







# **Description**

The 3W512 is a low profile balanced to unbalanced transformer designed for push-pull amplifiers in an easy to use surface mount package for PCS, DCS, and UMTS. These compact Xinger® surface mount baluns are ideal for high volume manufacturing and are more reliable and repeatable than traditional baluns. The 3W512 has an unbalanced port impedance of  $50\Omega$  and balanced port impedances of  $12.5\Omega$  to ground with a  $25\Omega$  balance between outputs. This eases the matching of the push-pull amplifier's power transistors, which have low impedance levels. The output ports have equal amplitude (-3dB) with 180 degree phase differential. The Xinger® balun is a result of years of research and development culminating with a solution so unique, a patent is pending on the design approach. The 3W512 is available on tape and reel for pick and place high volume manufacturing.

# Features:

- 1.8 2.2 GHz
- 180° Transformer
- 50 Ohm to 12.5+j5.5 Ohm
- Broad Band
- Low Insertion Loss
- High Power
- Even Order Suppression
- Input to Output DC Isolation
- Surface Mountable
- Tape & Reel

**Outline Drawing** 

• Convenient Package

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

Frequency	Unbalanced Port Impedance	Balanced Port Impedance*	Return Loss	Insertion Loss**
GHz	Ohms	Ohms	dB Min	dB max
1.8 – 2.2	50	12.5+j5.5	15	0.30
Amplitude Balance	Phase Balance	Power Handling	ΘJC	Operating Temp.
dB max	Degrees max	Watts	°C / Watt	°C
0.40	180 <u>+</u> 5.0	150	11.3	-55 to +85

<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.

### Side View Top View (Near-side) Bottom View (Far-side) .290±.004 [7.37±0.10] .075±.008 .100±.004 [2.54±0.10] -[1.91±0.20] .035±.008 [0.89±0.20] .750±.010 [19.05±0.25] Pin 2 Pin 3 Pin 3 Pin 2 .030±.004 TYP [0.76±0.10] .050±.008 ANAREN .550±.010 [1.27±0.20] Xinger .050±.008 [13.97±0.25] .030±.004 [1.27±0.20] **GND** [0.76±0.10] Pin 1 .232±.008 [5.91±0.20] **GND Denotes** Array Number .112±.004 [2.86±0.10] --

Dimensions are in Inches [Millimeters] 3W512 Rev A Mechanical Outline





Available on Tape and Reel For Pick and Place Manufacturing.

USA/Canada: (31 Toll Free: (80 Europe: +44

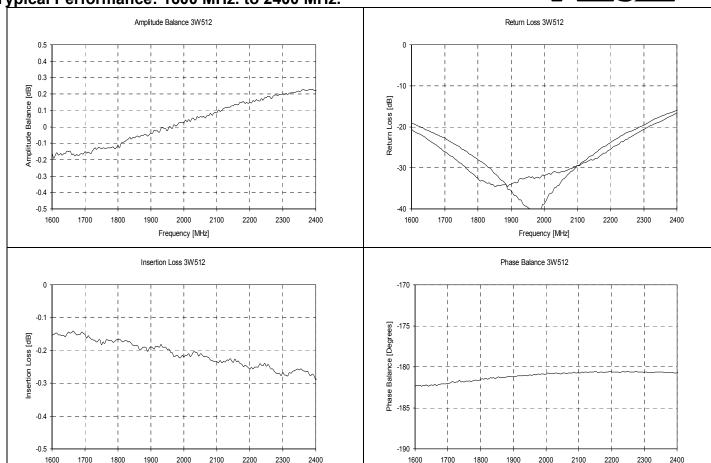
(315) 432-8909 (800) 544-2414 +44 2392-232392

<sup>\*</sup>  $50\Omega$  reference to ground



# Typical Performance: 1600 MHz. to 2400 MHz.





# **Pin Configuration:**

# Pin 2 Pin 2 Unbalanced Port A/4 Pin 3

Frequency [MHz]

## **Mounting Configuration:**

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

Frequency [MHz]

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