

2.92mm Series

2.92mm Coaxial Connectors MIL Standard Compliant



Millimeter Wave



COAX 2.92mm



MIL Standard



Features

1. **2.92mm coaxial connector conforming to MIL-STD-348B Standard**
2. **Supports up to 40GHz 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. **Compatible with 0.085 inch flexible cable**
5. **Attenuators and terminators are also available.**
6. **RoHS2 compliant**

Applications

Data transmission measurement, radio communication equipment, measuring instruments, RF module, radio frequency power amplifier, high speed router, high speed switch, broadcasting equipment, etc.

Product Specifications

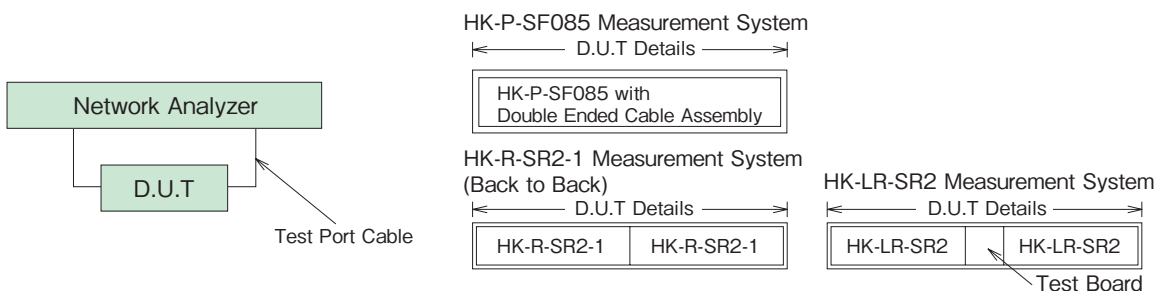
| | | | |
|----------------------------------|-------------|---------------------------|-----------------------------|
| Nominal Characteristic Impedance | 50 Ω | Operating Temperature | -55 to +105°C (95% RH Max.) |
| Rated Frequency | 0 to 40GHz | Storage Temperature Range | -55 to +50°C (95% RH Max.) |

| Items | Specifications | Conditions |
|---|---|---|
| Contact Resistance | Center : 6m Ω Max. External : 2m Ω Max. | 100mA Max. |
| Insulation Resistance | 1,000M Ω Min. | 100V DC |
| Withstanding Voltage | No breakdown | 200V AC for 1 min. |
| V.S.W.R.* | ● HK-P-SF085 V.S.W.R. : 1.15 Max. (0 to 18GHz) V.S.W.R. : 1.20 Max. (18 to 26.5GHz) V.S.W.R. : 1.30 Max. (26.5 to 40GHz) | |
| | ● HK-R-SR2-1 V.S.W.R. : 1.10 Max. (0 to 18GHz) V.S.W.R. : 1.15 Max. (18 to 26.5GHz) V.S.W.R. : 1.30 Max. (26.5 to 40GHz) | |
| | ● HK-R-SR2-S V.S.W.R. : 1.30 Max. (0 to 20GHz) V.S.W.R. : 1.45 Max. (20 to 40GHz) | |
| | ● HK-LR-SR2 V.S.W.R. : 1.30 Max. (0 to 40GHz) | |
| Mating Durability | Contact resistance Center : 8m Ω Max. External : 4m Ω Max. No broken, cracked, or loose parts | 500 times |
| Vibration Resistance | No electrical discontinuity of 1 μ s. 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 of 1 μ s. No broken, cracked, or loose parts | Acceleration : 1960m/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 : 100M Ω Min, (in a high humidity environment) Insulation resistance : 1,000M Ω 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°C and the humidity ranging from 90 to 98%. |
| Temperature Cycle | No broken, cracked or loose parts | 5 cycles of the following test series condition : Temperature : -55°C → - → +105°C → - 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.



Materials / Finish

| Part | Materials | Finish |
|-----------|------------------------------------|--|
| Shell | Stainless Steel / Brass | Passivated / Nickel Plating / Gold Plating |
| Insulator | PPO Resin / 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.

HK - 2P - MC1 - A - 6IN

① ② ③ ④

| | | | |
|------------------|--|--------------------|--|
| ① Series Name | HK | ③ Applicable Cable | SF085 : 0.085-inch, Flexible Cable MC1 : 0.085-inch, Flexible Cable |
| ② Connector Type | P : Straight Plug 2P : Double-ended Straight Plug Cable Assembly | ④ Length (inch) | 6, 12, 24, 36, 48, 60 inch |

■ Receptacle

HK - R - SR2 - 1 (##)


① ② ③ ④

| | | | |
|------------------|--|-------------------------|---|
| ① Series Name | HK | ③ Board Mounting Method | PCB Screw Mounting |
| ② Connector Type | R : Vertical Mount Receptacle LR : End Launch Receptacle A : Adapter | ④ Attached Screw | (00) : - (11) : 0-80UNF 1/4 inch (12) : 0-80UNF 3/16 inch |

Functional Diagram

Plug Side

■Straight Plug
HK-P-SF085



Receptacle Side

■PCB Vertical Launch Receptacle
(For High Speed Transmission Evaluation Board Ports)
HK-R-SR2-1 HK-R-SR2-S






■PCB End Launch Receptacle
(For High Speed Transmission Evaluation Board Ports)
HK-LR-SR2




Adapter

■In-line Adapter


●Plug — Jack
HK-A-PJ



●Jack — Jack
HK-A-JJ




●Plug — Plug
HK-A-PP




■Conversion Adapter

●SMP Jack — 2.92mm Jack
SMPJ-HKJ




●SMP Plug — 2.92mm Plug
SMPP(FD)-HKP
SMPP(SB)-HKP




Attenuator

■Plug — Jack
HK-AT (##)-PJ
: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20dB



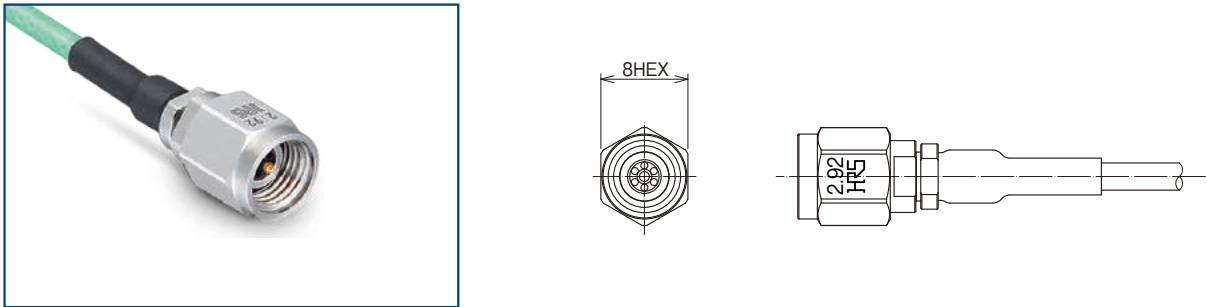
Terminator

■Plug
HK-TMP



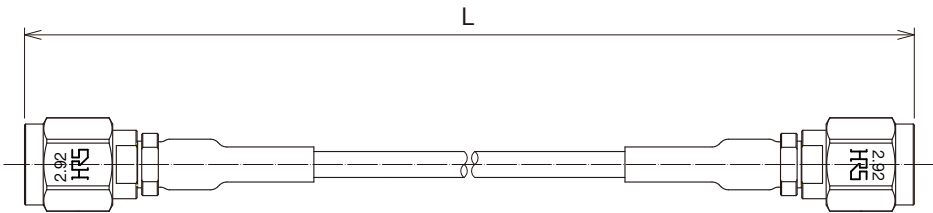
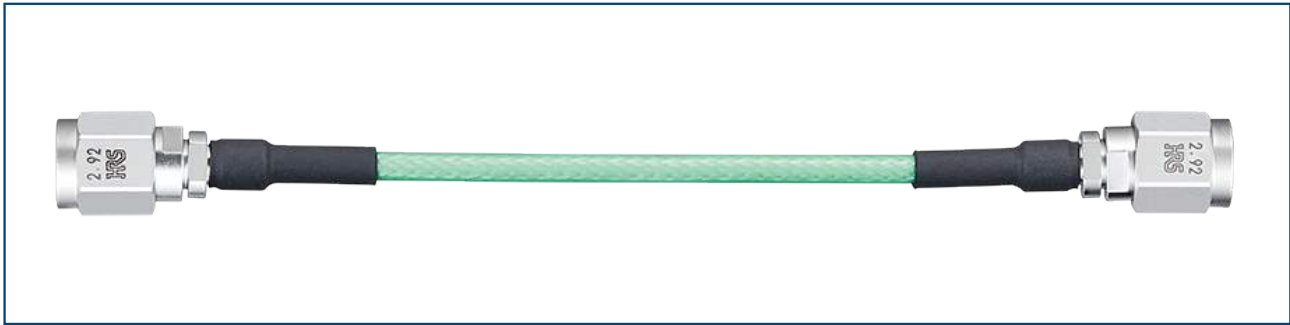
Plug

Please contact Hirose for assembly of cables.



| Part No. | HRS No. | Purchase Unit |
|------------|------------------|---------------|
| HK-P-SF085 | CL0338-0081-0-00 | 20pcs per bag |

Cable Assembly (HK Straight Plug - HK Straight Plug)

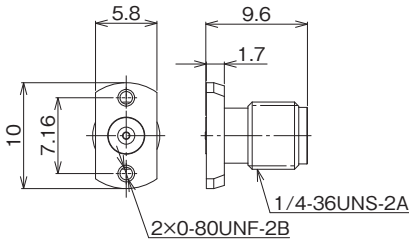


| Part No. | HRS No. | Cable Assembly Length L Unit : inch | Cable Assembly Length L Unit : mm | Purchase Unit |
|------------------|------------------|--|--------------------------------------|---------------|
| HK-2P-MC1-A-6IN | CL0321-1934-0-05 | 6 ± 0.16 | 152.4 ± 4 | 20pcs per bag |
| HK-2P-MC1-A-12IN | CL0321-1934-0-10 | 12 ± 0.32 | 304.8 ± 8 | |
| HK-2P-MC1-A-24IN | CL0321-1934-0-12 | 24 ± 0.48 | 609.6 ± 12 | |
| HK-2P-MC1-A-36IN | CL0321-1934-0-13 | 36 ± 0.48 | 914.4 ± 12 | |
| HK-2P-MC1-A-48IN | CL0321-1934-0-14 | 48 ± 0.71 | 1219.2 ± 18 | |
| HK-2P-MC1-A-60IN | CL0321-1934-0-15 | 60 ± 0.87 | 1524.0 ± 22 | |

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

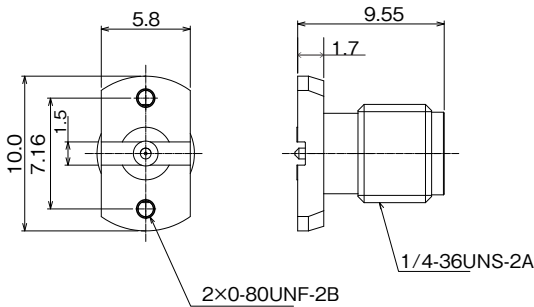
This product is a solderless mounted connector for prototype evaluation of high speed transmission boards.
It is not recommended for use in actual commercial equipment.

● Inner Layer, Back Surface Trace Type



| Part No. | HRS No. | Attached Screw | Purchase Unit |
|----------------|------------------|-------------------|---------------|
| HK-R-SR2-1 | CL0338-0003-0-00 | - | 20pcs per bag |
| HK-R-SR2-1(11) | CL0338-0003-0-11 | 0-80UNF 1/4 inch | |
| HK-R-SR2-1(12) | CL0338-0003-0-12 | 0-80UNF 3/16 inch | |

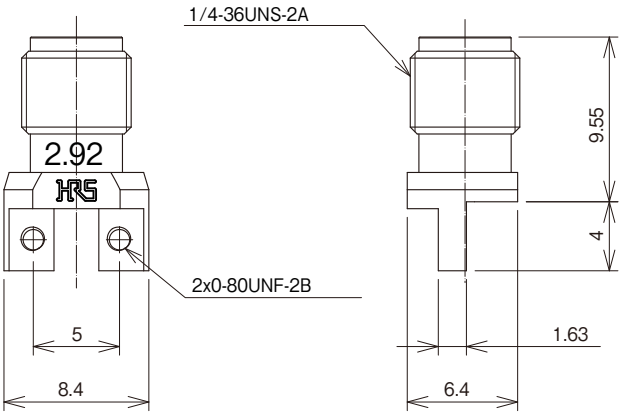
● Surface Trace Type



| Part No. | HRS No. | Attached Screw | Purchase Unit |
|----------------|------------------|-------------------|---------------|
| HK-R-SR2-S | CL0338-0006-0-00 | - | 20pcs per bag |
| HK-R-SR2-S(11) | CL0338-0006-0-11 | 0-80UNF 1/4 inch | |
| HK-R-SR2-S(12) | CL0338-0006-0-12 | 0-80UNF 3/16 inch | |

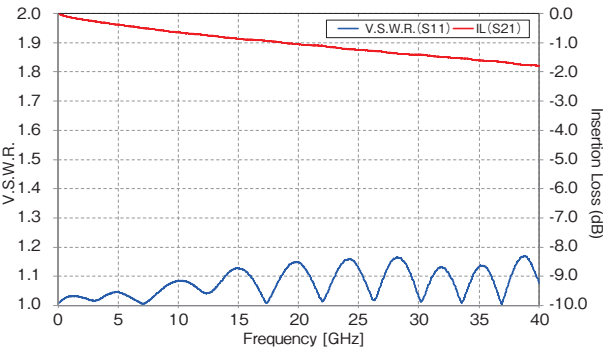
PCB End Launch Receptacle (For High Speed Transmission Evaluation Board Ports)

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 |
|---------------|------------------|-------------------|---------------|
| HK-LR-SR2 | CL0338-0079-0-00 | - | 20pcs per bag |
| HK-LR-SR2(11) | CL0338-0079-0-11 | 0-80UNF 1/4 inch | |
| HK-LR-SR2(12) | CL0338-0079-0-12 | 0-80UNF 3/16 inch | |

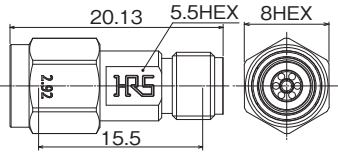
◆Frequency Characteristics (TYPICAL)



*Coplaner line length between both connector ends : 20mm

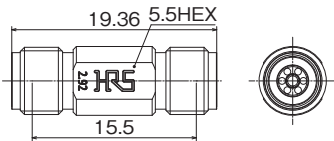
In-line Adapter

- Straight Adapter
Mated Portion: Plug – Jack



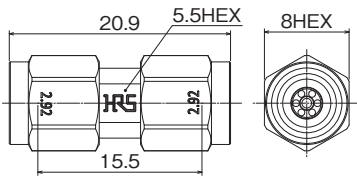
| Part No. | HRS No. | Purchase Unit |
|----------|------------------|---------------|
| HK-A-PJ | CL0338-0097-0-00 | 20pcs per bag |

Mated Portion: Jack – Jack



| Part No. | HRS No. | Purchase Unit |
|----------|------------------|---------------|
| HK-A-JJ | CL0338-0098-0-00 | 20pcs per bag |

Mated Portion: Plug – Plug



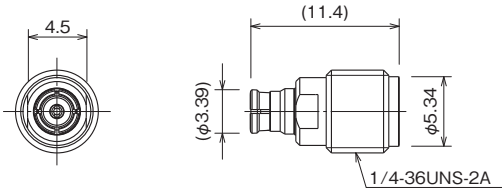
| Part No. | HRS No. | Purchase Unit |
|----------|------------------|---------------|
| HK-A-PP | CL0338-0099-0-00 | 20pcs per bag |

V.S.W.R. (Max.) (All in-line adapters have the same value.)

| 0 to 18GHz | 18 to 26.5GHz | 26.5 to 40GHz |
|------------|---------------|---------------|
| 1.1 | 1.15 | 1.2 |

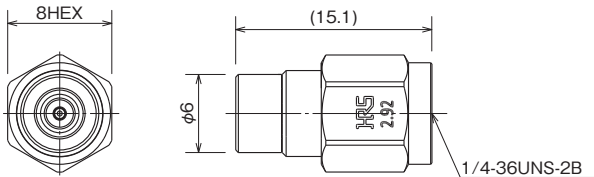
Conversion Adapter

SMP Jack – 2.92mm Jack (0 to 40GHz)



| Part No. | HRS No. | Purchase Unit |
|----------|------------------|---------------|
| SMPJ-HKJ | CL0311-0013-0-00 | 20pcs per bag |

SMP Plug – 2.92mm Plug (0 to 40GHz)



| Part No. | HRS No. | Purchase Unit |
|--------------|------------------|---------------|
| SMPP(FD)-HKP | CL0311-0199-0-00 | 20pcs per bag |
| SMPP(SB)-HKP | CL0311-1001-0-00 | |

Note : Insertion / Extraction Force
FD : FULL DETENT
SB : SMOOTH BORE

V.S.W.R. (Max.) (All conversion adapters have the same value.)

| 0 to 10GHz | 10 to 30GHz | 30 to 40GHz |
|------------|-------------|-------------|
| 1.15 | 1.25 | 1.38 |

Precautions

1. The diameter of the center contact pin is only $\phi 0.92\text{mm}$.
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.

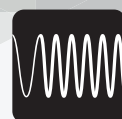
While Taking into Consideration

Specifications mentioned in this catalog are reference values.
When considering to order or use this product, please confirm 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, assurance will not be given.
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.

2.92mm-TM Series

2.92mm Coaxial Connectors

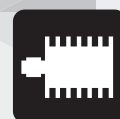
MIL Standard Compliant/Non-reflective Terminator



Millimeter Wave



COAX 2.92mm



Terminator



Features

1. Non-reflective Terminator
Supporting 0 to 40GHz
2. Small Size, Light Weight
3. Low V.S.W.R.& High Reliability
4. MIL Compliant
(MIL-STD-348B)
2.92mm Coaxial Terminator

Applications

Optical transmission devices, data transmission measurement, radio communication equipment, measuring instruments, other high frequency devices, etc.

Product Specifications

| | | | |
|----------------------------------|-----------------|-----------------------------|-------------|
| Nominal Characteristic Impedance | 50 Ω | Operating Temperature | -40 to +85℃ |
| Rated Frequency | 0 to 40GHz | Operating Relative Humidity | 95% RH Max. |
| Power | 0.5W CW (+75℃) | | |

Materials / Finish

| Part | Materials | Finish |
|-------------------|-----------------|-------------|
| Shell | Stainless Steel | Passivate |
| Insulator | PTFE Resin | - |
| Male Contact | Brass | Gold Plated |
| Coupling | Stainless Steel | Passivate |
| Resistive Element | Metal Film | - |

Product Number Structure

HK

-

TM

P

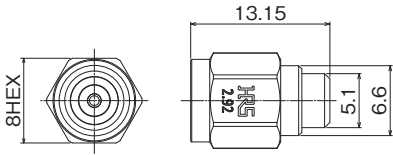
①

②

③

| | | | |
|---------------|---------------------------|------------------|---------------|
| ① Series Name | HK | ③ Connector Type | P : Plug Type |
| ② TM | Non-reflective Terminator | | |

Terminator

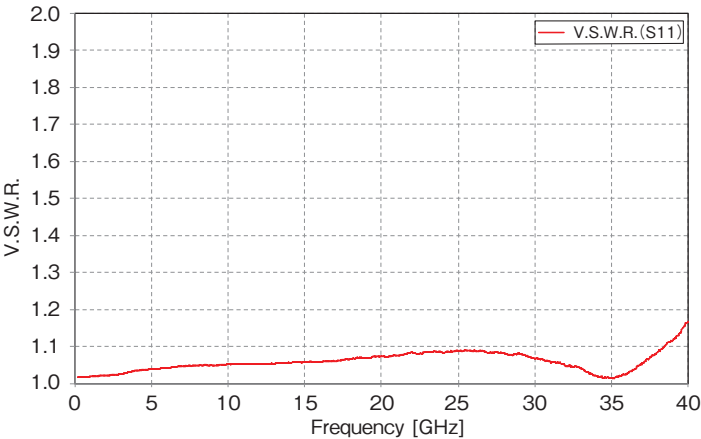


| Part No. | HRS No. | Purchase Unit |
|----------|------------------|---------------|
| HK-TMP | CL0353-0014-0-00 | 1pc per bag |

V.S.W.R. (Max.)

| 0 to 10GHz | 10 to 20GHz | 20 to 35GHz | 35 to 40GHz |
|------------|-------------|-------------|-------------|
| 1.1 | 1.15 | 1.18 | 1.28 |

◆Frequency Characteristics (TYPICAL)



Precautions

1. The diameter of the center contact pin is only $\phi 0.92\text{mm}$.
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 confirm 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, assurance will not be given.

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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.



2.92mm-AT Series

2.92mm Coaxial Connectors MIL Standard Compliant/Attenuators



Millimeter Wave



COAX 2.92mm



Attenuator



Features

1. Fixed Attenuators
Supporting 0 to 40GHz
(0, 1, 2, 3, 4, 5, 6,
7, 8, 9, 10, 20dB)
2. Small Size,
Light Weight
3. Unique internal spring
connection for robustness
and excellence impedance
matching even with
temperature change.
4. Low V.S.W.R.&
High Reliability
5. MIL Compliant
(MIL-STD-348B)
2.92mm Coaxial Attenuator

Applications

Optical transmission devices, data transmission measurement, radio communication equipment, measuring instruments, other high frequency devices, etc.

Product Specifications

| | | | |
|----------------------------------|---------------|-----------------------------|--------------|
| Nominal Characteristic Impedance | 50 Ω | Operating Temperature | -10 to +65°C |
| Rated Frequency | 0 to 40GHz | Operating Relative Humidity | 90% RH Max. |
| Power | 1W CW (+65°C) | | |

Materials / Finish

| Part | Materials | Finish |
|-------------------|------------------|-------------|
| Shell | Stainless Steel | Passivate |
| Insulator | PTFE Resin | - |
| Male Contact | Brass | Gold Plated |
| Female Contact | Beryllium Copper | Gold Plated |
| Coupling | Stainless Steel | Passivate |
| Resistive Element | Metal Film | - |

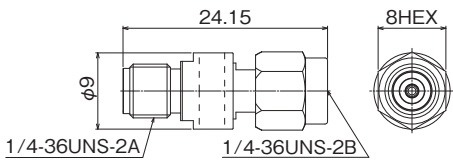
Product Number Structure

HK - AT (##) - PJ

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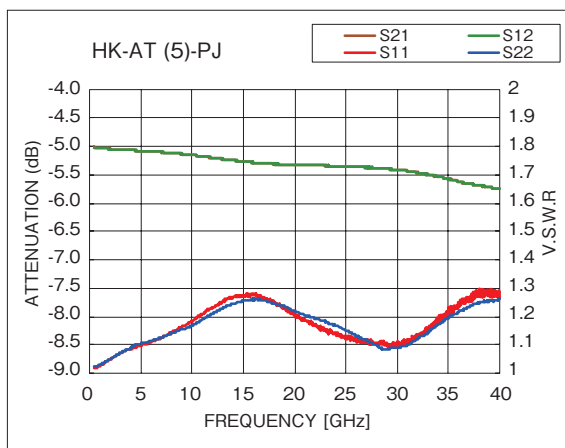
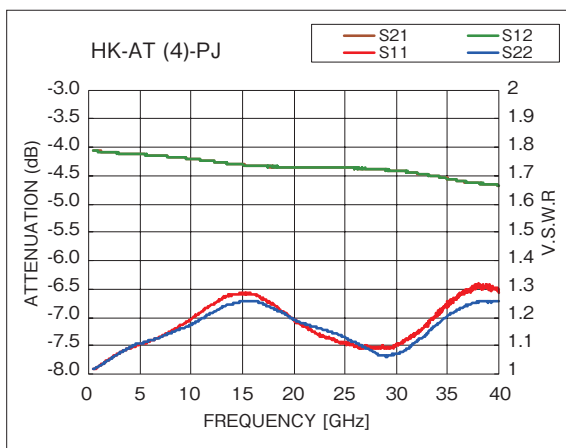
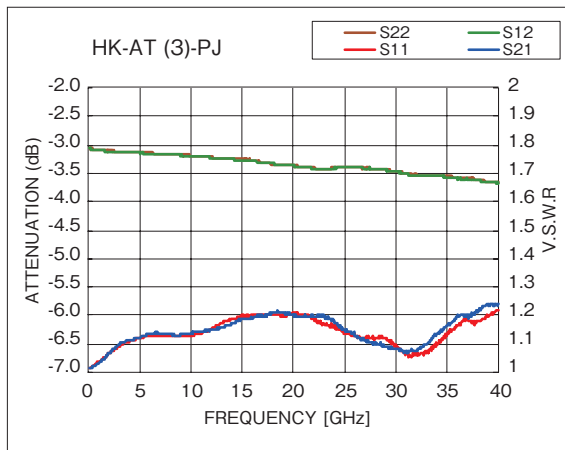
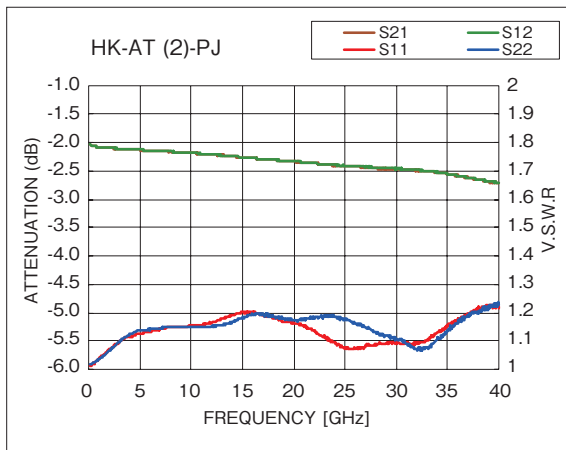
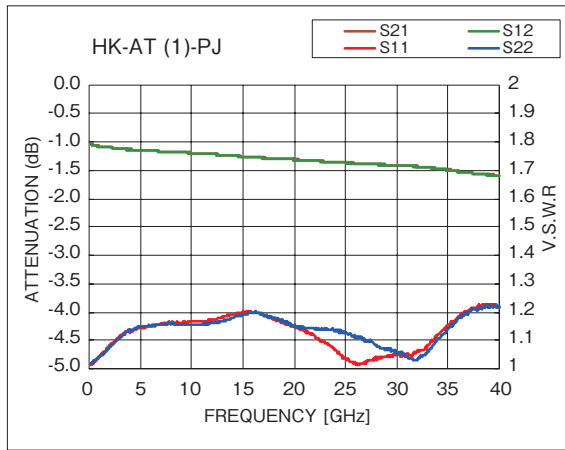
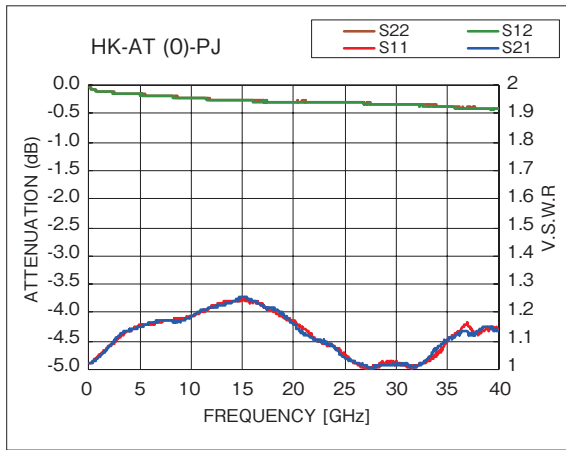
| | | | |
|---------------|------------|------------------|--|
| ① Series Name | HK | ③ Attenuation | (EX.) (0) : 0dB (Though) (3) : 3dB (10) : 10dB |
| ② AT | Attenuator | ④ Connector Type | PJ : Plug Jack |

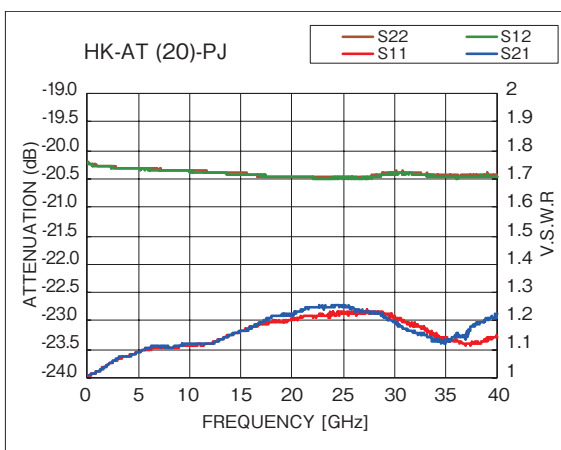
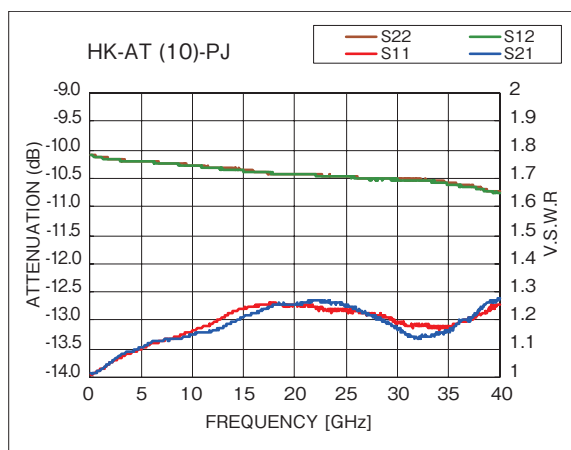
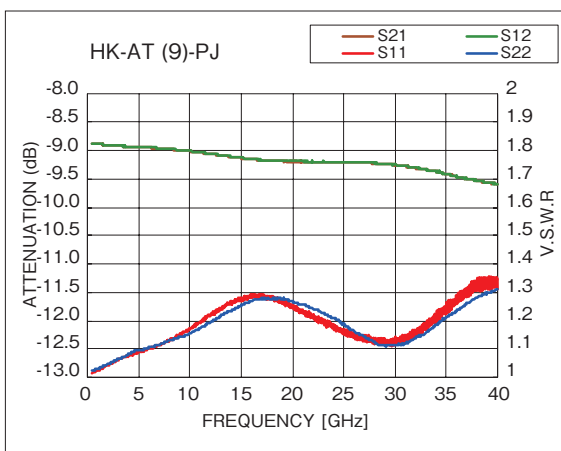
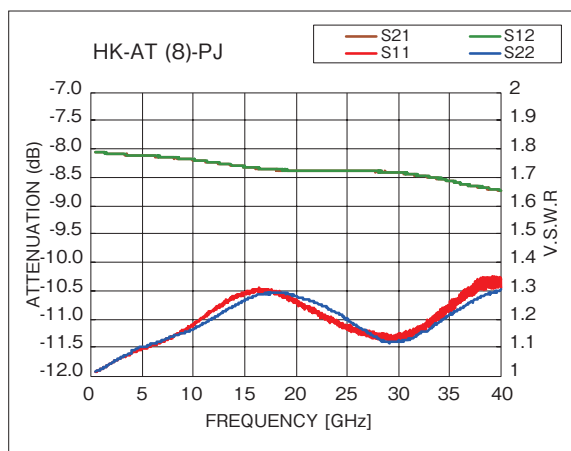
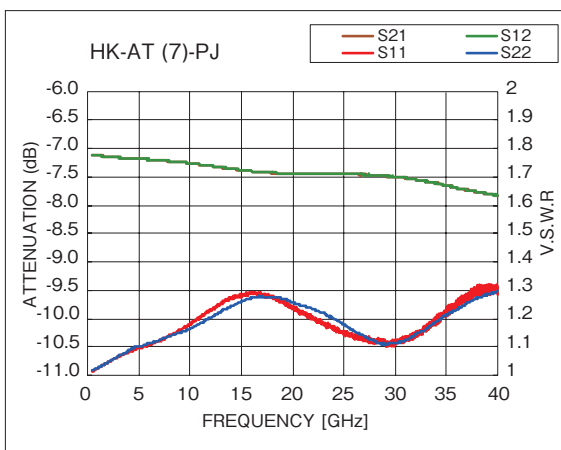
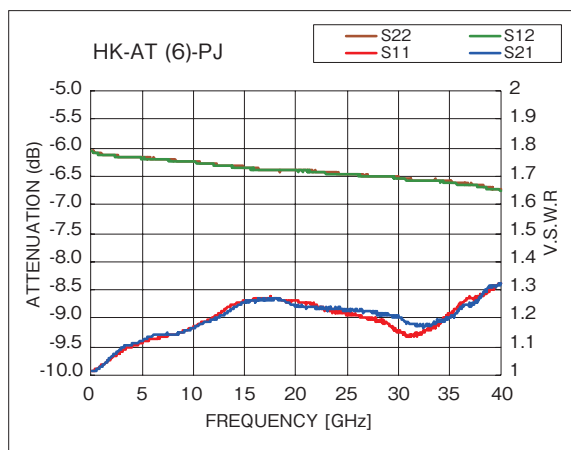
Attenuator



| Part No. | HRS No. | Attenuation (dB) | | | Voltage Standing Wave Ratio (V.S.W.R.)(Max.) | | Purchase Unit |
|--------------|------------------|------------------------------------|------------------------------------|------------------------------------|--|-------------|---------------|
| | | 0 to 18GHz | 18 to 26.5GHz | 26.5 to 40GHz | 0 to 12GHz | 12 to 40GHz | |
| HK-AT(0)-PJ | CL0354-0295-0-00 | 0 ^{+0.4} ₀ | 0 ^{+0.5} ₀ | 0 ^{+0.8} ₀ | 1.35 | 1.4 | 1pc per box |
| HK-AT(1)-PJ | CL0354-0316-0-00 | 1 ^{+0.9} _{-0.3} | 1 ^{+1.0} _{-0.3} | 1 ^{+1.2} _{-0.3} | 1.3 | | |
| HK-AT(2)-PJ | CL0354-0317-0-00 | 2 ^{+0.9} _{-0.3} | 2 ^{+1.0} _{-0.3} | 2 ^{+1.2} _{-0.3} | | | |
| HK-AT(3)-PJ | CL0354-0296-0-00 | 3 ^{+0.7} _{-0.3} | 3 ^{+0.8} _{-0.3} | 3 ^{+1.0} _{-0.3} | | | |
| HK-AT(4)-PJ | CL0354-0318-0-00 | 4 ^{+0.8} _{-0.4} | 4 ^{+0.9} _{-0.4} | 4 ^{+1.1} _{-0.4} | | | |
| HK-AT(5)-PJ | CL0354-0319-0-00 | 5 ^{+0.9} _{-0.4} | 5 ^{+1.0} _{-0.4} | 5 ^{+1.2} _{-0.4} | | | |
| HK-AT(6)-PJ | CL0354-0297-0-00 | 6 ^{+0.8} _{-0.2} | 6 ^{+0.9} _{-0.2} | 6 ^{+1.0} _{-0.2} | 1.35 | 1.45 | |
| HK-AT(7)-PJ | CL0354-0320-0-00 | 7 ^{+1.0} _{-0.4} | 7 ^{+1.1} _{-0.4} | 7 ^{+1.3} _{-0.4} | 1.3 | 1.4 | |
| HK-AT(8)-PJ | CL0354-0321-0-00 | 8 ^{+0.9} _{-0.5} | 8 ^{+1.0} _{-0.5} | 8 ^{+1.2} _{-0.5} | | | |
| HK-AT(9)-PJ | CL0354-0322-0-00 | 9 ^{+0.9} _{-0.5} | 9 ^{+1.0} _{-0.5} | 9 ^{+1.2} _{-0.5} | | | |
| HK-AT(10)-PJ | CL0354-0298-0-00 | 10 ^{+0.9} _{-0.5} | 10 ^{+1.0} _{-0.5} | 10 ^{+1.2} _{-0.5} | | 1.45 | |
| HK-AT(20)-PJ | CL0354-0299-0-00 | 20 ± 1.0 | 20 ^{+1.2} _{-1.0} | 20 ^{+1.4} _{-1.0} | 1.25 | 1.4 | |

Frequency Characteristics (TYPICAL)





Precautions

1. The diameter of the center contact pin is only $\phi 0.92\text{mm}$.
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

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When considering to order or use this product, please confirm 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, assurance will not be given.

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.

