

Q-Band Waveguide Directional Coupler, 6 dB

Description:

Model SWD-0640H-22-SB is a Q band, three-port waveguide directional coupler that delivers a 6 dB nominal coupling level and 35 dB minimum directivity across the full waveguide band from 33 to 50 GHz. The three-port coupler uses a traditional multi-hole and split block design to achieve flat coupling level, high directivity, and low insertion loss. The interfaces of the coupler are WR-22 waveguides with UG-383/U anti-cocking flanges. Custom coupling levels are available under different model numbers.



Features:

- Full Band Operation
- Low Insertion Loss
- High Directivity

Applications:

- Test Labs
- Instrumentation
- Sub-assemblies

Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|---------------------------|---------|---------|---------|
| Frequency | 33 GHz | | 50 GHz |
| Insertion Loss* | | 0.6 dB | |
| Coupling* | | 6 dB | |
| Directivity* | 35 dB | | |
| VSWR | | | 1.10:1 |
| Specification Temperature | | +25°C | |
| Operating Temperature | -40°C | | +85°C |

* The definition of the insertion loss, coupling and directivity is show as following. The required termination on the waveguide port is 30 dB or better for accurate measurement.

Insertion Loss = $-10 \log_{10} [(P2+P3)/P1]$

Coupling Value = $-10 \log_{10} [P3/P1]$

Isolation = $-10 \log_{10} [P3/P2]$

Directivity = Isolation – Coupling Value



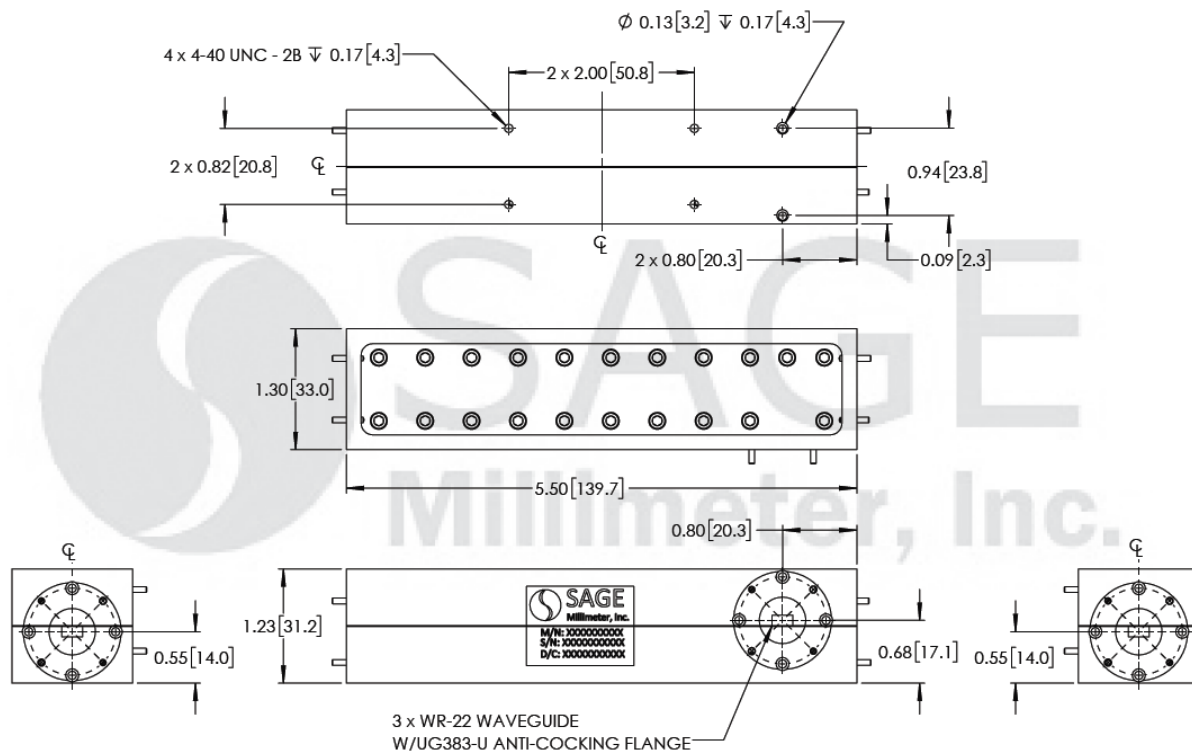


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Mechanical Specifications:

| Item | Specification |
|---------------|---|
| Through Ports | WR-22 Waveguide with UG-383/U Anti-Cocking Flange |
| Coupled Port | WR-22 Waveguide with UG-383/U Anti-Cocking Flange |
| Size | 5.50" (L) X 1.30" (W) x 1.25" (H) |
| Material | Brass |
| Finish | Gold Plated |
| Weight | 1.58 Lb |
| Outline | WD-SB-Q-A |

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.

