

- 2.3 - 2.6 GHz
- HIGH POWER... 100 WATTS CW
- LOW LOSS
- LOW VSWR
- SURFACE MOUNT
- TAPE & REEL



## TECHNICAL DESCRIPTION / APPLICATION

### MULTI-MIX PICO™ Z-SERIES DIRECTIONAL COUPLERS

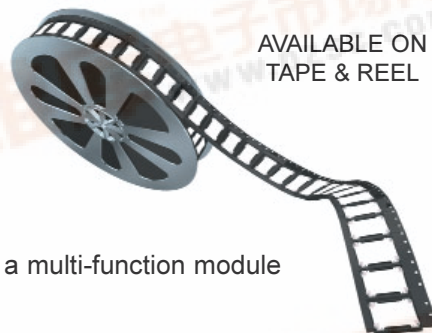
The Multi-Mix® CSD-Z series provides directional couplers with low insertion loss, low VSWR, and high power handling in a small outline. Precise coupling and frequency sensitivity make them ideal for applications involving power amplifiers, signal distribution and processing.

CSD-Z 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-Z 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:

- Small outline size
- High power...100 Watts CW
- Cost effective for commercial wireless applications
- Operating temperature range  $-55^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ .
- Available on tape and reel
- Can be integrated with other Multi-Mix® components in a multi-function module



AVAILABLE ON  
TAPE & REEL

### 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 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 suitable for automated assembly.



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

## GENERAL SPECIFICATIONS

CSD-20Z-2.45G

### ELECTRICAL

FREQUENCY RANGE	2.3 TO 2.6 GHz
MEAN COUPLING	20.0 +/- 1.0 dB
INSERTION LOSS	0.2 dB (MAX)
VSWR	1.3:1 (MAX)
FREQUENCY SENSITIVITY	+/- 0.35 dB (MAX)
DIRECTIVITY	15 dB (MIN)
MAXIMUM INPUT POWER *	100W (MAX)

\*CW input power, tested in fixture with heat sink at 25° C

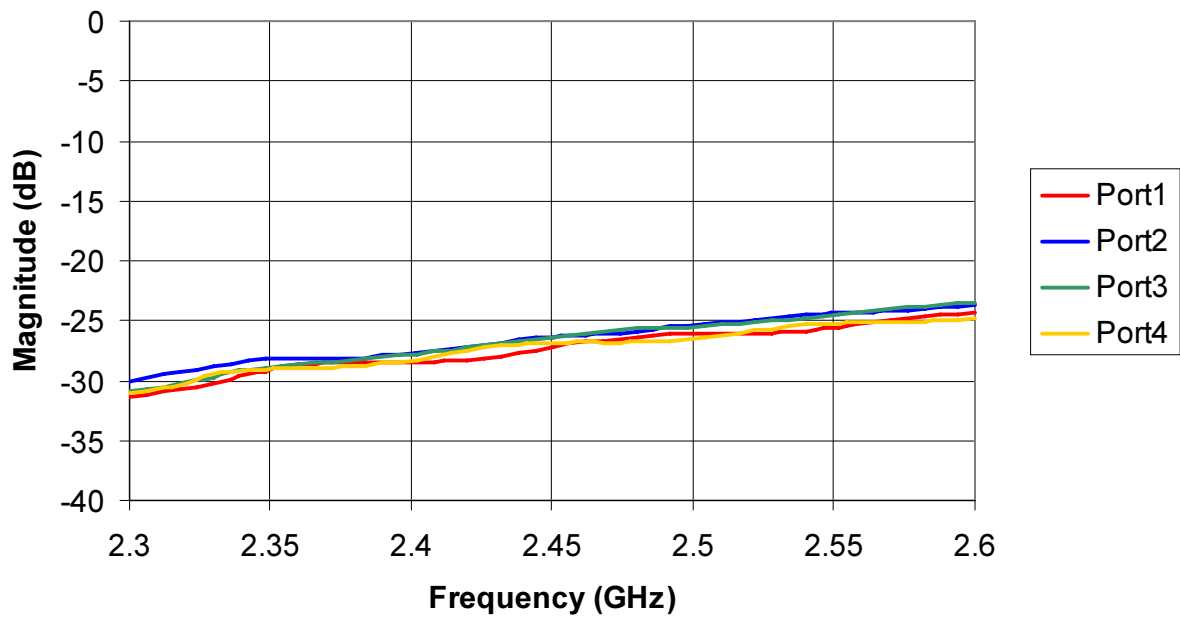
### MECHANICAL

SIZE / OUTLINE	0.18 x 0.18 x 0.035 inches
WEIGHT	0.002 oz.
RF INTERFACE	Surface Mount

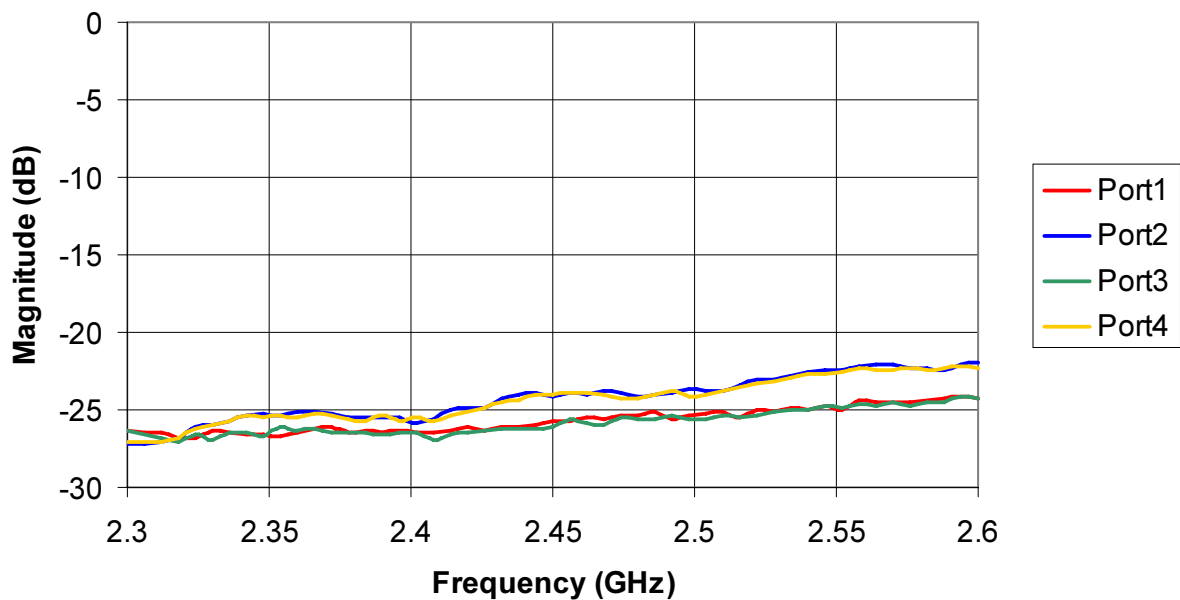
### ENVIRONMENTAL

OPERATING TEMPERATURE RANGE	-55° To + 85°, C
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### Return Loss



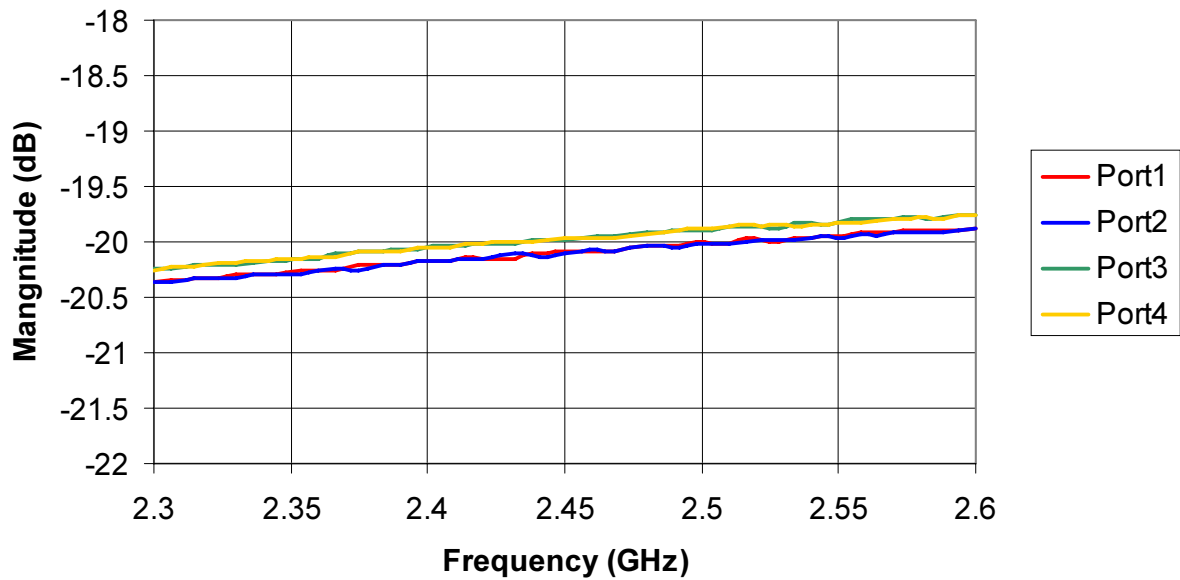
### Directivity



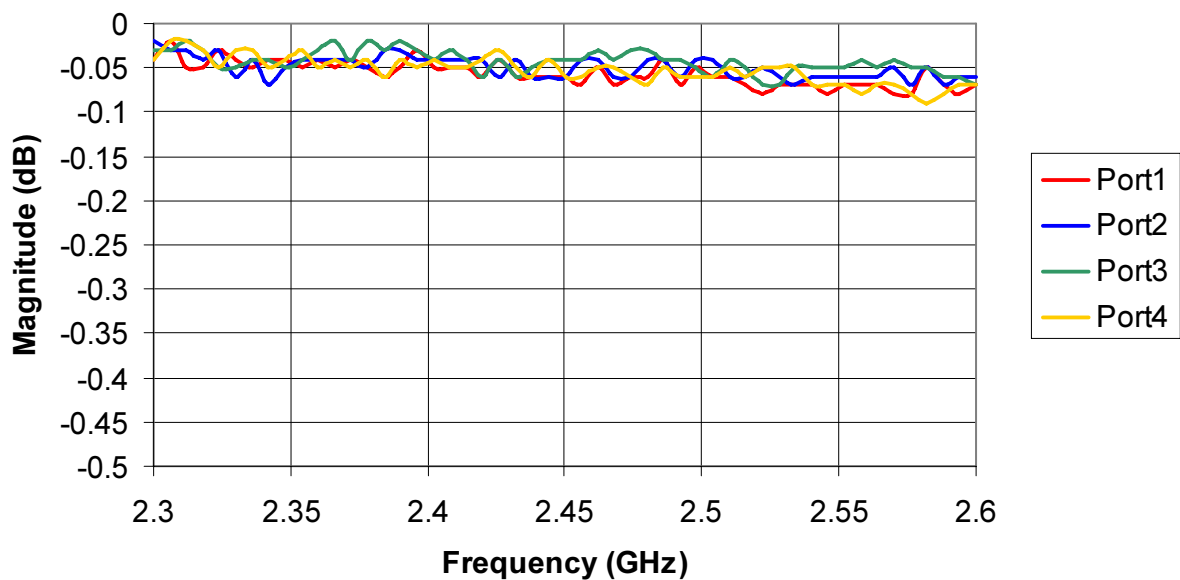
## TYPICAL PERFORMANCE

CSD-20Z-2.45G

### Coupling

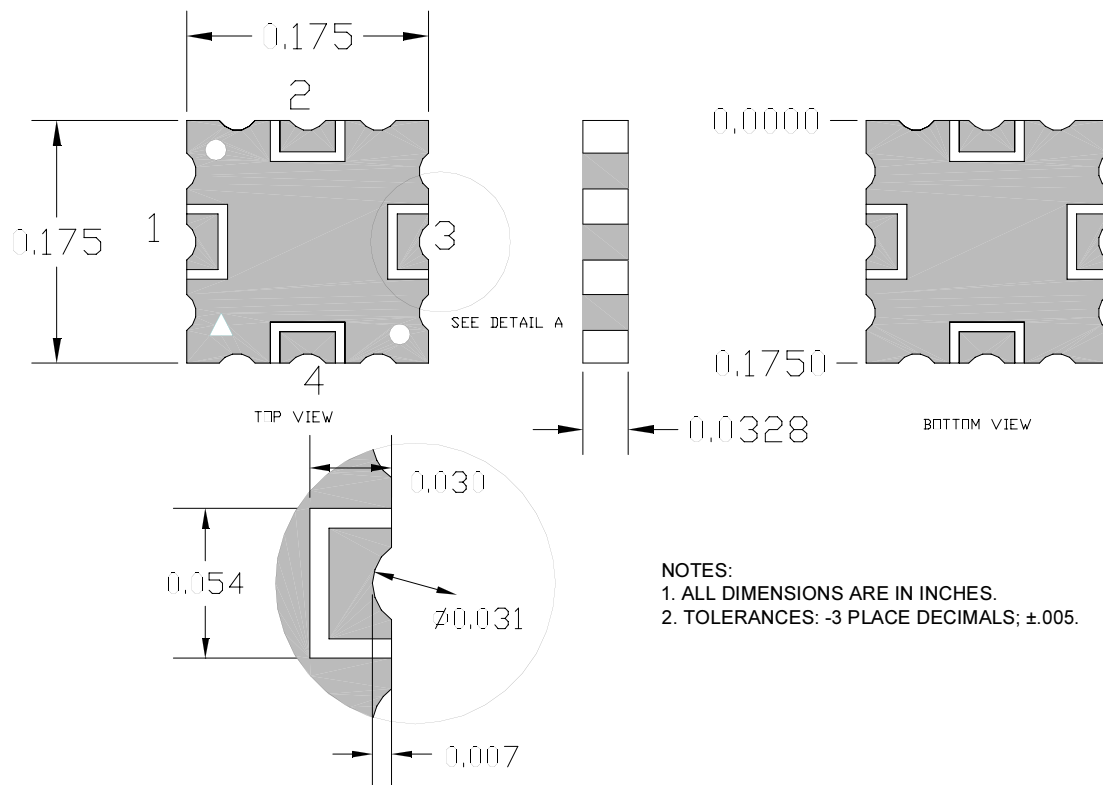


### Insertion Loss



# PACKAGE OUTLINE

CSD-20Z-2.45G



	1	2	3	4
1	In	Coupled	Isolated	Out
2	Coupled	In	Out	Isolated
3	Isolated	Out	In	Coupled
4	Out	Isolated	Coupled	In