 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      |  |  |

# To ensure proper electrical and thermal performance there must be a ground plane with 100% solder connection underneath the part ျပတ္ Part Is Symmetric About All Axis Mutiple plated thru holes to ground 00 000 000 .034 TYP .063 SQ TYP [1.60] Transmission Line Dimensions are in Inches [Millimeters] 11304-3 Rev A Mounting Footprint

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