

Xinger®

Micro Xinger 3dB Hybrid Coupler



Description

The 1M803 Micro Xinger® is a low profile, miniature 3dB hybrid coupler in an easy to use surface mount package designed for U-NII, ISM and hyper LAN applications. The 1M803 is designed for balanced amplifiers and signal distribution and is an ideal solution for the ever increasing demands of the wireless industry for smaller printed circuit boards and high performance. 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 and G-10. Available in both 5 of 6 tin lead (1M803) and 6 of 6 RoHS compliant tin immersion (1M803S).

Features:

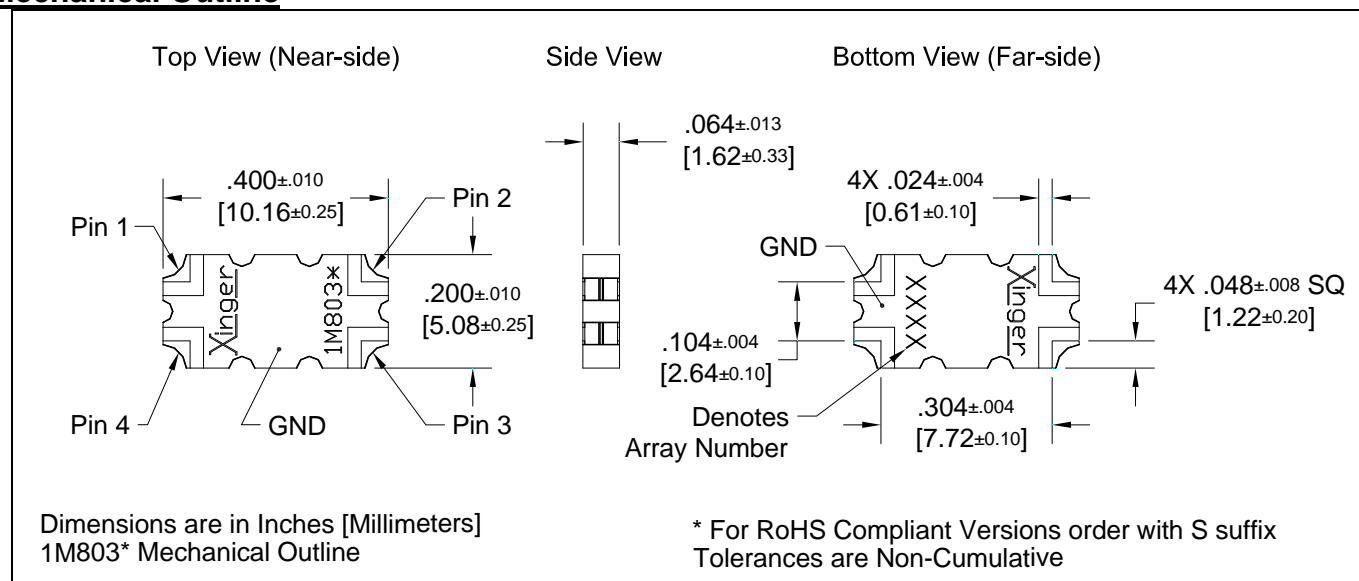
- Very Low Loss
- High Isolation
- 90° Quadrature
- Surface Mountable
- Tape And Reel
- Available in Lead-Free (as illustrated) or Tin-Lead

ELECTRICAL SPECIFICATIONS**

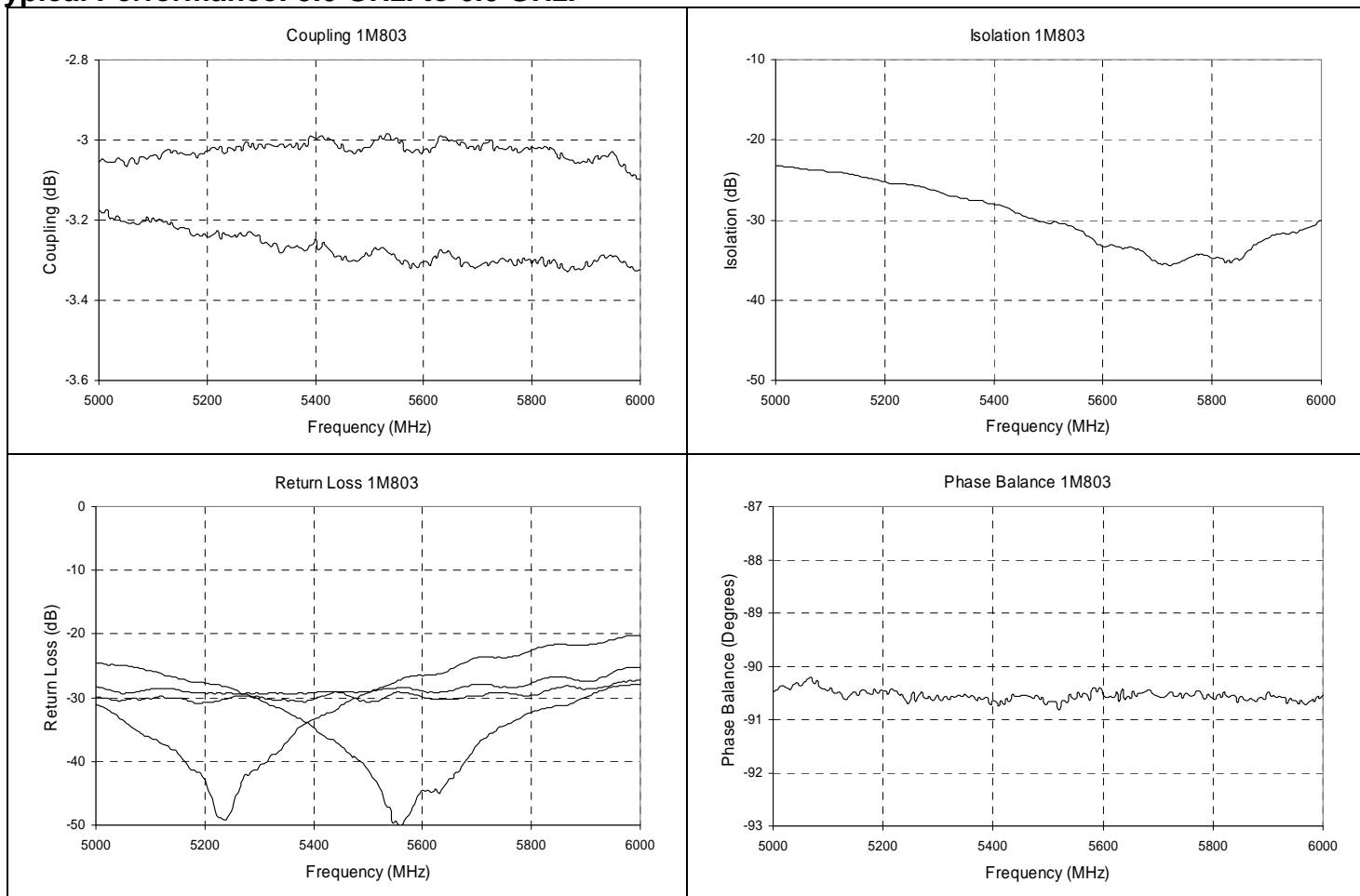
| Frequency | Isolation | Insertion Loss | VSWR | |
|-------------------|---------------|----------------|---------|-----------------|
| GHz | dB Min | dB Max | Max:1 | |
| 5.0 – 6.0 | 20 | 0.25 | 1.21 | |
| 4.8 – 6.0 | 20 | 0.25 | 1.21 | |
| Amplitude Balance | Phase Balance | Power | ΘJC | Operating Temp. |
| dB Max | Degrees | Ave. CW Watts | °C/Watt | °C |
| ± 0.30 | ± 3 | 20 | 78.1 | -55 to +85 |
| ± 0.40 | ± 3.5 | | | |

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

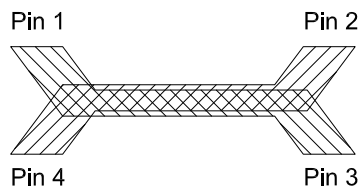
Mechanical Outline



Typical Performance: 5.0 GHz. to 6.0 GHz.



Pin Configuration

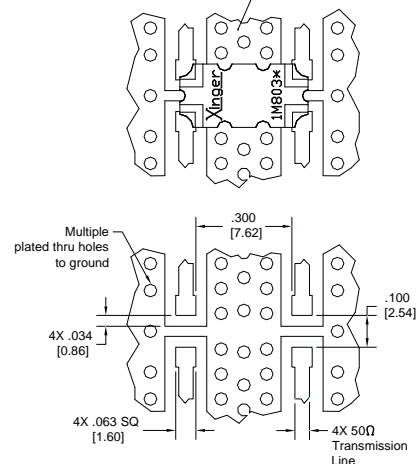


Hybrid Coupler Pin Configuration

| | 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 |

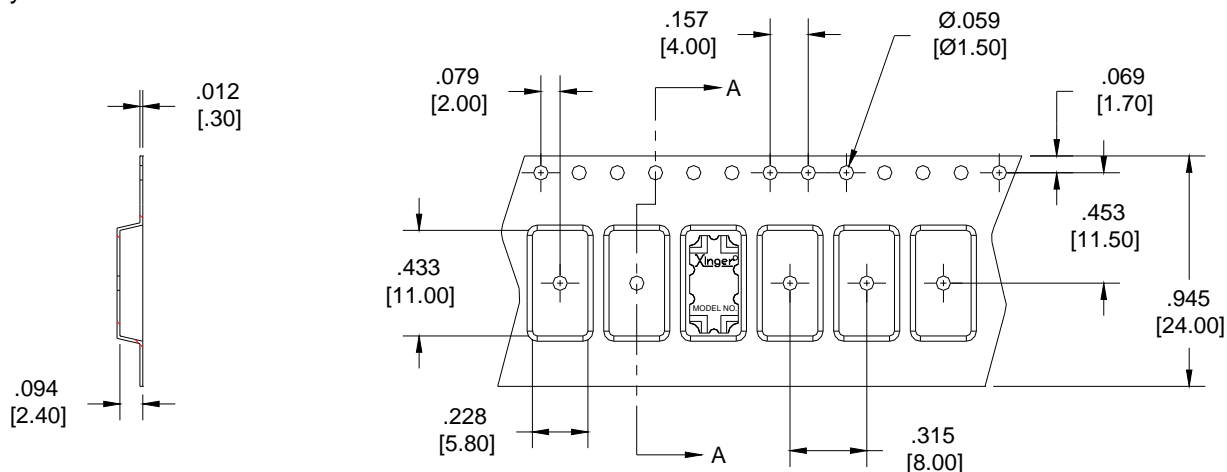
Mounting Footprint

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

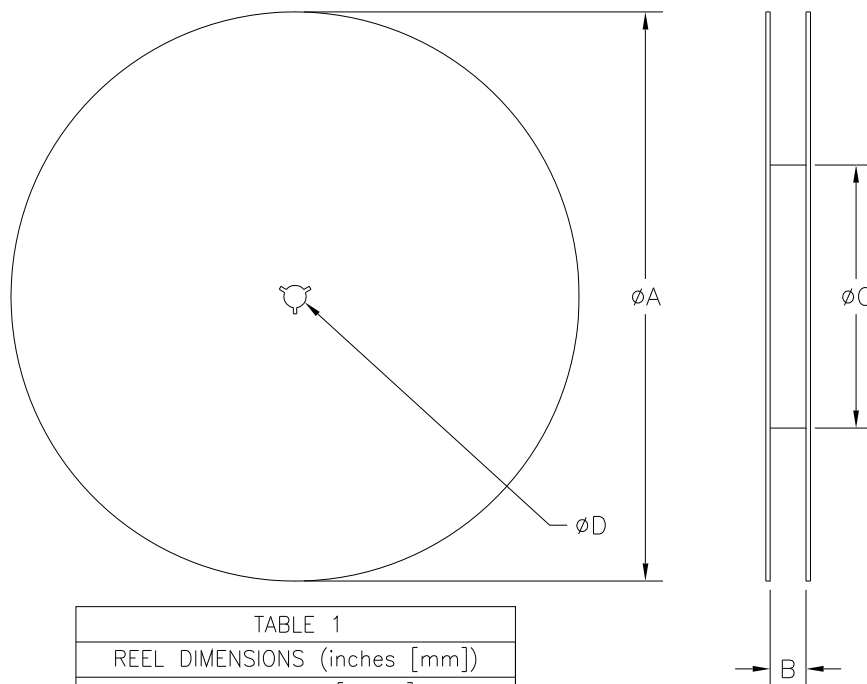


PACKAGING

Packaging follows EIA-481-2. Parts available in tape and reel. Contact Customer service for Minimum reel order quantity.



Tape and Reel Diagram



| TABLE 1 | |
|-------------------------------|----------------|
| REEL DIMENSIONS (inches [mm]) | |
| ØA | 13.3 [333.0] |
| B | 0.945 [24.0] |
| ØC | 4.017 [102.03] |
| ØD | 0.512 [13.0] |

