



Q-Band Waveguide Directional Coupler, 30 dB

Description:

Model SWD-3030E-22-SW is an Q band, three-port waveguide directional coupler that delivers a 30 dB nominal coupling level and 30 dB typical directivity across the full waveguide band from 33 to 50 GHz. The three-port coupler uses E-plane coupling and features a traditional multi-hole and waveguide design to achieve a flat coupling level, high directivity, and low insertion loss. The interfaces of the coupler are WR-22 waveguides with UG-383/U flanges. Custom coupling levels are available under different model numbers.



Features:

- Full Band Operation
- Low Insertion Loss
- Light Weight

Applications:

- Test Labs
- Instrumentation
- Sub-assemblies

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	33 GHz		50 GHz
Insertion Loss*		0.7 dB	
Coupling*		30 dB	
Directivity*		30 dB	
Return Loss		20 dB	
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

*The definition of the insertion loss, coupling and directivity is show as following.

<p>Insertion Loss = $-10 \log_{10} [(P2+P3)/P1]$</p> <p>Coupling Value = $-10 \log_{10} [P3/P1]$</p>	
<p>Directivity = $-10 \log_{10} [P3/P1]$</p>	



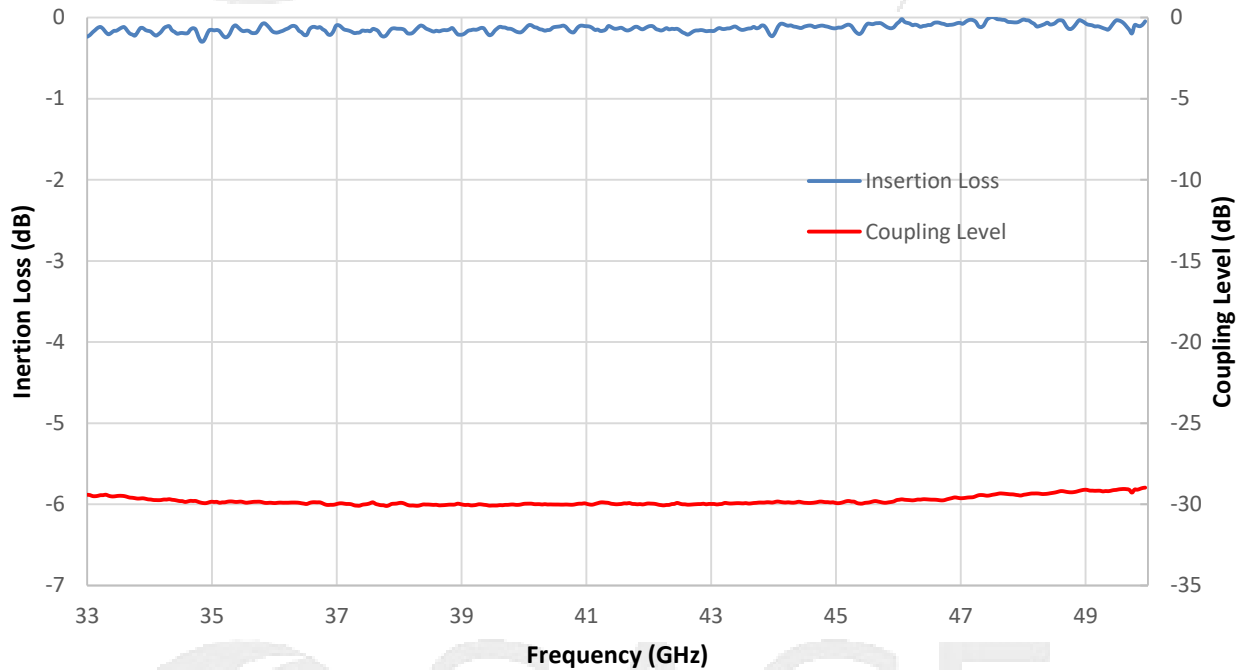


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Mechanical Specifications:

Item	Specification
Through Ports	WR-22 Waveguide with UG-383/U Flange
Coupled Port	WR-22 Waveguide with UG-383/U Flange
Coupling Plane	E-Plane
Waveguide Material	Copper
Flange Material	Brass
Finish	Black Painted Body; Gold Plated Waveguide Faces
Weight	1.6 Oz
Size	7.09" (L) x 1.38" (H)
Outline	WD-SWE-Q-BX1

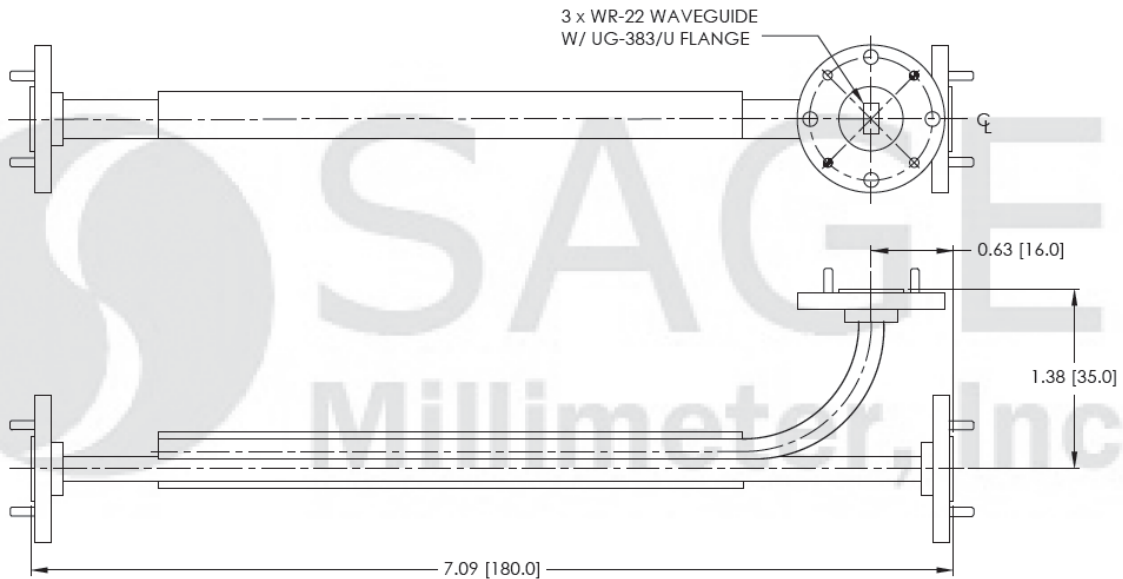
Typical Insertion Loss and Coupling vs. Frequency





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Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



Note:

- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

Caution:

- Any foreign objects in the waveguide will degrade performance and/or damage the device.

