SUF-4212-750-S1

WR-42 Uni-Guide™ Waveguide Connector, Ø12 Mil Pin, 0.750” Mounting

SUF-4212-750-S1 is a WR-42 **Uni-Guide™** waveguide connector that covers the full K-band frequency range from 18 to 26.5 GHz. The waveguide connector offers an efficient standard waveguide interface without any mechanical modifications. It is designed to be interchangeable with two-hole flange-mount 2.92 mm coax connectors with a mounting hole separation of 0.750”. The waveguide connector’s receptacle will accept a 12-mil diameter pin from a standard coaxial glass bead feedthrough. The waveguide connector is not only designed for Eravant’s standard products, but also for many industrial standard microwave and millimeter wave products. Like the coax connector offering a coaxial RF interface, this waveguide connector provides a direct waveguide RF interface. Waveguide connectors with receptacles for accepting different glass bead pin sizes such as 9, 15, and 20, different mounting hole separations, various mechanical designs, and other frequency bands in the frequency range of 8.2 to 110 GHz are offered under different model numbers. The Uni-Guide™ helps to eliminate waveguide interfaced product development cycle time, reduce inventory management efforts, offer various port configurations/orientations, and preserve hermetical packaging without introducing an expensive waveguide window sealing process.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	18 GHz		26.5 GHz
Insertion Loss		0.5 dB	
Return Loss		20 dB	
Power Handling*			20 W (CW)
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

***Power handling specification is estimated and has not been verified.**

ECCN

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FEATURES

- Full Waveguide Band Operation
- Low Insertion Loss and High Return Loss
- Interchangeable with Correspondent Coax Connector
- Field Replaceable
- Hermetical Package Preservation
- DC Short

APPLICATIONS

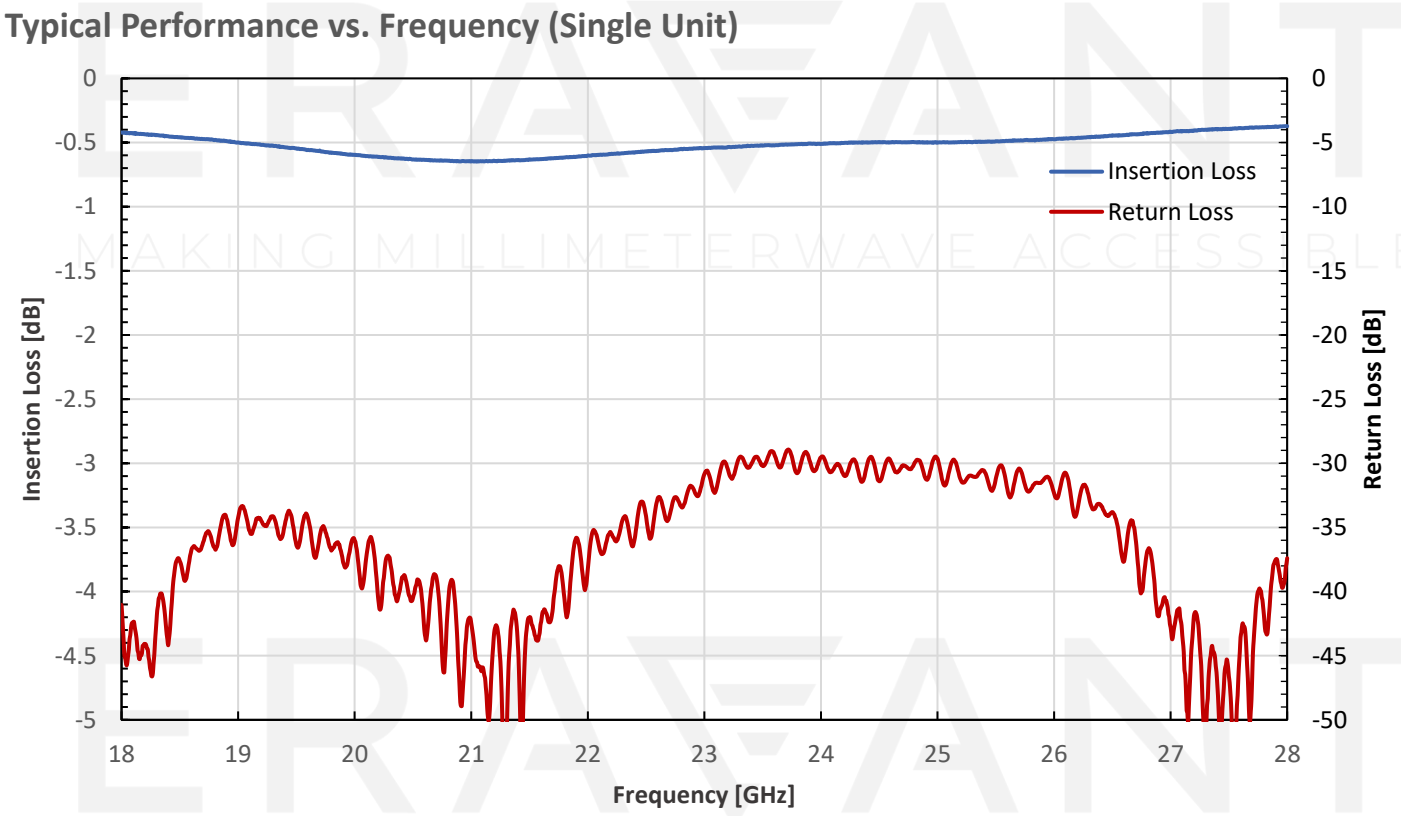
- Microwave Components with Waveguide Interface
- Microwave Subsystems with Waveguide Interface
- System Integration
- Various Port Configurations
- 90° In-Out Port Orientation

SUPPLEMENTAL DETAILS

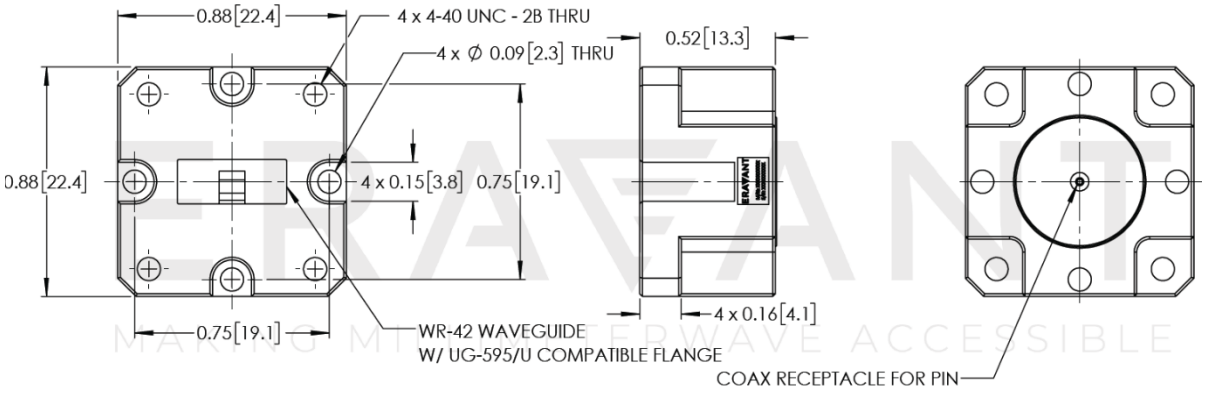
- Uni-Guide™: Practical Waveguide Connector
- US Patent 11,804,681 B1

Mechanical Specifications:

Item	Specification
Waveguide Port	WR-42 Waveguide with UG-595/U Compatible Flange
Mounting Holes	0.750” Hole Separation, 2-56 Screws
Pin Diameter Accepted	Ø0.012” (12 Mils)
Pin Length Accepted	0.065” [1.6 mm] (Max)
Receptacle Material	Beryllium Copper
Material	Aluminum and Stainless Steel
Finish	Gold Plated, Passivation
Weight	0.5 Oz
Outline	UF-K-750



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



NOTE:

- All data presented is collected from a sample lot. Actual data may vary unit to unit slightly.
- Units are tested using back-to-back method. Data shown is after post-processing to obtain the approximate performance of a single unit.
- The insertion loss of a single unit is approximated by dividing the back-to-back result by 2.
- The return loss of a single unit is approximated by following the process described in this blog: **https://www.eravant.com/6-db-correction-on-waveguide-to-coax-adapter-return-loss**
- Other mechanical configurations with different glass bead pin sizes, such as 9, 15, and 20 mils, different mounting hole separations, and other frequency bands, such as in the frequency range of 8.2 to 110 GHz, are available under different model numbers.
- The **Uni-Guide™ family is a trademarked and patented (US Patent No. 11,804,681 B1)** product of Eravant.
- Eravant reserves the right to change the information presented without notice.

CAUTION:

- The waveguide connector is designed only for accepting the specified pin diameter and max pin length as described in the specification table. Permanent damage will occur if a different pin diameter is used, or the pin length exceeds the max specified length.
- Any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.