SWD-1030E-22-SW7

Q-Band Waveguide Directional Coupler, 10 dB

SWD-1030E-22-SW7 is a Q band, three-port waveguide directional coupler that delivers a 10 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 anti-cocking flanges. Custom coupling levels are available under different model numbers.

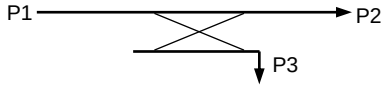
Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	33 GHz		50 GHz
Insertion Loss*		0.7 dB	
Coupling*		10 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 shown as following.

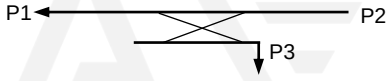
Insertion Loss = -10 $\log_{10}$ [(P2+P3)/P1]

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



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

Directivity = Isolation – Coupling Value



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FEATURES

- Full Band Operation
- Low Insertion Loss
- Light Weight

APPLICATIONS

- Test Lab
- Instrumentations
- Sub-assemblies

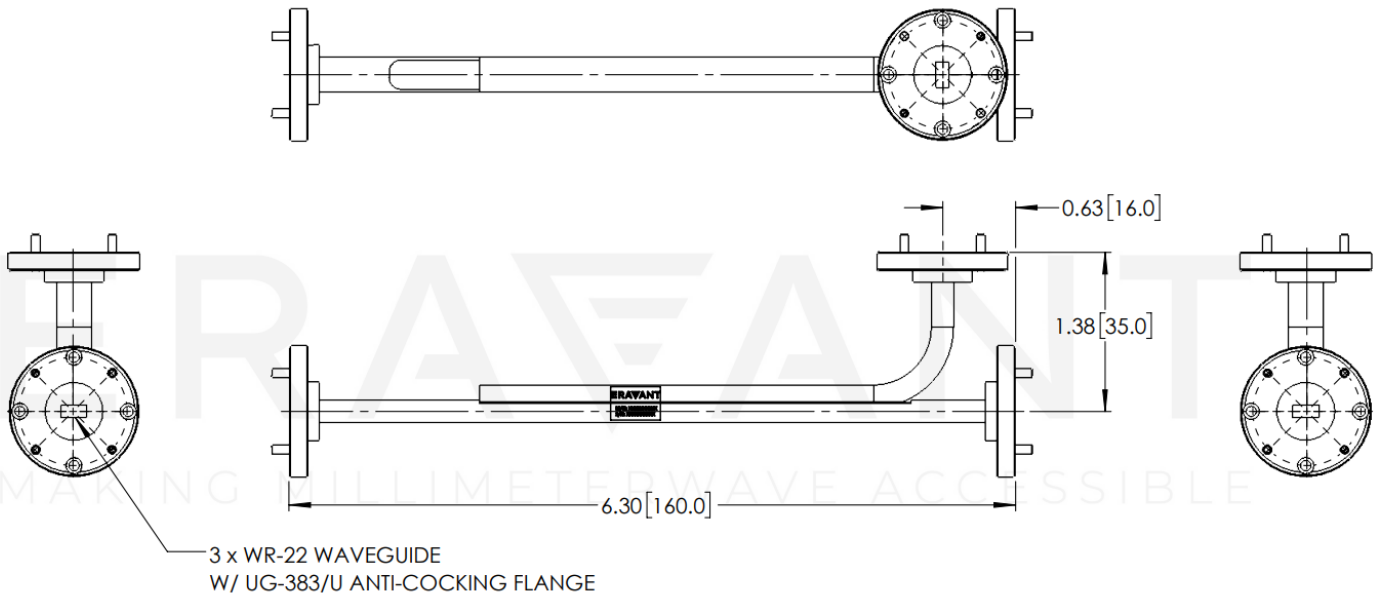
SUPPLEMENTAL DETAILS

Mechanical Specifications:

Item	Specification
Through Port	WR-22 Waveguide with UG-383/U Anti-Cocking Flange
Coupled Port	WR-22 Waveguide with UG-383/U Anti-Cocking Flange
Coupling Plane	E-Plane
Housing Material	Brass
Finish	Gold Plated
Weight	3.8 Oz.
Size	6.30” (L) x 1.38” (H)
Outline	WD-SWE-Q-A-X1

Mechanical Outline:

Unless otherwise specified, all dimensions are in inches [millimeters])



NOTE:

- All data provided is collected from a sample lot. Actual data may vary slightly from unit to unit. All testing is performed under +25 °C room temperature.
- Eravant reserves the right to change the information presented without notice.

CAUTION:

- Any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.