PRODUCT CATALOG

HIROSE ELECTRIC CO.,LTD.

2.4mm Series

2.4mm Coaxial Connectors MIL Standard Compliant

Milimeter Wave

COAX 2.4mm

MIL Standard

Product Page
https://www.hirose.com/en/product/compare?searchType=series&targets=2.4mm%2C2.4mm-TM

Feb. 2025

Features

1. 2.4mm coaxial connector conforming to MIL-STD-348B Standard

2. Supports up to 50GHz frequency

3. Board Receptacle is Screw-mounted

・Provides excellent high frequency performance and consistent mounting quality
・Reusable
・Reduces mounting complexity (No Soldering is required)
・Compatible with various PCB thicknesses

4. Field Replaceable connectors are suitable for RF modules in ruggedized applications

5. Cable assembly uses 0.085 inch flexible cable

6. Terminator is also available.

7. RoHS2 compliant

Applications

Evaluation Board RF testing port use, radio communication equipment, measuring instruments, RF module, radio frequency power amplifier, high speed router, high speed switch, broadcasting equipment, etc.

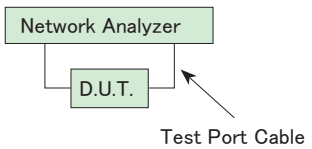
Product Specifications

Nominal Characteristic Impedance	50Ω	Operating Temperature	-55 to +105℃ (95% RH Max.)
Rated Frequency	0 to 50GHz	Storage Temperature Range	-55 to +50℃ (95% RH Max.)

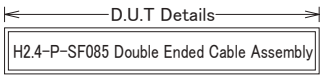
Items	Specifications	Conditions
Contact Resistance	Center : 4mΩ Max. External : 2mΩ Max.	Measured at 100mA Max.
Insulation Resistance	1000MΩ Min.	Measured at 100V DC
Withstanding Voltage	No breakdown	200V AC for 1 min.
V.S.W.R.*	● H2.4-P-SF085 V.S.W.R. 1.35 Max. (0 to 40GHz) V.S.W.R. 1.45 Max. (40 to 50GHz)	
	● H2.4-LR-SR2 V.S.W.R. 1.3 Max. (0 to 40GHz) V.S.W.R. 1.4 Max. (40 GHz to 50GHz)	
	● H2.4-R-SR2-SA V.S.W.R. 1.5 Max. (0 to 50GHz)	
	● H2.4-R-FR#(##) V.S.W.R. 1.3 Max. (0 to 50GHz)	
Mating Cycles	Contact resistance Center : 6mΩ Max. External : 4mΩ Max. No broken, cracked, or loose parts	500 cycles
Vibration Resistance	No electrical discontinuity greater than 1μs. No broken, cracked, or loose parts	Frequency : 10 to 500Hz, half amplitude : 0.75mm, Acceleration : 196m/s^2, 10 cycles in each of the 3 axis
Shock Resistance	No electrical discontinuity greater than 1μs. No broken, cracked, or loose parts	Acceleration : 980m/s^2, duration : 6ms, Wave form : half-sine wave, 3 times in each of the 3 axis
Moisture Resistance of Temperature/ Humidity Cycle	Insulation resistance : 100MΩ Min. (in a high humidity environment) Insulation resistance : 1000MΩ Min. (in a dry environment) No broken, cracked, or loose parts	Left for 10 cycles (240 hours) in an environment with the temperature ranging from -10 to 65℃ and the humidity ranging from 90 to 96%.
Temperature Cycle	No broken, cracked, or loose parts	5 cycles of the following test series condition : Temperature : -55℃ → - → +105℃ → - Time : 30 min. → 3 min. → 30 min. → 3 min.
Salt Spray	No considerable corrosion	Continuous 48 hour cycle in 5% salt water solution

(Note) Information contained in this catalog represents general requirements for this Series. Contact us for the drawings and specifications for a specific part number shown.

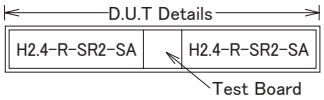
*V.S.W.R. (Voltage Standing Wave Ratio) Measurement System
The above V.S.W.R. specification values were measured using the measurement system shown below.



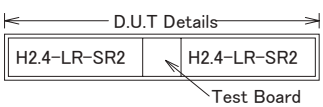
H2.4-P-SF085 Measurement System



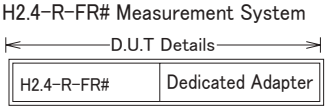
H2.4-R-SR2-SA Measurement System



H2.4-LR-SR2 Measurement System



H2.4-R-FR# Measurement System



Materials / Finish

Part	Materials	Finish
Shell	Stainless Steel / Brass	Passivated / Nickel Plated / Gold Plated
Insulator	PTFE Resin / PEI Resin	-
Contact	Beryllium Copper	Gold Plated

Product Number Structure

Refer to the chart below when determining the product specifications from the product number.
Please select from the product numbers listed in this catalog when placing orders.

■ Plug (Cable Harness)

H2.4 - 2P - SF085MC1 - A - 6IN
❶ ❷ ❸ ❹

❶ Series Name	H2.4	❸ Cable Type	0.085 inch, Flexible Cable
❷ Assembly Type	Double-ended Straight Plug Cable Assembly	❹ Total Length (inch)	6, 12, 24, 36, 48, 60 inch

Note : Plugs can be ordered only as terminated cable assemblies.

■Receptacle (For High Speed Transmission Evaluation Board)

H2.4 - R - SR2 - SA (##)
❶ ❷ ❸ ❹ ❺

❶ Series Name	H2.4	❹ Other Specifications	Characters are added to indicate other specifications as needed.
❷ Connector Type	LR : End Launch Receptacle R : Receptacle	❺ Attached Screw	(00) : - (11) : 0-80UNF 1/4 inch (12) : 0-80UNF 3/16 inch (15) : 0-80UNF 1/4 + 3/16 inch
❸ Board Mounting Method	PCB Screw Mounting		

■ Receptacle (Field Replaceable)

H2.4 - R - FR2 (##)
❶ ❷ ❸ ❹

❶ Series Name	H2.4	❸ Board Mounting Method	FR2 : 2 hole Field-replaceable
❷ Connector Type	R : Receptacle	❹ Mounting Screw Pitch	

Functional Diagram

Plug Side

■Straight Plug
H2.4-P-SF085

Non-Reflective Terminator

■Plug
H2.4-TMP

Receptacle Side

■PCB Vertical Launch Receptacle
H2.4-R-SR2-SA

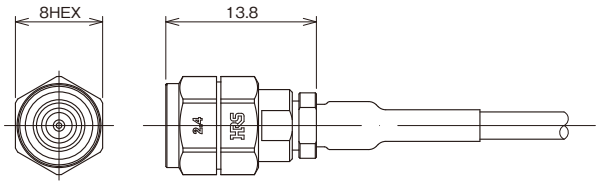
■PCB End Launch Receptacle
H2.4-LR-SR2

■Field-replaceable Receptacle
H2.4-R-FR2

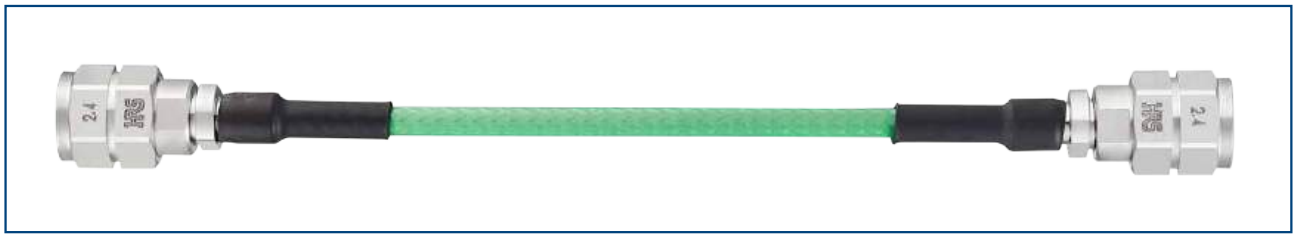
Plug

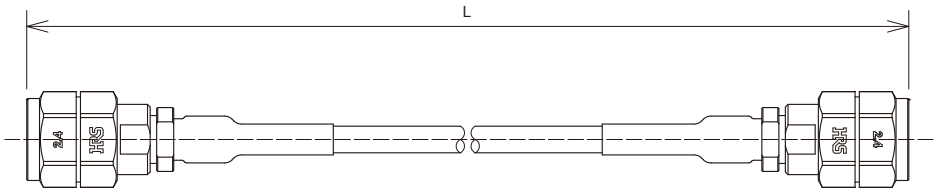
Plugs can be ordered only as terminated cable assemblies.

● H2.4-P-SF085



Cable Assembly (H2.4 Straight Plug - H2.4 Straight Plug)



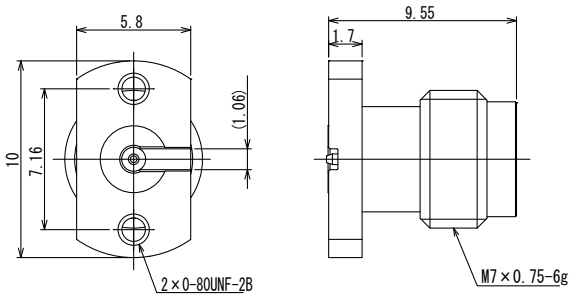


Part No.	HRS No.	Cable Assembly Length L		Purchase Unit
		Unit : inch	Unit : mm	
H2.4-2P-SF085MC1-A-6IN	CL0321-5132-0-01	6 ± 0.16	152.4 ± 4	20pcs per bag
H2.4-2P-SF085MC1-A-12IN	CL0321-5132-0-02	12 ± 0.32	304.8 ± 8	
H2.4-2P-SF085MC1-A-24IN	CL0321-5132-0-03	24 ± 0.48	609.6 ± 12	
H2.4-2P-SF085MC1-A-36IN	CL0321-5132-0-04	36 ± 0.48	914.4 ± 12	
H2.4-2P-SF085MC1-A-48IN	CL0321-5132-0-05	48 ± 0.71	1219.2 ± 18	
H2.4-2P-SF085MC1-A-60IN	CL0321-5132-0-06	60 ± 0.87	1524.0 ± 22	

PCB Vertical Mount Receptacle (For High Speed Transmission Evaluation Board)

This product is a solderless mounted connector for prototype evaluation of high speed transmission boards.
It is not recommended for use in actual commercial equipment.

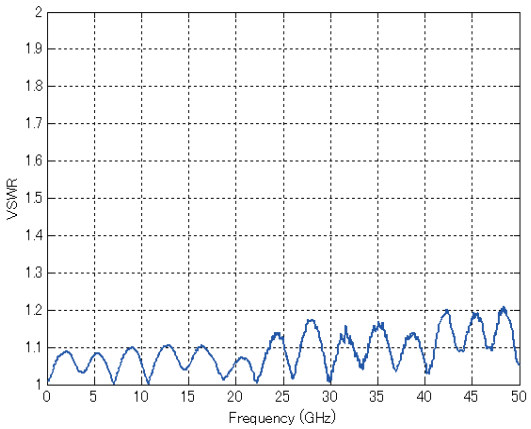
●Inner Layer, Back Surface, Top Surface Trace Type

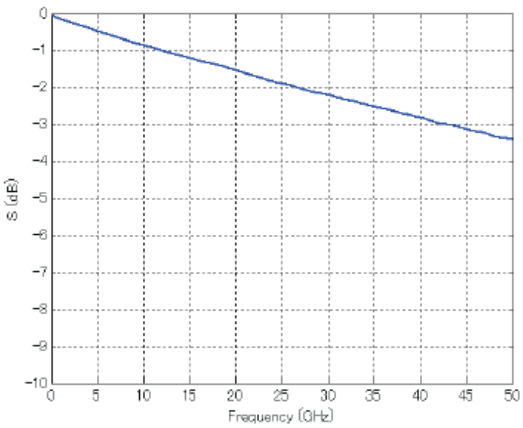


Part No.	HRS No.	Attached Screw	Purchase Unit
H2.4-R-SR2-SA	CL0338-0029-0-00	-	20pcs per bag
H2.4-R-SR2-SA(15)	CL0338-0029-0-15	0-80UNF 1/4 + 3/16 inch	

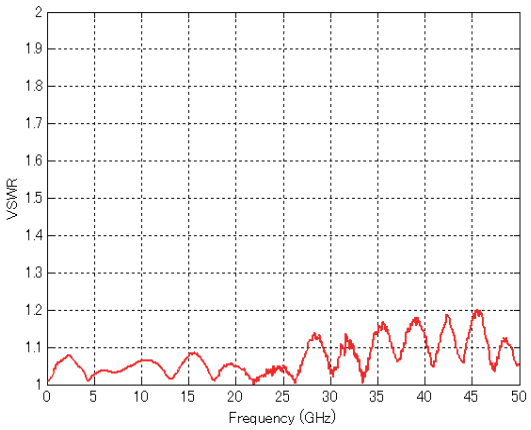
◆Frequency Characteristics (TYPICAL)

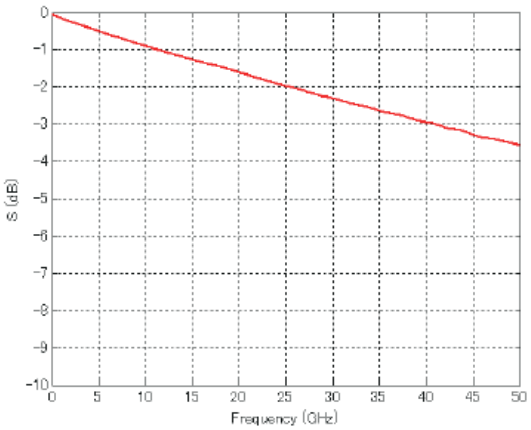
Surface Substrate





Inner Substrate

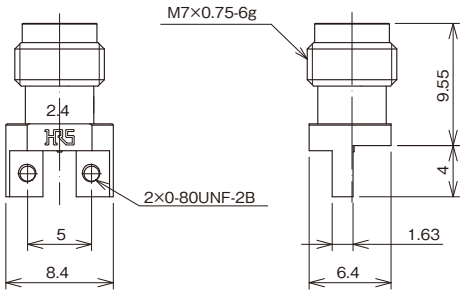




*Coplaner line length between both connector ends : 25mm

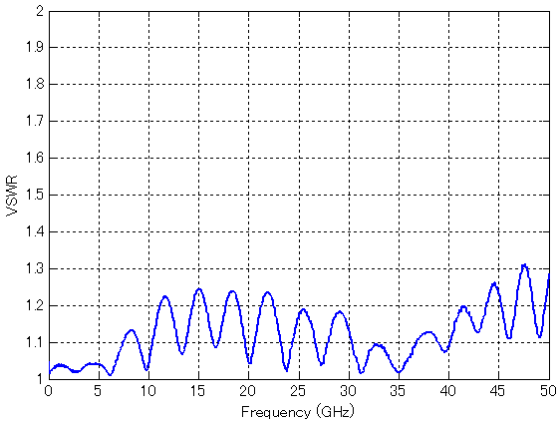
PCB End Launch Receptacle (For High Speed Transmission Evaluation Board)

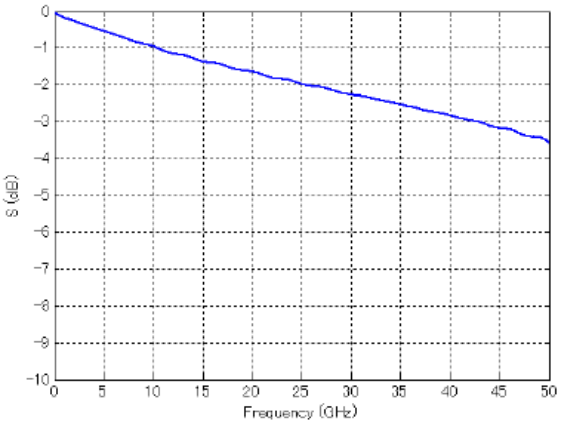
This product is a solderless mounted connector for prototype evaluation of high speed transmission boards.
It is not recommended for use in actual commercial equipment.



Part No.	HRS No.	Attached Screw	Purchase Unit
H2.4-LR-SR2	CL0338-0603-0-00	-	20pcs per bag
H2.4-LR-SR2(11)	CL0338-0603-0-11	0-80UNF 1/4 inch	
H2.4-LR-SR2(12)	CL0338-0603-0-12	0-80UNF 3/16 inch	

◆Frequency Characteristics (TYPICAL)

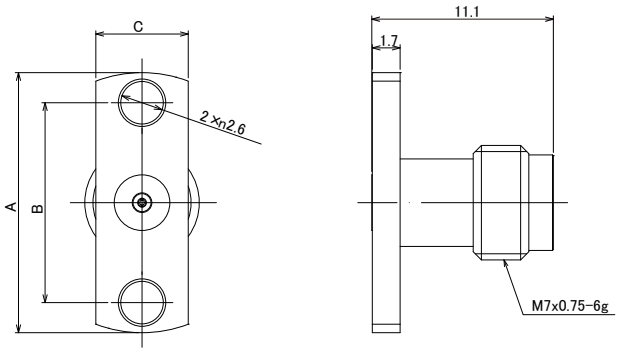




*Coplaner line length between both connector ends : 25mm

Field-replaceable Receptacle(for a 0.23/9mil pin)

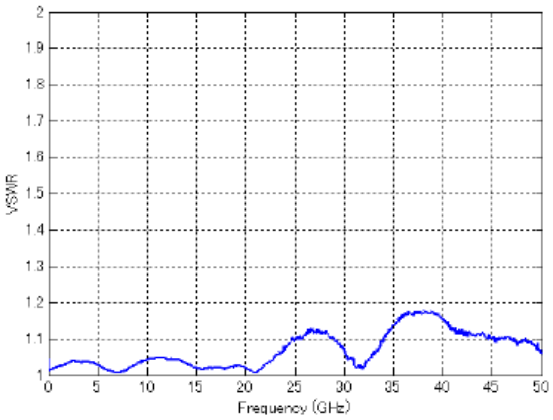
●Panel Jack (2 Screws Type)

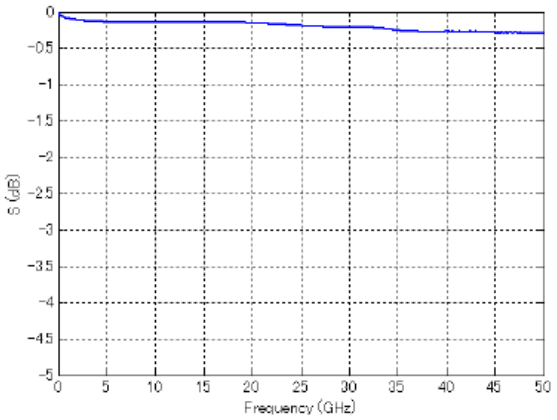


H2.4-R-FR2(12.22)

Part No.	HRS No.	A	B	C	Purchase Unit
H2.4-R-FR2(10.16)	CL0338-0024-0-00	14	10.16	4.85	20pcs per bag
H2.4-R-FR2(12.22)	CL0338-0017-0-00	15.9	12.22	5.65	

◆Frequency Characteristics (TYPICAL)





Precautions

1. The diameter of the center contact pin is only 0.511mm.
   Please handle with care. When mating the component with the corresponding connector, rotate the hex part only.
2. If any dust is found on the shell interface when mating the components, please wipe with alcohol.

While Taking into Consideration

Specifications mentioned in this catalog are reference values.
When considering to order or use this product, please review the Drawing and Product Specifications sheets.
Use an appropriate cable when using the connector in combination with cables.
If considering usage of a non-specified cable, please contact your sales representative.
If assembly process is done by jigs & tools which are not identified by Hirose, the warranty of the product may be affected.
If considering usage for below mentioned applications, please contact your sales representative.
In cases where the application will demand a high level of reliability, such as automotive, medical instruments, public infrastructure, aerospace/defense etc. Hirose must review before assurance of reliability can be given.

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