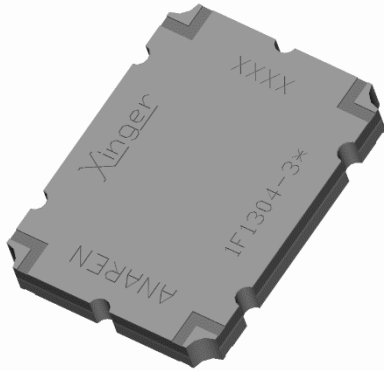


**Xinger III**

**Hybrid Coupler**  
**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

**Detailed Electrical Specifications:**

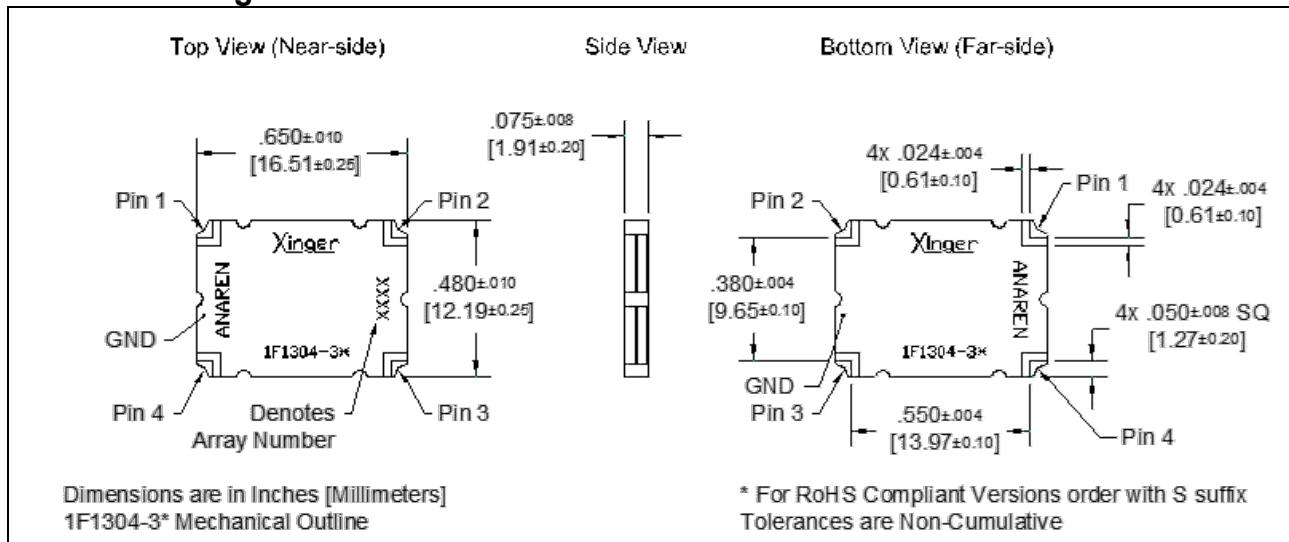
**Features:**

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

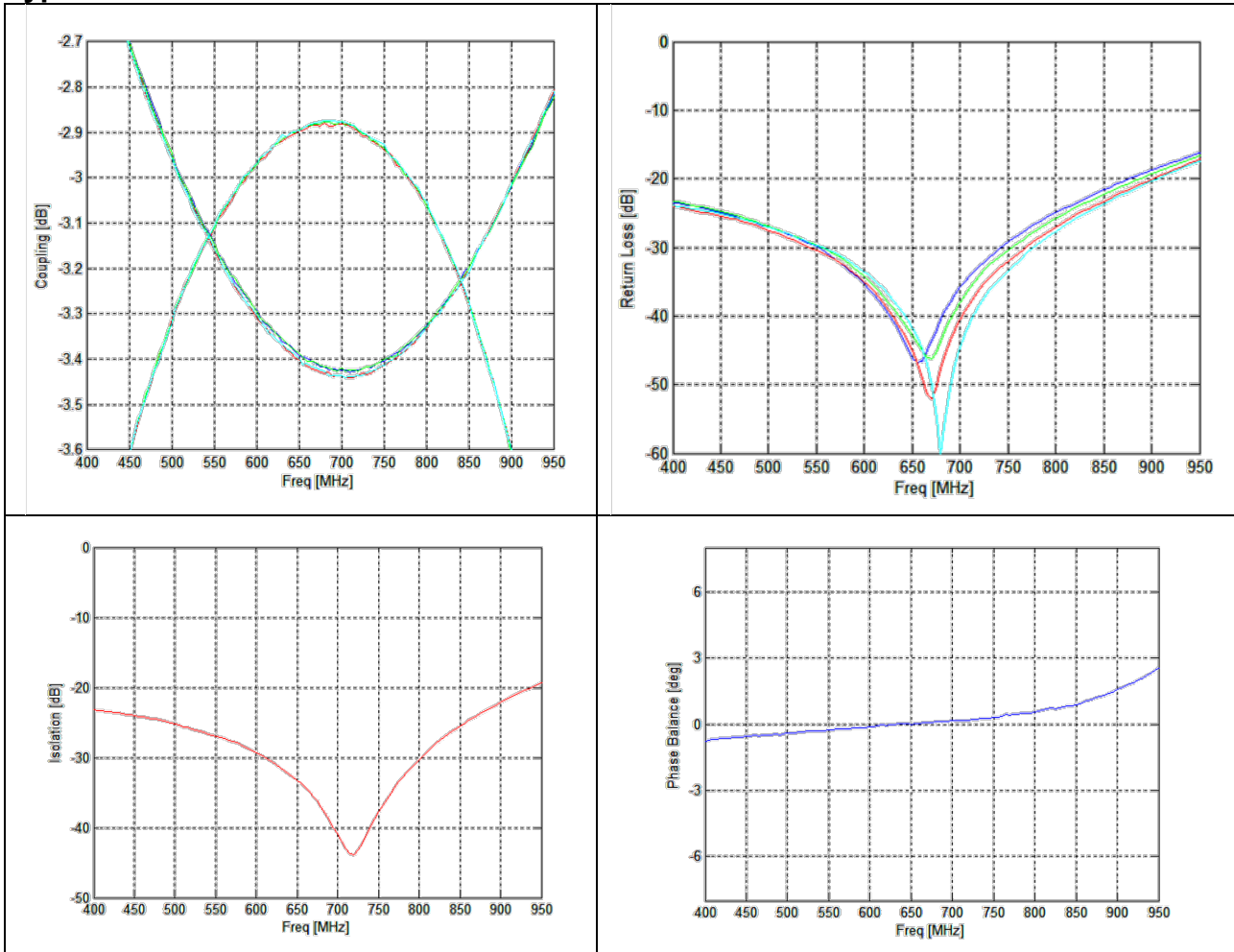
Frequency MHz	Isolation dB Min	Insertion Loss dB Max	VSWR Max:1	Amplitude Balance dB Max	Phase Balance Degrees	Power Ave. CW Watts	⊕JC °C/ Watt	Operating Temp. °C
470 - 860	21	0.40	1.25	± 0.50	± 3	100	8.6	-55 to +85

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

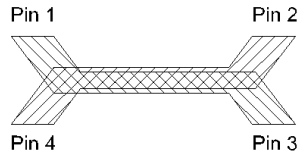
**Outline Drawing:**



**Typical Performance:**



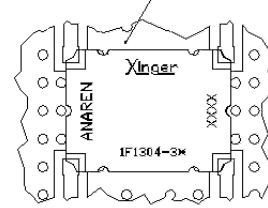
### Pin Configuration



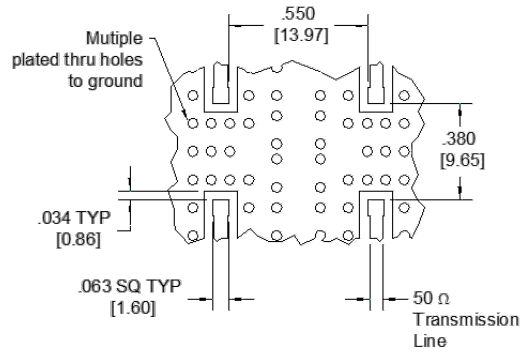
Hybrid Coupler Pin Configuration				
	Pin 1	Pin 2	Pin 3	Pin 4
Configuration #1	Input	Isolated	-3dB, -90°	-3dB, 0°
Configuration #2	Isolated	Input	-3dB, 0°	-3dB, -90°
Configuration #3	-3dB, -90°	-3dB, 0°	Input	Isolated
Configuration #4	-3dB, 0°	-3dB, -90°	Isolated	Input

### 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

Contact us:  
[rf&s\\_support@ttm.com](mailto:rf&s_support@ttm.com)