SWD-4040H-15-DB

Advanced

V-Band Waveguide Dual-Directional Coupler, 40 dB

Description:

Model SWD-4040H-15-DB is a V-band, four-port waveguide dual-directional coupler that delivers a 40 dB nominal coupling level and 40 dB typical directivity across the full waveguide band from 50 to 75 GHz. The dual-directional coupler uses a traditional multi-hole and split block design to achieve a flat coupling level, high directivity, and low insertion loss. The waveguide interface of the coupler is WR-15 waveguides with UG-385/U flanges. Other coupling levels including custom coupling levels and asymmetrical forward/reverse coupling levels are available under different model numbers.

Features:

- Full Band Operation
- Low Insertion Loss
- High Directivity
- Flat Coupling Level Across the Band

Applications:

- Test Labs
- Instrumentations
- Sub-assemblies

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	50 GHz		75 GHz
Insertion Loss*		1.1 dB	
Coupling*		40 dB	
Directivity*		40 dB	
Main Line Return Loss		25 dB	
Coupling Port Return Loss		25 dB	
Specification Temperature		+25 ˚C	
Operating Temperature	-40 ˚C		+85 ˚C

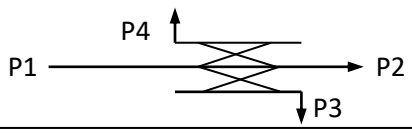
*The definition of the insertion loss, coupling and directivity is shown as following. The required termination on the waveguide port is 30 dB or better for accurate measurement.

* The actual directivity and return loss are higher than shown due to the limitations of the network analyzer's dynamic range.

Insertion Loss = $-10 \log_{10}[(P2+P3)/P1]$ when P4 is terminated.

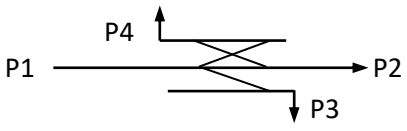
Coupling Value = $-10 \log_{10}[P3/P1]$ when P4 is terminated.

or $-10 \log_{10}[P4/P2]$ when P3 is terminated.



Directivity = $-10 \log_{10}[P3/P2]$ when P1 and P4 are terminated.

Directivity = $-10 \log_{10}[P4/P1]$ when P2 and P4 are terminated.



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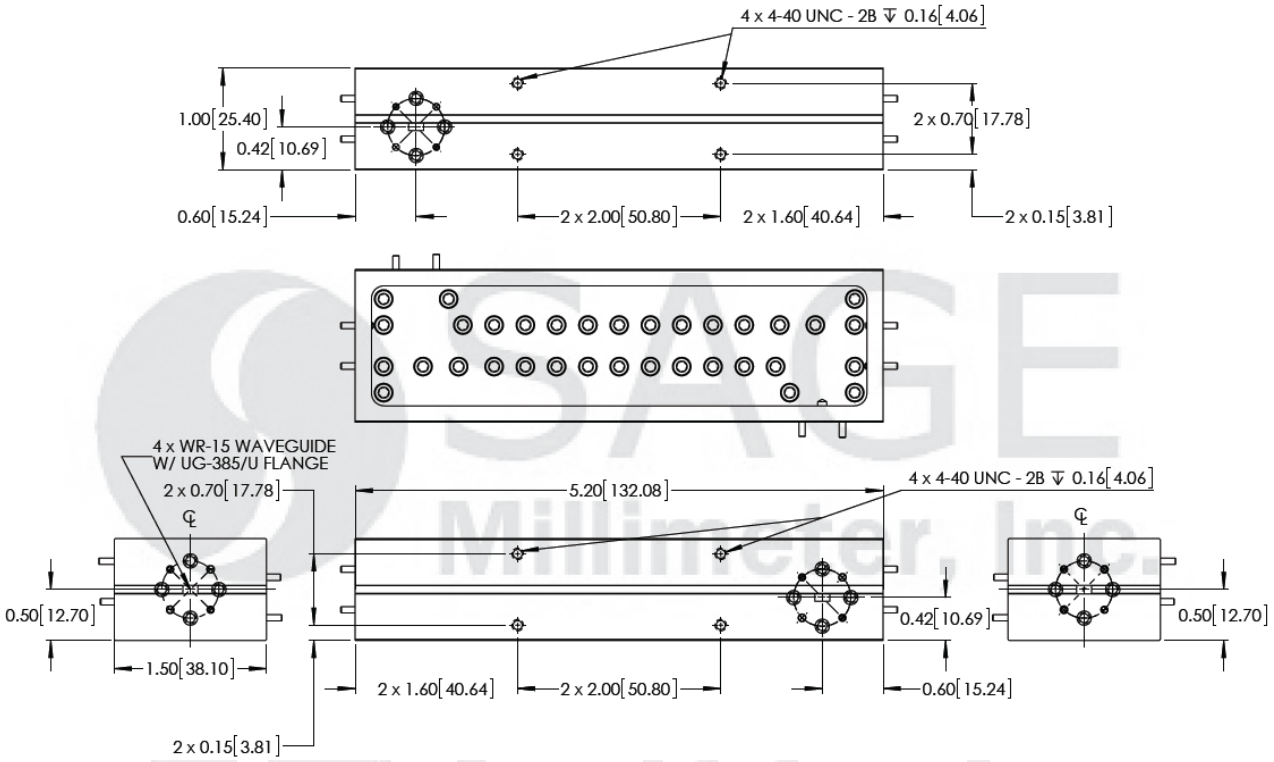
Mechanical Specifications:

Item	Specification
Waveguide Ports	WR-15 Waveguide with UG-385/U Flange
Material	Brass
Finish	Gold Plated
Weight	1.3 lbs.
Outline	WD-DB-V

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



Note:

- Eravant reserves the right to change the information presented without notice.

Caution:

- Any foreign objects in the waveguide will cause performance degradation and possible device damage.