MULTI-MIX®
MICROTECHNOLOGY

CSD-10H-0.9G
DIRECTIONAL COUPLERS
REV: 002, 02/13/03

- 0.8 - 1.0 GHz
- LOWEST LOSS
- HIGHEST ISOLATION
- BEST PHASE/AMPLITUDE BALANCE
- SURFACE MOUNT
- TAPE & REEL



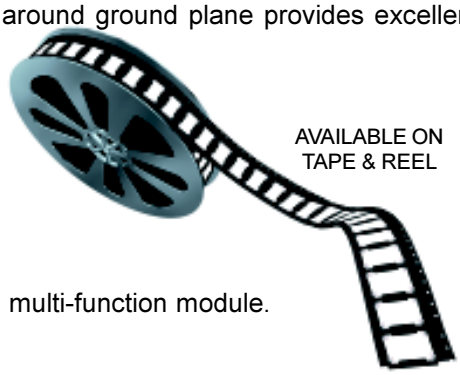
TECHNICAL DESCRIPTION / APPLICATION

MULTI-MIX® DIRECTIONAL COUPLERS

The Multi-Mix® CSD series provides directional couplers with low insertion loss, low VSWR, and high directivity. Precise coupling and frequency sensitivity make them ideal for applications power amplifiers, signal distribution and processing.

CSD directional couplers 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 CSD 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 and reel.
- Cost effective for commercial wireless applications.
- Industry standard size.
- Temperature stable from –65 to +125 degrees C.
- Can be integrated with other Multi-Mix® components in a multi-function module.

RELIABILITY

All CSD series components are 100% tested. The product family has passed environmental screening per MIL-STD-202 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 multilayers 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 ready for pick and place.

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

Merrimac Industries, Inc. / 41 Fairfield Place, West Caldwell, NJ 07006
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GENERAL SPECIFICATIONS

ELECTRICAL

FREQUENCY RANGE	0.925 TO 0.96	0.815 TO 0.960	0.869 TO 0.894	0.8 TO 1.0 GHz
INSERTION LOSS	0.25	0.25	0.25	0.25 dB (MAX)
COUPLING	10 ± 1.0	10 ± 1.0	10 ± 1.0	10 +/- 1.0 dB (MAX)
FREQUENCY SENSITIVITY	± 0.1	± 0.3	± 0.10	+/- 0.3 dB (MAX)
DIRECTIVITY	20	20	20	20 dB (MIN)
VSWR (ALL PORTS)	120:1	1.20:1	1.15:1	1.20:1 (MAX)
INPUT POWER (CW @ 1.2:1 OUTPUT VSWR)	150	150	150	150 W (MAX)

MECHANICAL

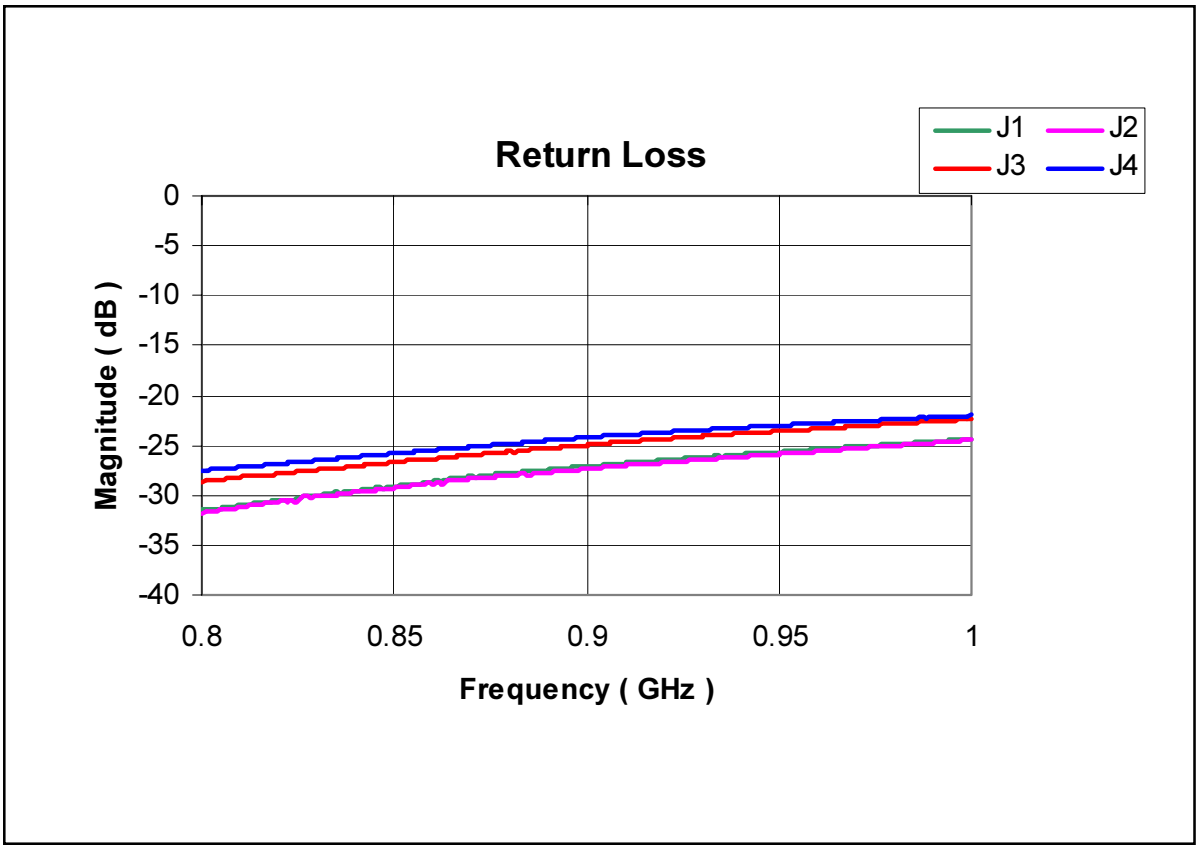
SIZE / OUTLINE	0.56 x 0.35 x 0.075 inches
WEIGHT	0.03 oz. (0.8 Grams)
RF INTERFACE	Surface Mount

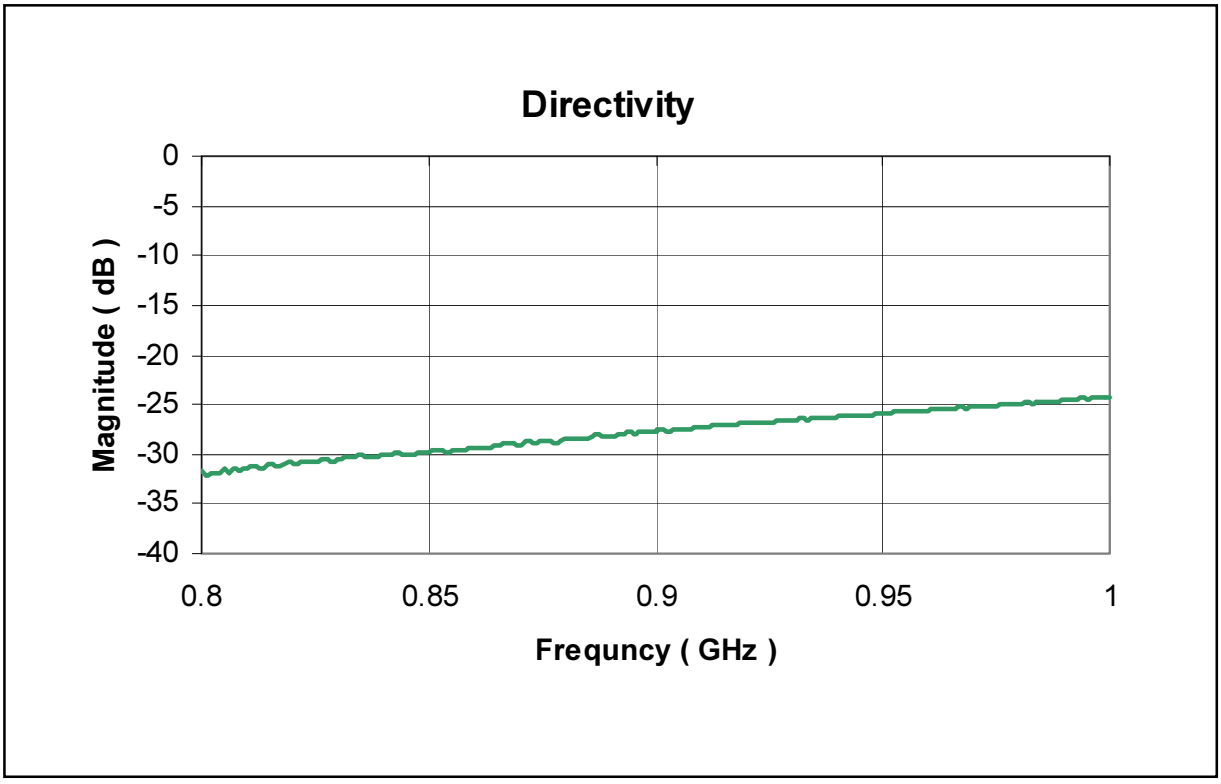
ENVIRONMENTAL

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

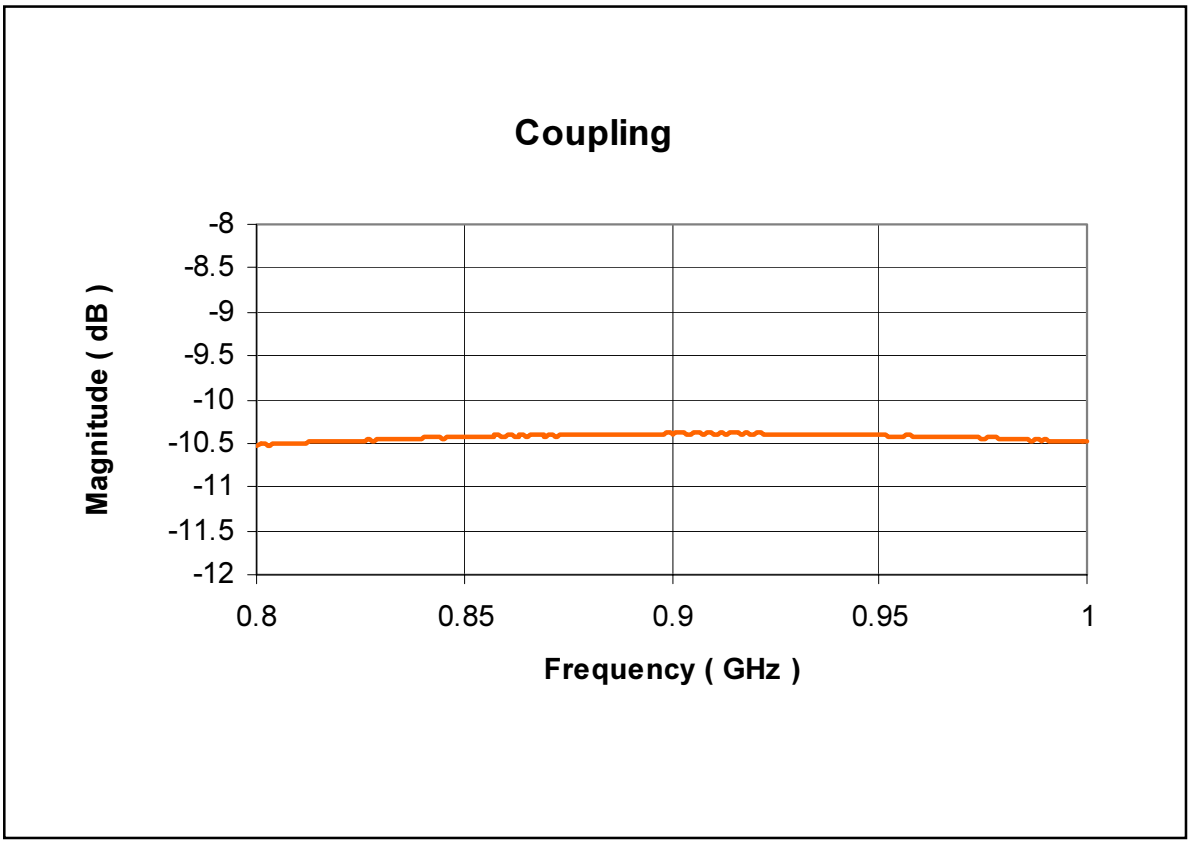
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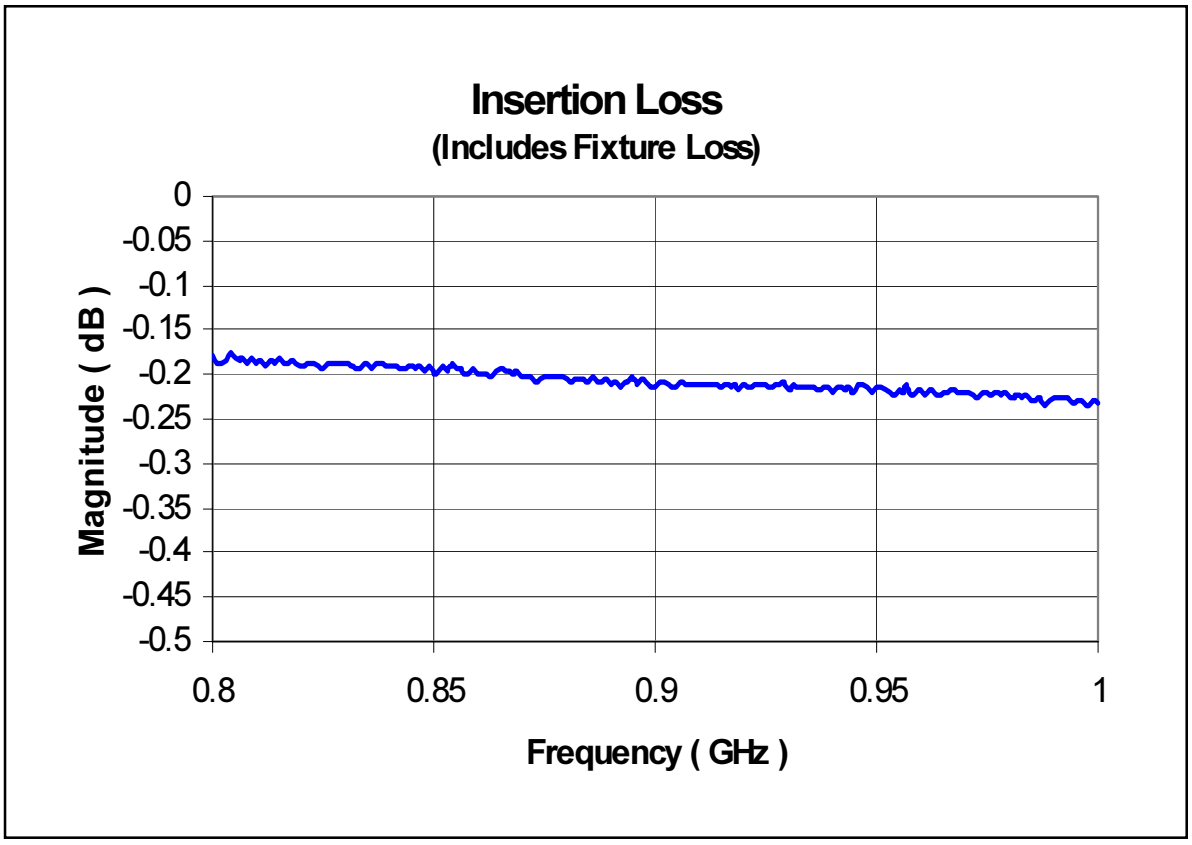
TYPICAL PERFORMANCE





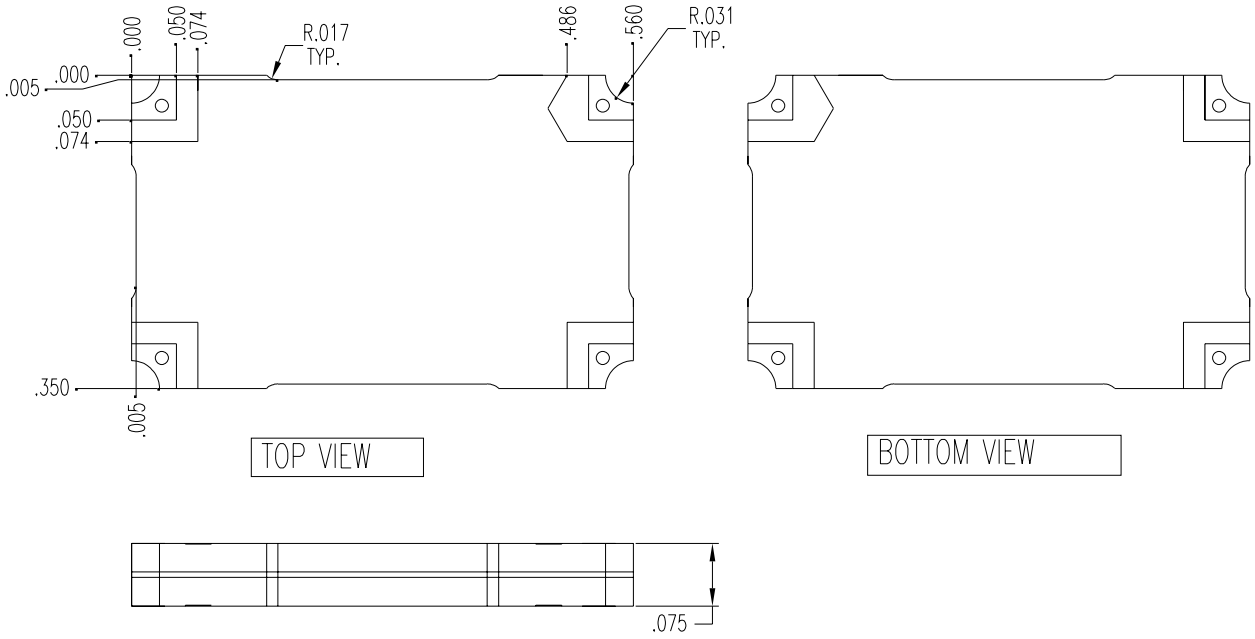
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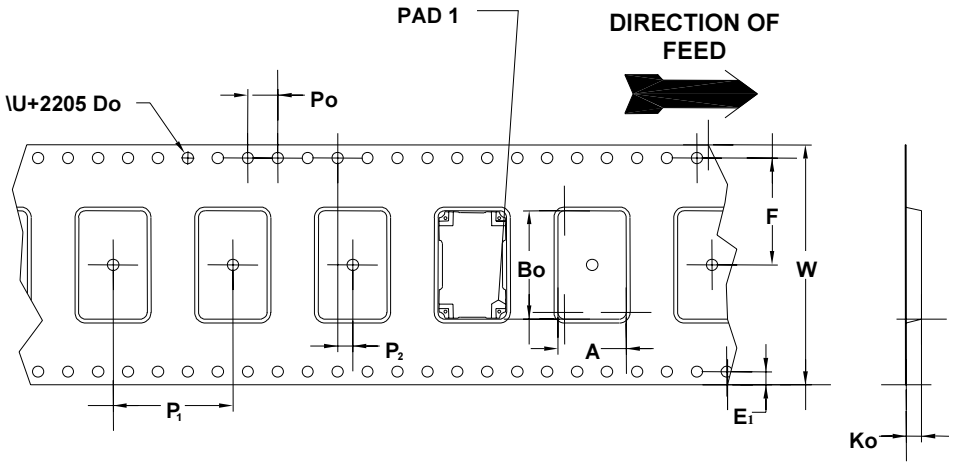




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PACKAGE OUTLINE





	W	P 1	E 1	F	D o	P o	P 2	A 0	B 0	K 0
ENGLISH	1.2598	0.6299	0.0689	0.5590	0.0591	0.1575	0.0787	0.3598	0.5697	0.0799
METRIC	32.000	16.000	1.750	14.199	1.500	4.000	2.000	9.140	14.470	2.030

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