



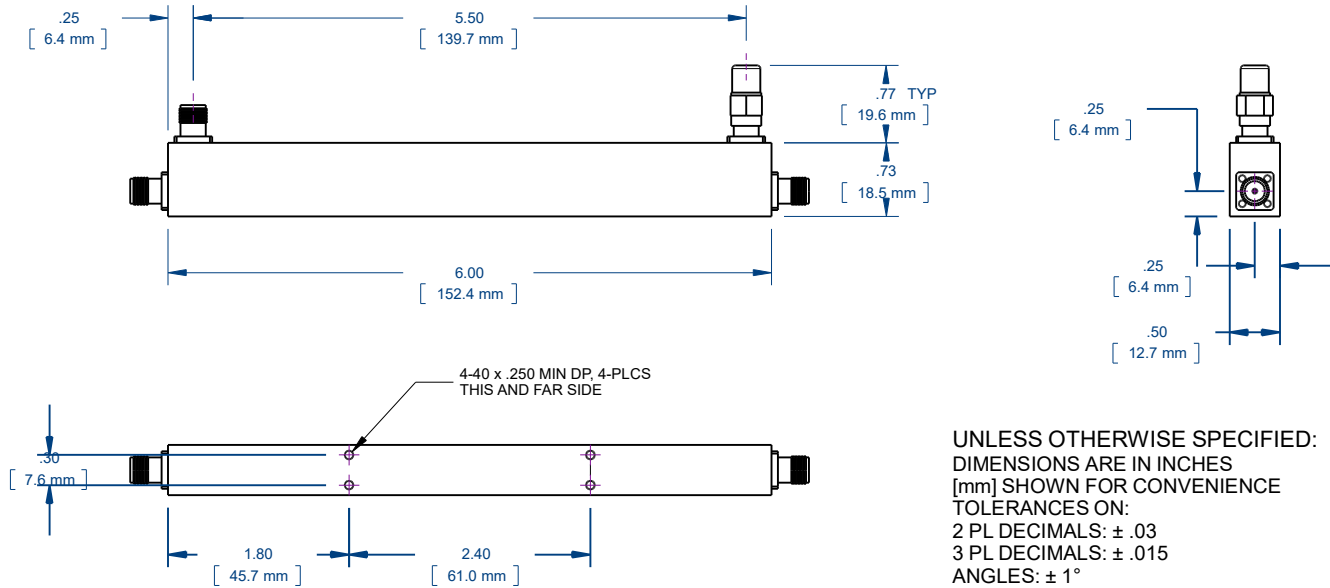
## 20-dB Directional Coupler

Stripline, 0.3-8GHz, SMA-Female

RoHS  
Compliant

Specification and performance test data plots on following pages.

### Outline



UNLESS OTHERWISE SPECIFIED:  
DIMENSIONS ARE IN INCHES  
[mm] SHOWN FOR CONVENIENCE  
TOLERANCES ON:  
2 PL DECIMALS: ± .03  
3 PL DECIMALS: ± .015  
ANGLES: ± 1°

### Features

- \* Broadband performance.
- \* Excellent VSWR at all ports: 1.15:1 typ.
- \* High directionality: 26+ dB typ.

REV	DESCRIPTION	DATE	APPROVED
0	Engineering release.	3-21-2018	ETW

SIZE <b>A</b>	CAGE CODE 78YZ0	DRWG NO. SPEC-WMDC20-0.3-8-S-A3	REV. 0
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Specifications subject to change without notice.  
This document shall not form part of a contract.

SCALE 1 : N/A

SHEET



Made in U.S.A.

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### Specifications

Specification	Value	Value	Unit	Notes
Frequency Range	0.3 - 6	6 - 8	GHz	
Coupling Mean Value	20		dB	As obtained from VNA mean value statistic display.
Coupling Tolerance	± 1.0		dB, max.	Range of VNA mean value statistic display.
Coupling Flatness	± 1.0		dB, max.	As obtained from VNA min/max marker values.
Directivity	20	18	dB, min.	
Insertion Loss	0.8	1.1	dB, max.	Includes loss due to coupling factor.
VSWR (All ports)	1.25	1.3	:1, max.	
Forward Power	20		W, max.	Average power. Max load VSWR 1.20:1.
Reverse Power	20		W, max.	Average power. Max load VSWR 1.20:1.
Impedance	50		Ohms	By design.
Connectors (Mainline Input/Output)	SMA Female			Body: Stainless Steel 303, Insulator: PTFE Socket Contact: BeCu, Gold Plated
Connectors (Coupled Port)	SMA Female			
Operating Temperature Range	-54 to +85		°C	Design to meet. Tested at +23°C nominal.
Storage Temperature Range	-54 to +125		°C	Design to meet.
Relative Humidity	85		%, max.	Non-condensing.
Operating Environment	Indoor use only.			
Enclosure Material / Finish	Aluminum Alloy 6061 / RoHS Clear Chemical Conversion, MIL-DTL-5541 Class 3			
Solder Alloy(s) Used	Sn 96.5, Ag 3.0, Cu 0.5			
Weight	3.8 oz nominal.			

### Options

- 001.) Low-profile termination.
- 002.) Horizontal-mount bracket.



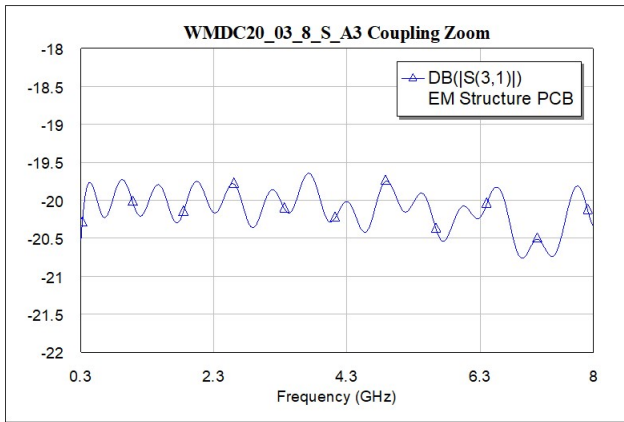
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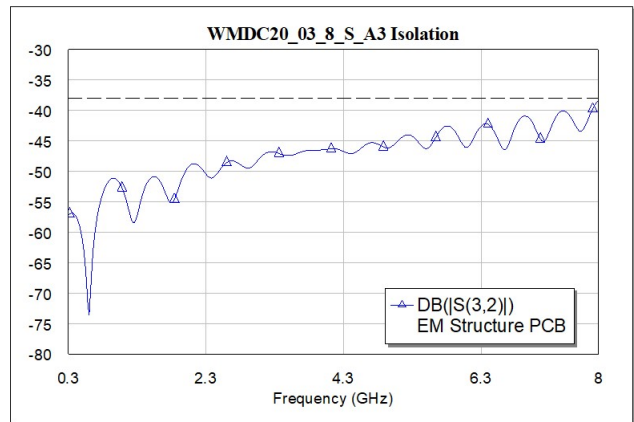
RoHS  
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### Simulated Test Data

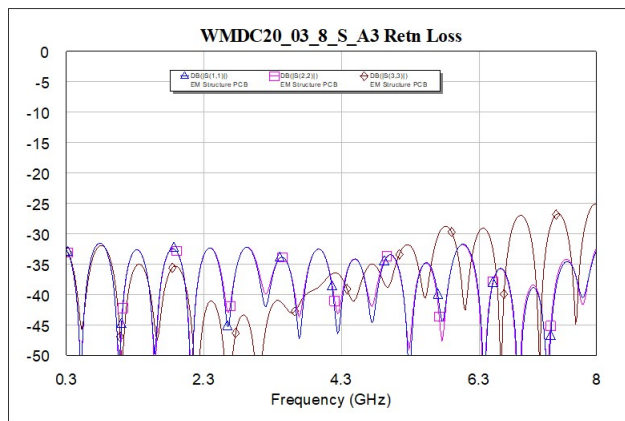
**Coupling**



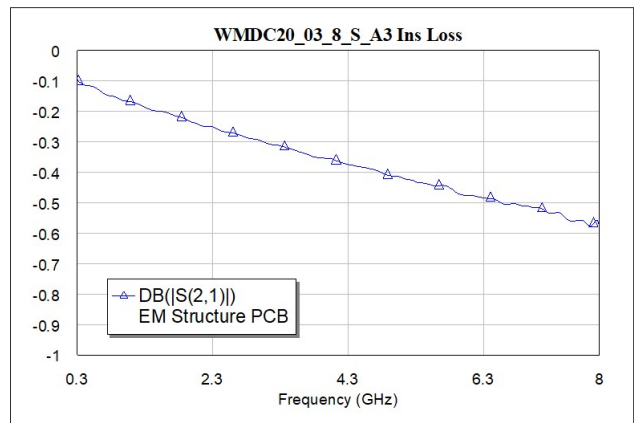
**Isolation**



**Return Loss**



**Insertion Loss**



Results of EM simulation in AWR AXIEM with 5x5 mil mesh size. To be replaced with actual test data following first article test results.