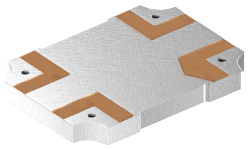
MULTI-MIX®
MICROTECHNOLOGY

PDD-3X-1.5G
2-WAY POWER DIVIDERS

REV: 002, 06/27/02

- 1.3 - 1.7 GHz
- LOW LOSS
- HIGH ISOLATION
- SURFACE MOUNT
- TAPE & REEL



TECHNICAL DESCRIPTION / APPLICATION

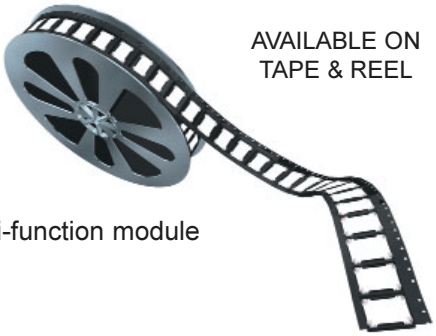
MULTI-MIX PICO™ X-SERIES POWER DIVIDERS

The Multi-Mix® PDD-X series provides an in-phase, binary power divider with low insertion loss in a small outline. Accurate phase and amplitude balance make them ideal for applications involving IQ networks, power amplifiers, signal distribution and processing.

PDD-X power dividers are fusion bonded multilayer stripline assemblies. The fusion bonding process yields a homogeneous monolithic dielectric structure with reliability, ruggedness, and electrical performance that is superior to conventional adhesive bonding techniques.

The PDD-X series is an easy to install SMD designed specifically for the full spectrum of wireless applications. The high stability ceramic filled PTFE dielectrics utilized in these components are compatible with common substrates such as FR-4, G-10, and polyamide. The wrap around ground plane provides excellent EM shielding.

Additional benefits include:



AVAILABLE ON
TAPE & REEL

Available on tape and reel
Cost effective for commercial wireless applications
Small outline size
Operating temperature range –55°C to +85°C.
Can be integrated with other Multi-Mix® components in a multi-function module

RELIABILITY

The product family has passed environmental screening including Thermal shock, Burn-in, Acceleration, Vibration, Mechanical Shock, Moisture Resistance, Resistance to Solder Heat, and Thermal Cycling Life Test (>1000 cycles).

THE MULTI-MIX® PROCESS

Multi-Mix® is a manufacturing process based on fluoropolymer composite substrates that are fusion bonded together into a multilayer structure. The fusion bonding process yields a homogeneous monolithic structure with superior performance at microwave and millimeter wave frequencies. The bonded layers can contain embedded semiconductors, MMICs, etched resistors, circuit patterns, and plated-through vias to form a SMD module that requires no additional packaging and is suitable for automated assembly.

THE MULTI-MIX MICROTECHNOLOGY® GROUP IS ISO-9001 REGISTERED

U.S. patent 6,099,677 and other patents pending.

Merrimac Industries / 41 Fairfield Place, West Caldwell, NJ 07006
Tel: 1.888.434.6636 / Fax: 973.882.5990 / Email: pico@merrimacind.com / www.Multi-Mix.com

GENERAL SPECIFICATIONS

ELECTRICAL

FREQUENCY RANGE	1.3 TO 1.7 GHz
ISOLATION	14 dB
INSERTION LOSS	0.3 dB
VSWR	1.66:1
AMPLITUDE BALANCE	+/- 0.3 dB (MAX)
PHASE BALANCE	±4 deg
INPUT POWER (WATTS) *	1 W

*CW input power, tested as a divider.

MECHANICAL

SIZE / OUTLINE	0.18 x 0.18 x 0.11 inches
WEIGHT	0.004 oz.
RF INTERFACE*	Surface Mount

*Refer to layout guidelines for recommended RF interface.

ENVIRONMENTAL

OPERATING TEMPERATURE RANGE	-55° To + 85°, C

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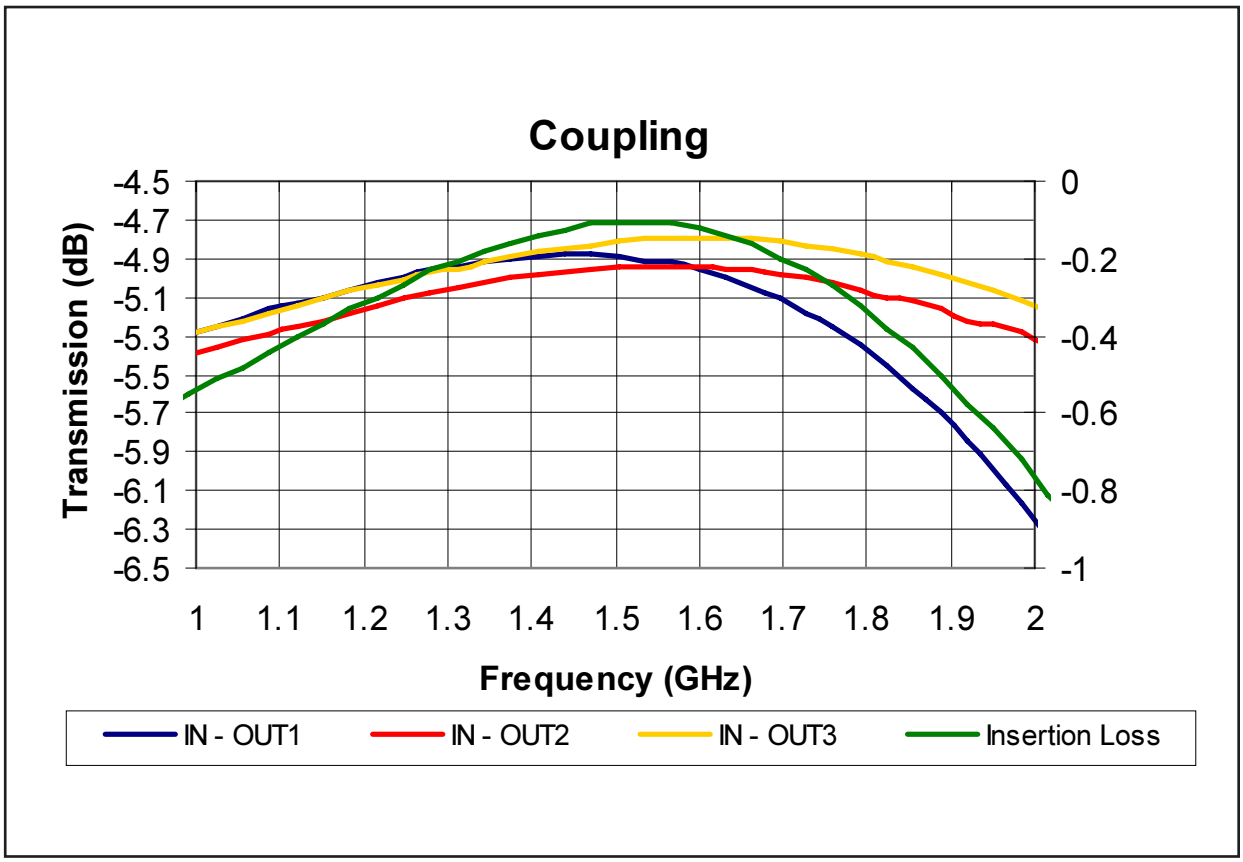
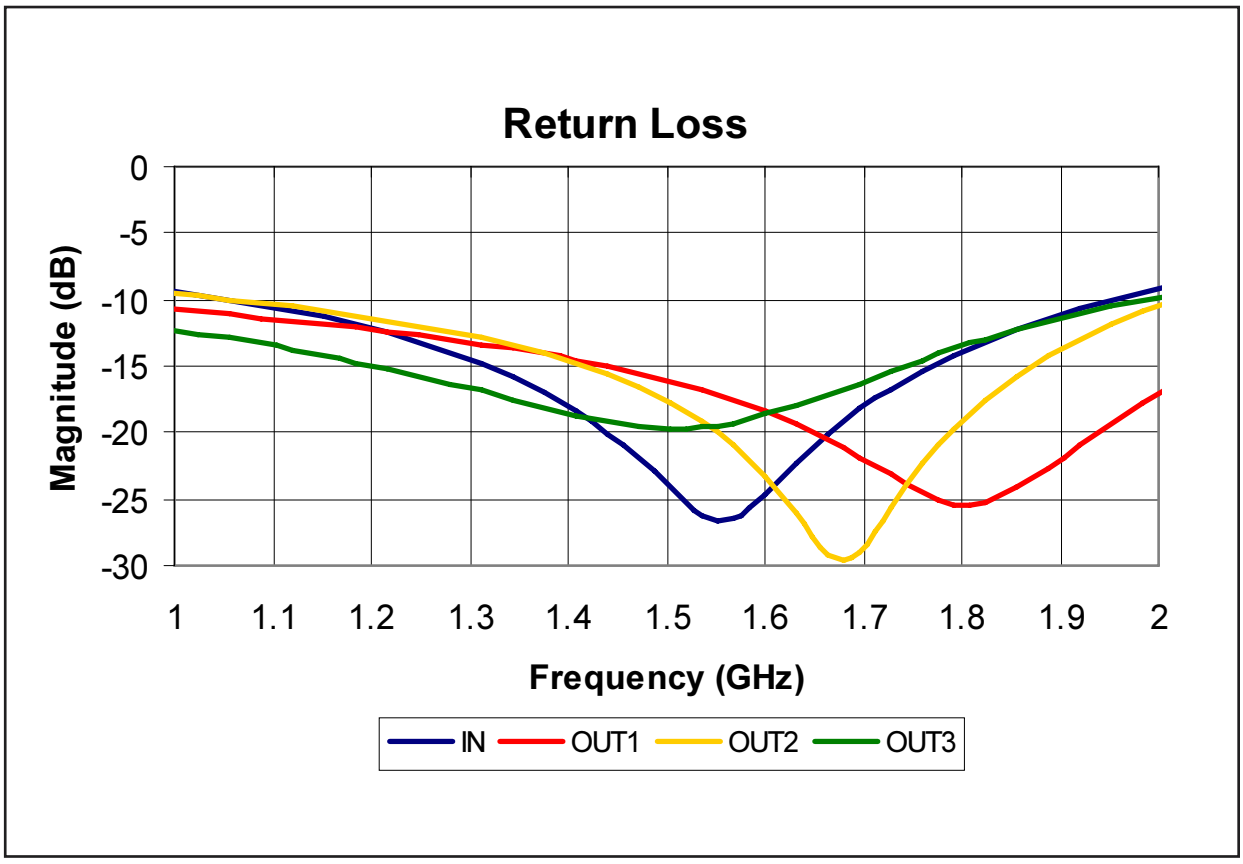
TYPICAL PERFORMANCE





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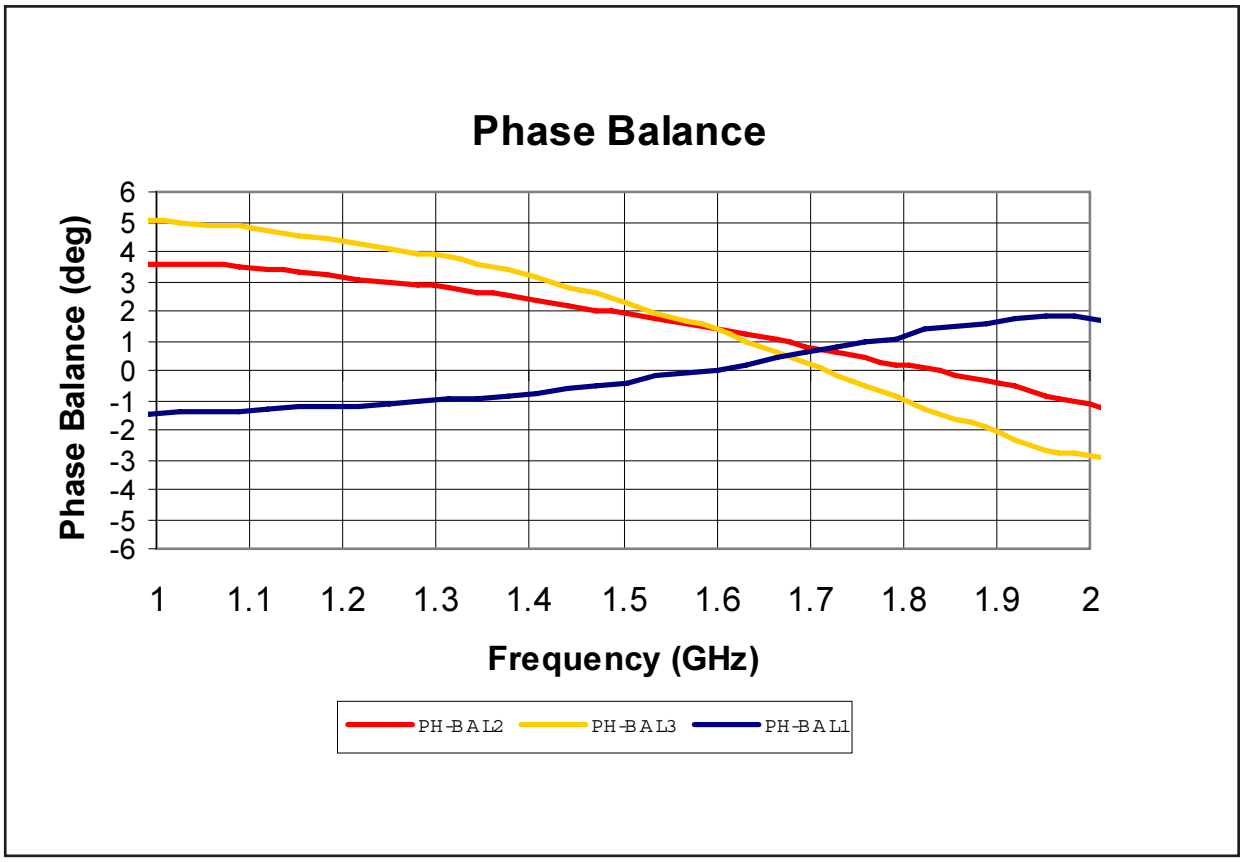

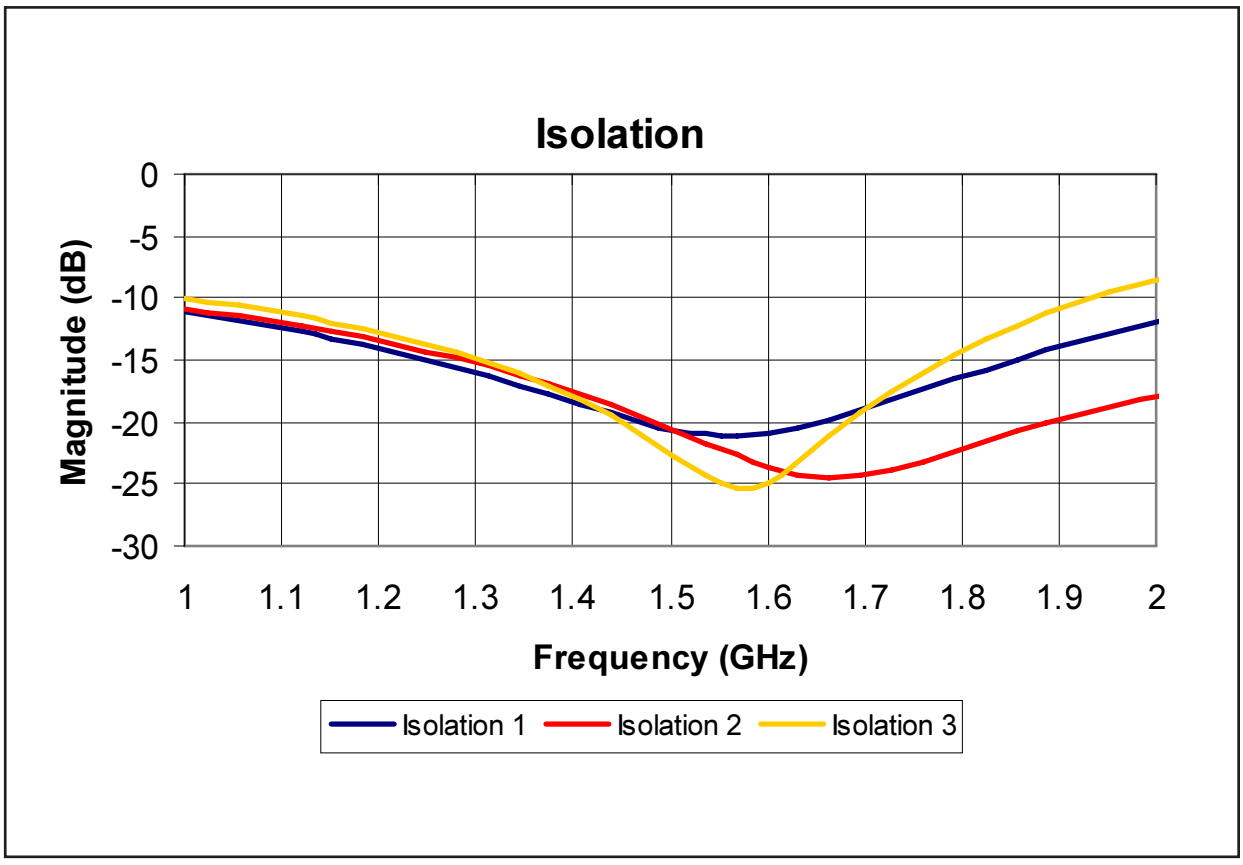

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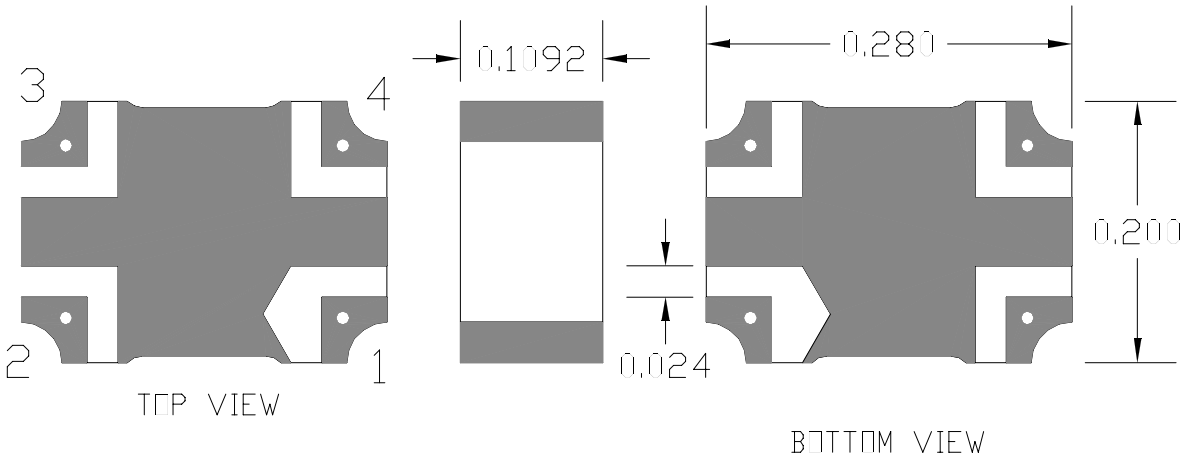
PACKAGE OUTLINE



NOTES:
1. ALL DIMENSIONS ARE IN INCHES.
2. TOLERANCES: -3 PLACE DECIMALS; ±.005.

Port #	Function
1	IN
2	OUT
3	OUT
4	OUT

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