SWD-2040H-42-DB

Advanced

K-Band Waveguide Dual-Directional Coupler, 20 dB

Description:

Model SWD-2040H-42-DB is a K band, four-port waveguide dual-directional coupler that delivers a 20 dB nominal coupling level and 40 dB typical directivity across the full waveguide band from 18 to 26.5 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-42 waveguides with UG-595/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

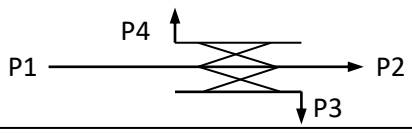
Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	18 GHz		26.5 GHz
Insertion Loss*		0.5 dB	
Coupling*		20 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.

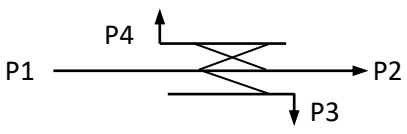
* The actual directivity and return loss are higher than shown due to the limitations of the network analyzer's dynamic range.

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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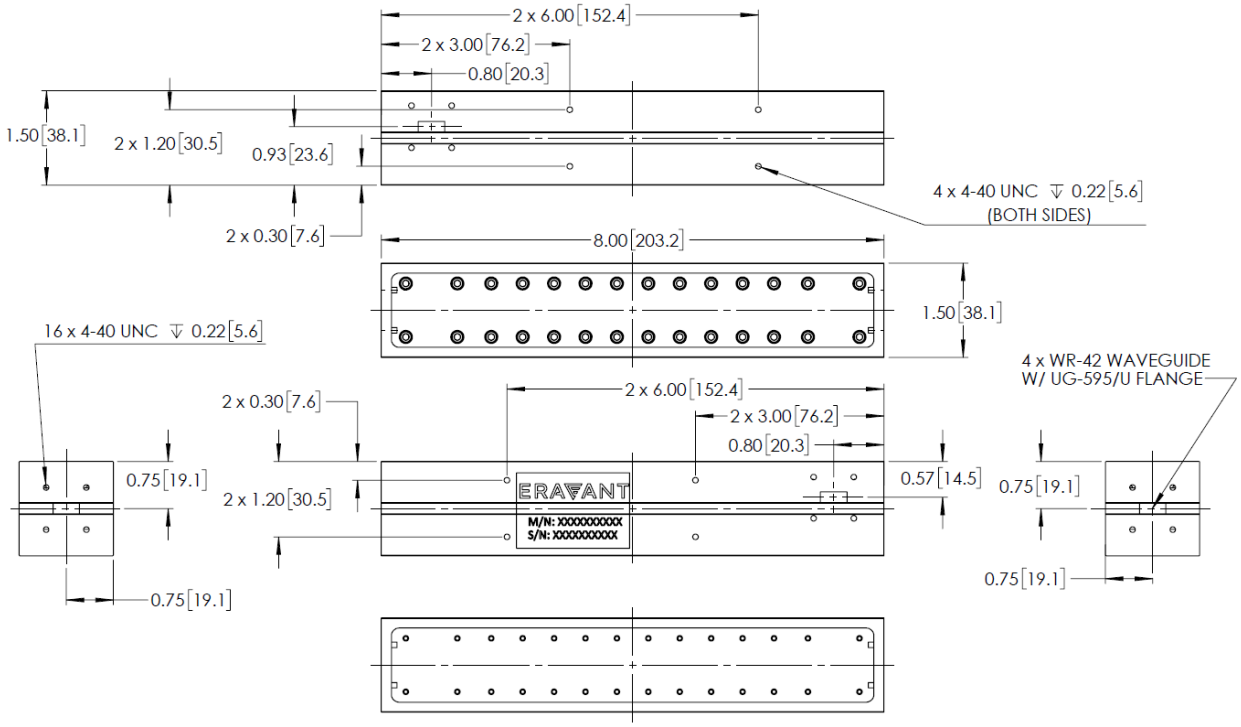
Mechanical Specifications:

Item	Specification
Waveguide Ports	WR-42 Waveguide with UG-595/U Flange
Material	Brass
Finish	Gold Plated
Weight	2.5 lbs.
Outline	WD-DB-K

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.