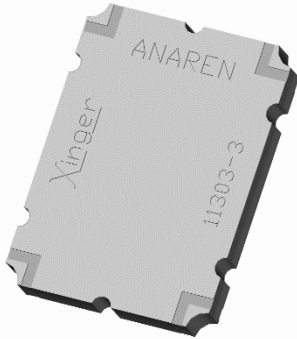




**Hybrid Coupler**  
**3 dB, 90°**



**Description:**

The 11303-3 is a low profile 3dB hybrid coupler in an easy to use surface mount package covering the NMT 450 band. The 11303-3 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.

**Detailed Electrical Specifications:**

**Features:**

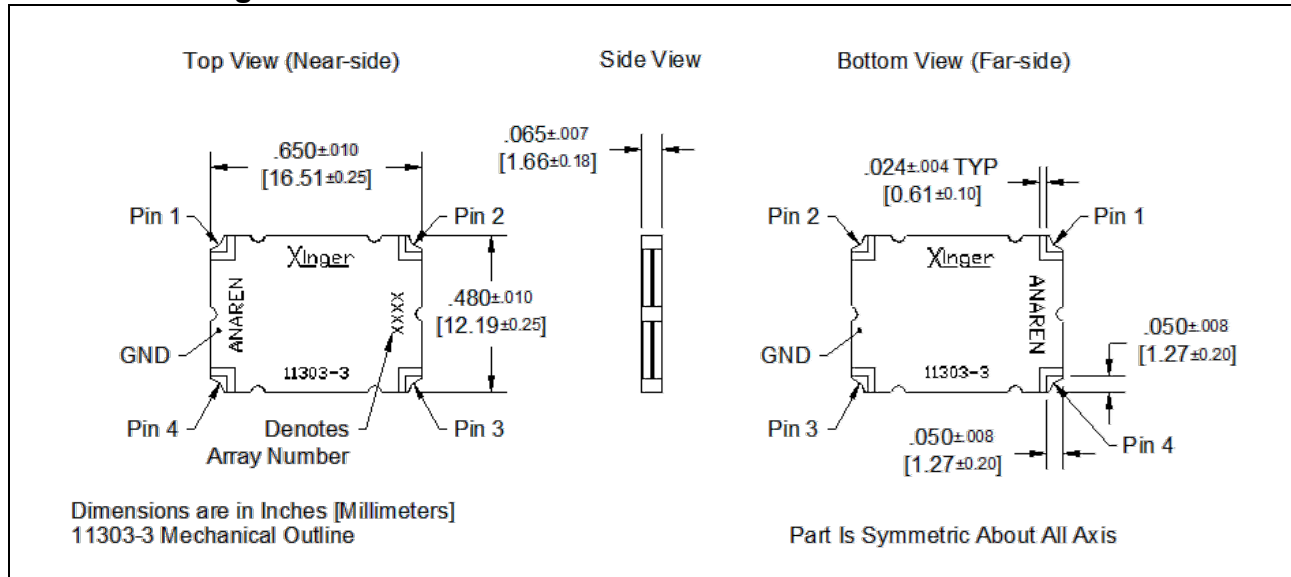
- 380 - 520 MHz
- Low loss
- High Isolation
- 90° Quadrature
- Surface Mountable
- Tape And Reel
- Convenient Package
- 100% Tested

Frequency	Isolation	Insertion Loss	VSWR
MHz	dB Min	dB Max	Max:1
380 – 520	20	0.35	1.28
Amplitude Balance	Phase Balance	Power	Operating Temp.
dB Max	Degrees	Ave. CW Watts @85°C	°C
± 0.30	± 3	125	-55 to +150

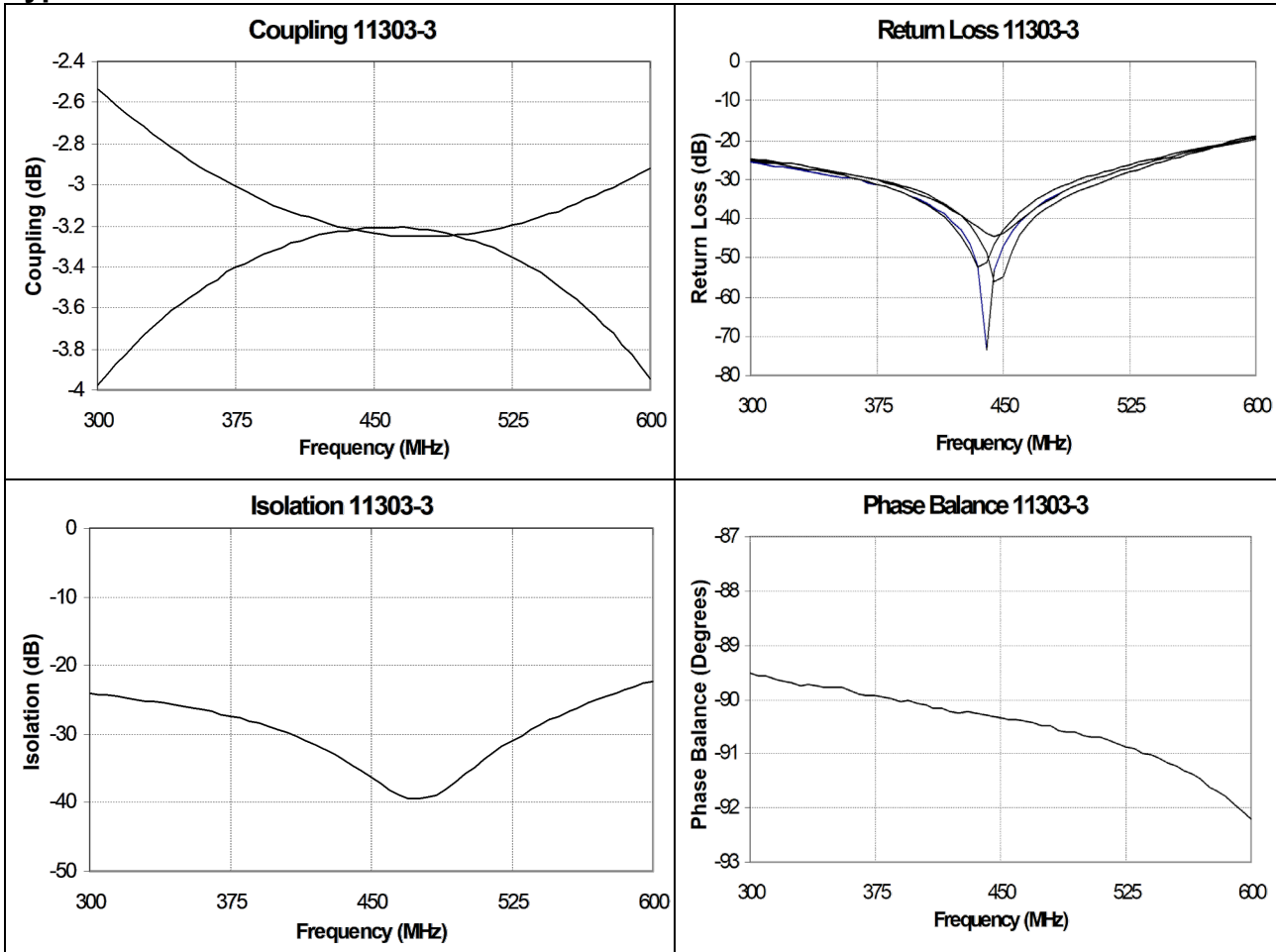
\*\*Specification based on performance of unit properly installed on microstrip printed circuit boards with 50 Ω nominal impedance.

\*Specifications subject to change without notice.

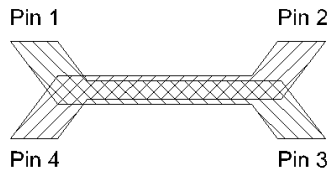
**Outline Drawing:**



**Typical Performance: 300 MHz to 600 MHz**



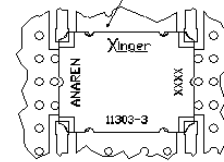
### Pin Configuration



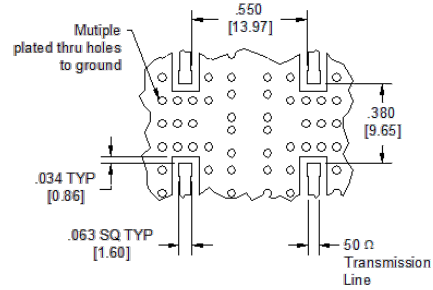
Hybrid Coupler Pin Configuration				
	Pin 1	Pin 2	Pin 3	Pin 4
Configuration #1	Input	Isolated	-3dB, -90°	-3dB, 0°
Configuration #2	Isolated	Input	-3dB, 0°	-3dB, -90°
Configuration #3	-3dB, -90°	-3dB, 0°	Input	Isolated
Configuration #4	-3dB, 0°	-3dB, -90°	Isolated	Input

### Mounting Footprint

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

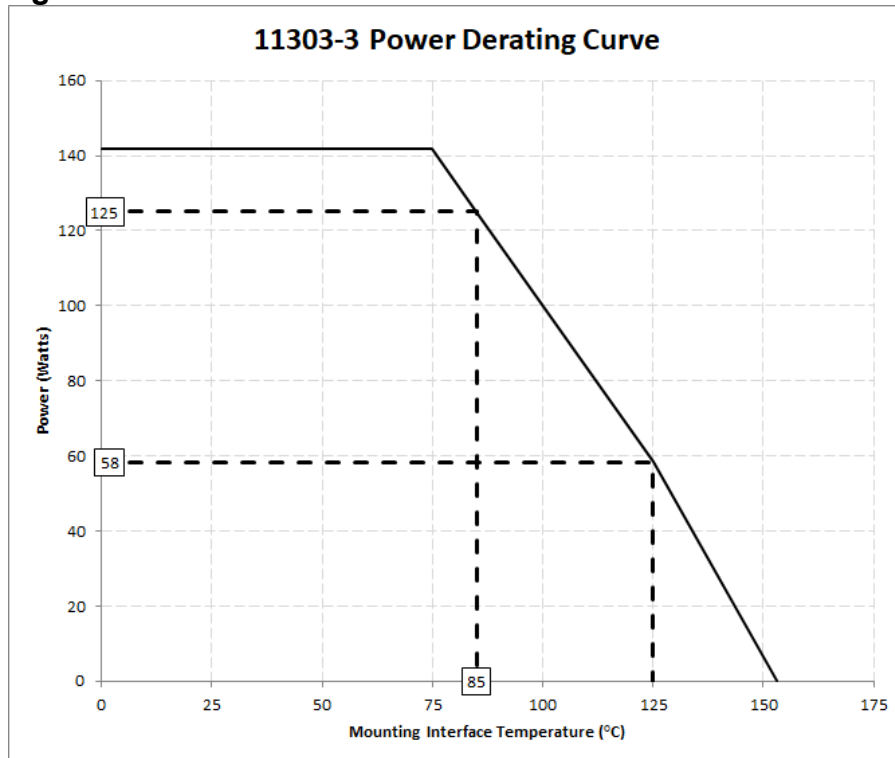


Part Is Symmetric About All Axis



Dimensions are in Inches [Millimeters]  
11303-3 Mounting Footprint

## Power Derating Curves



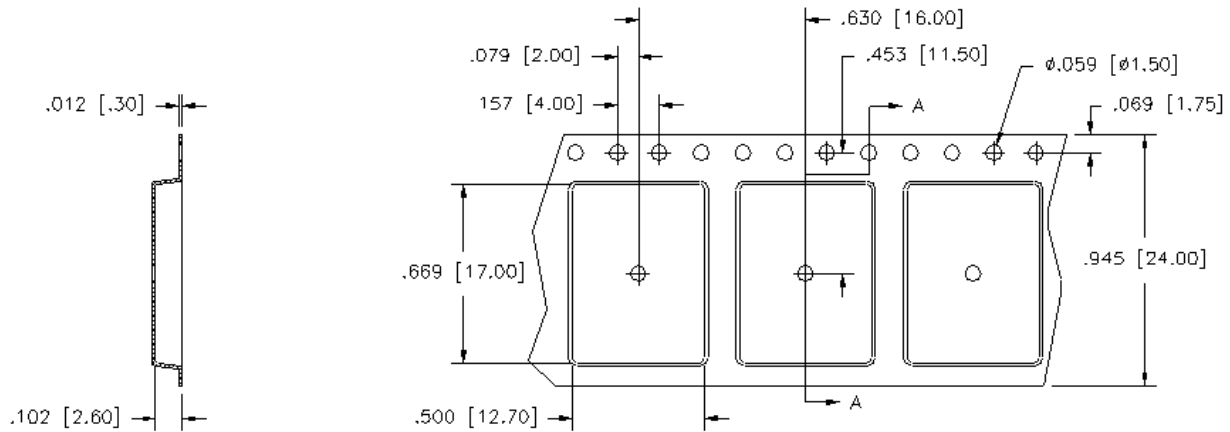
### Power Derating:

The power handling and corresponding power derating plots are a function of the thermal resistance, mounting interface temperature, maximum continuous operating temperature of the coupler, and the thermal insertion loss. The thermal insertion loss is defined in the Power Handling section of the data sheet.

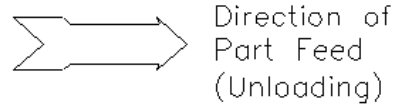
As the mounting interface temperature approaches the maximum continuous operating temperature, the power handling decreases to zero

**Packaging**

Parts are available in both reel and tube. Packaging follows EIA 481-2. Parts are provided in tape and reel as shown below. Minimum order quantities are 1000 per reel and 35 per tube.



SECTION A-A



Dimensions are in inches [mm]

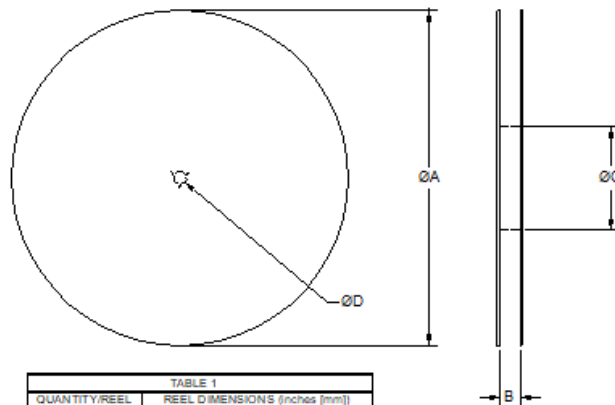


TABLE 1	
QUANTITY/REEL	REEL DIMENSIONS (inches [mm])
1000	$\varnothing A$ 13.0 [330.0]
	B 0.945 [24.0]
	$\varnothing C$ 4.017 [102.03]
	$\varnothing D$ 0.512 [13.0]

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