

2.92mm coaxial connectors MIL Standard Compliant

2.92mm Series

Compatible with 40GHz configurations



■ Features

1. Compliant MIL-STD-348B Standard
2. Supports up to 40GHz frequency
3. Screw mounting

- Provides excellent high frequency performance and consistent mounting quality
- Reusable
- Reduces mounting complexity (No Soldering is required)

4. Flexible PCB thickness
5. 0.085 inch flexible cable applicable
6. RoHS2 compliant

■ Applications

Data transmission measurement, Radio communication equipment, Measuring instruments, RF module, Radio power amplifier, High speed router, High speed switch etc.

■ Functional diagram

Plug side

■ Straight plug

HK-P-SF085



■ Nonreflective terminator

HK-TMP



Receptacle side

■ Straight receptacle

HK-R201
HK-R401



■ Plug receptacle

HK-PR201



■ PCB vertical launch receptacle (For high-speed test board applications.)

HK-R-SR2-1



■ PCB end launch receptacle (For high-speed test board applications.)

HK-LR-SR2



In-line Adapter

■ Straight adapter

- Plug—Jack
HK-A-PJ



- Jack—Jack
HK-A-JJ



- Plug—Plug
AK-A-PP



Attenuator

■ Plug—Jack

HK-AT (**)-PJ
** : 0, 3, 6, 10, 20dB



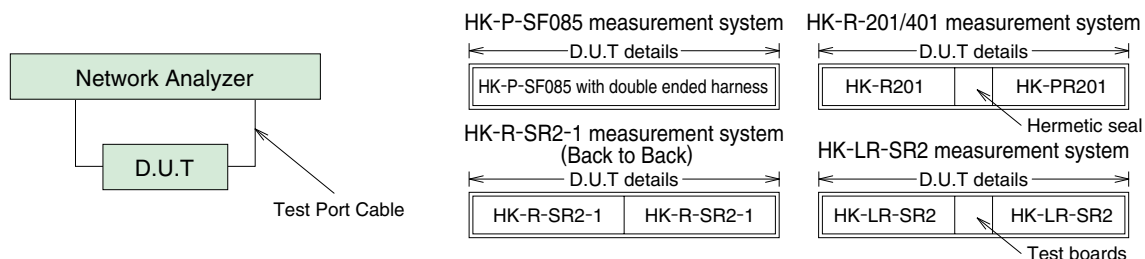
Product Specifications

| | | | | |
|---------|----------------------------------|------------|-----------------------------|----------------------------------|
| Ratings | Nominal characteristic impedance | 50Ω | Operating Temperature Range | -55°C to +105°C (95% RH or less) |
| | Rated frequency | 0 to 50GHz | Storage Temperature Range | -55°C to +50°C (95% RH or less) |

| Items | Specifications | Conditions | |
|--|---|---|---|
| 1. Contact resistance | Center : Not greater than 6mΩ External : Not greater than 2mΩ | Measured at 100mA or below | |
| 2. Insulation resistance | 1,000MΩ min. | Measured at 500V DC | |
| 3. Withstanding voltage | No flashover or breakdown | 500V AC for one minute | |
| 4. Voltage standing wave ratio | ●HK-P-SF085, HK-R-201/401 V.S.W.R. : Not greater than 1.15 (0 to 18GHz) | ●HK-R-SR2-1 V.S.W.R. : Not greater than 1.10 (0 to 18GHz) | ●HK-LR-SR2 V.S.W.R. : Not greater than 1.30 (0 to 40GHz) |
| | V.S.W.R. : Not greater than 1.20 (18GHz to 26.5GHz) | V.S.W.R. : Not greater than 1.15 (18GHz to 26.5GHz) | |
| | V.S.W.R. : Not greater than 1.35 (26.5GHz to 40GHz) | V.S.W.R. : Not greater than 1.30 (26.5GHz to 40GHz) | |
| 5. Mating Cycles | Contact resistance at center : Not greater than 8mΩ External : Not greater than 4mΩ No broken, cracked, or loose parts | 500 cycles | |
| 6. Vibration resistance | No electrical discontinuity for not less than 1μs. No broken, cracked, or loose parts | Frequency : 10 to 2000Hz, half amplitude : 0.75mm, Acceleration : 196m/s ² , 10 cycles in each of the 3 axis | |
| 7. Shock resistance | No electrical discontinuity for not less than 1μs. 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 | |
| 8. Moisture resistance of temperature/humidity cycle | Insulation resistance : Not less than 100MΩ (in a high humidity environment) Insulation resistance : Not less than 1,000MΩ (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%. | |
| 9. 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. | |
| 10. Salt spray | No considerable corrosion | Continuous 48 hour cycle in 5% salt water solution | |

*Measurement of voltage standing wave ratio (V.S.W.R.)

The specified values of the voltage standing wave ratio (V.S.W.R.) noted above, are taken with the test set up shown in the figure below:



Materials / Finish

| Part | Materials | Finish |
|-----------|-------------------------|---------------------------|
| Shell | Stainless steel / Brass | Passivated / Gold plating |
| Insulator | PPO / PTFE / PEI resin | — |
| Contact | Beryllium copper | Gold plated |
| Ring | Stainless steel | 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.

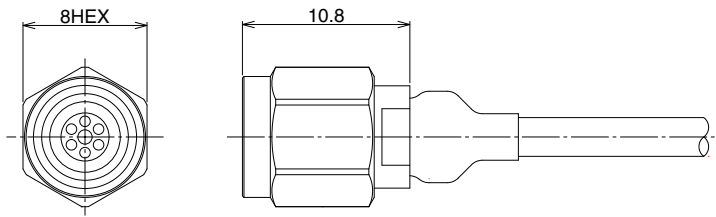
HK - [] - []

① ② ③

| | |
|--|---|
| ① Series name : HK | ③ Applicable cable or board mounting style SF085 : 0.085-inch, Flexible cable SR : PCB screw-mounting |
| ② Connector type P : Straight plug R : Receptacle PR : Plug receptacle A : Adapter | |

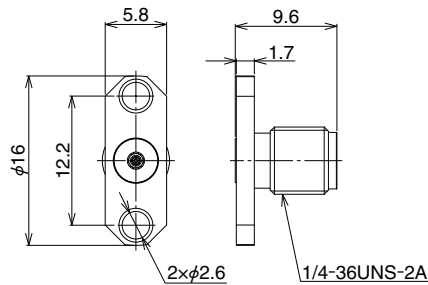
■ Plug

HK-P-SF085



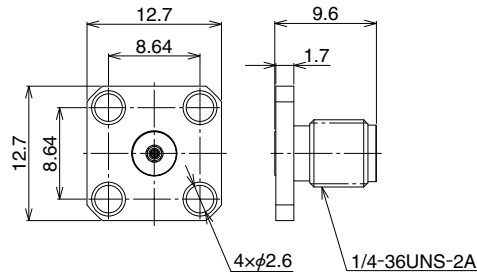
[Please contact Hirose in case of cable assemblies.]

■ Receptacle



| Part No. | HRS No. |
|----------|------------|
| HK-R201 | 338-0073-1 |

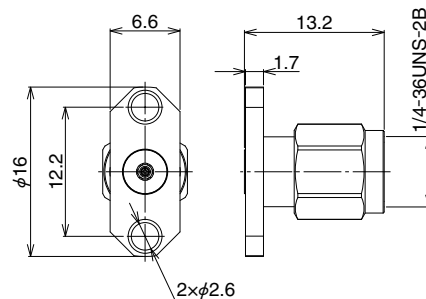
*Compliant with hermetic seal of $\phi 0.3$ mm pin.



| Part No. | HRS No. |
|----------|------------|
| HK-R401 | 338-0074-4 |

*Compliant with hermetic seal of $\phi 0.3$ mm pin.

■ Plug-receptacle

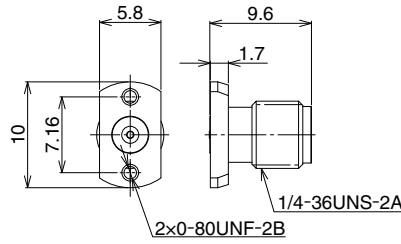


| Part No. | HRS No. |
|----------|------------|
| HK-PR201 | 338-0075-7 |

*Compliant with hermetic seal of $\phi 0.3$ mm pin.

■ PCB vertical mount receptacle

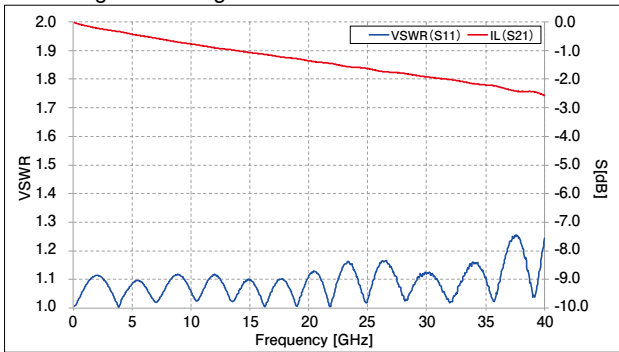
This receptacle is designed for high speed test board applications. Not applicable to the actual commercial equipment.



| Part No. | HRS No. | Attached screw |
|----------------|---------------|-------------------|
| HK-R-SR2-1 | 338-0003-0 | — |
| HK-R-SR2-1(11) | 338-0003-0 11 | 0-80UNF 1/4 inch |
| HK-R-SR2-1(12) | 338-0003-0 12 | 0-80UNF 3/16 inch |

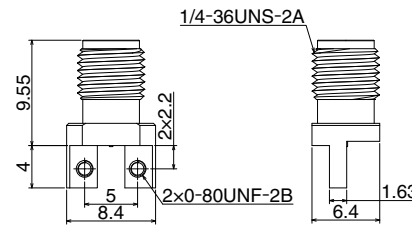
◆ Frequency characteristics (TYPICAL)

*Signal line length between both connector ends : 25mm



■ PCB end launch receptacle

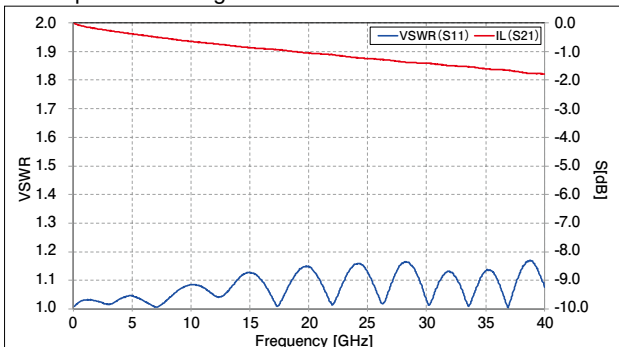
Central contact solderless receptacles for high-speed test board applications. Not applicable to the actual commercial equipment.



| Part No. | HRS No. | Attached screw |
|---------------|---------------|-------------------|
| HK-LR-SR2 | 338-0079-0 | — |
| HK-LR-SR2(11) | 338-0079-0 11 | 0-80UNF 1/4 inch |
| HK-LR-SR2(12) | 338-0079-0 12 | 0-80UNF 3/16 inch |

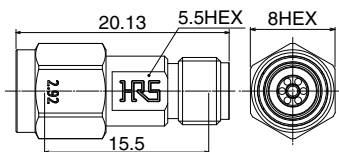
◆ Frequency characteristics (TYPICAL)

*Coplanar line length between both connector ends : 20mm



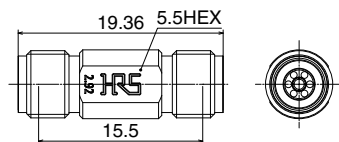
In-line Adapter

● Straight adapter
(Plug — Jack)



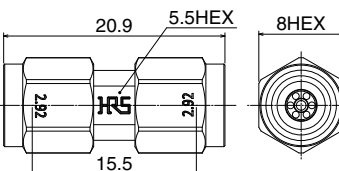
| Part No. | HRS No. | V.S.W.R. (Max) | | |
|----------|------------|----------------|------------|------------|
| | | 0-18GHz | 18-26.5GHz | 26.5-40GHz |
| HK-A-PJ | 338-0097-0 | 1.1 | 1.15 | 1.2 |

(Jack — Jack)



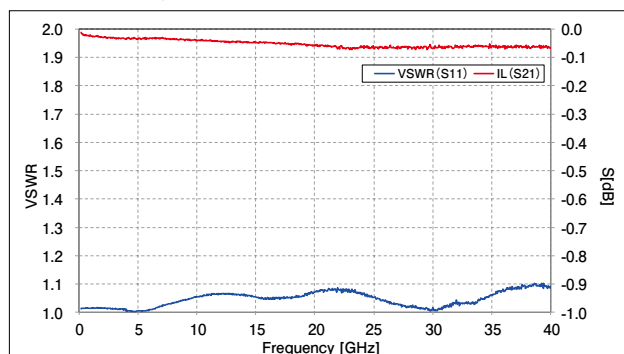
| Part No. | HRS No. | V.S.W.R. (Max) | | |
|----------|------------|----------------|------------|------------|
| | | 0-18GHz | 18-26.5GHz | 26.5-40GHz |
| HK-A-JJ | 338-0098-0 | 1.1 | 1.15 | 1.2 |

(Plug — Plug)



| Part No. | HRS No. | V.S.W.R. (Max) | | |
|----------|------------|----------------|------------|------------|
| | | 0-18GHz | 18-26.5GHz | 26.5-40GHz |
| HK-A-PP | 338-0099-0 | 1.1 | 1.15 | 1.2 |

◆ Frequency characteristics (TYPICAL)



■ Nonreflective terminator
■ Product Specifications

| | | | | |
|---------|----------------------------------|-----------------|-----------------------------|----------------|
| Ratings | Nominal characteristic impedance | 50Ω | Operating Temperature Range | -40°C to +85°C |
| | Rated frequency | 0 to 40GHz | | |
| | Power | 0.5W CW (+75°C) | Operating relative humidity | 95% RH or less |

■ Materials / Finish

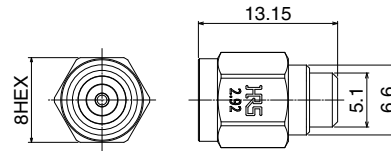
| Part | Materials | Finish |
|-------------------|-----------------|-------------|
| Shell | Stainless steel | Passivate |
| Insulator | PTFE | — |
| Male contact | Brass | Gold plated |
| Coupling | Stainless steel | Passivate |
| Resistive element | Metal film | — |

■ Product Number Structure

HK - TM P

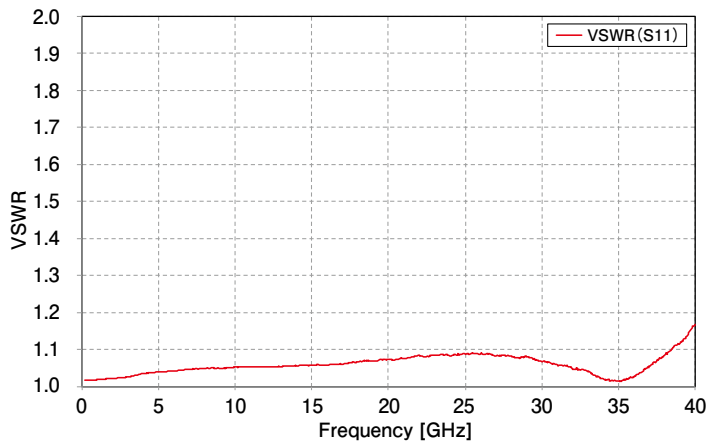
① ② ③

| | |
|------------------|---------------------------|
| ① Series name | HK |
| ② TM | Non-reflective terminator |
| ③ Connector type | P : Plug type |



| Part No. | HRS No. | V.S.W.R. (Max) | | | |
|----------|------------|----------------|----------|----------|----------|
| | | 0-10GHz | 10-20GHz | 20-35GHz | 35-40GHz |
| HK-TMP | 353-0014-0 | 1.1 | 1.15 | 1.18 | 1.28 |

◆ Frequency characteristics (TYPICAL)



■ Attenuator

■ Product Specifications

| | | | | |
|---------|----------------------------------|---------------|-----------------------------|----------------|
| Ratings | Nominal characteristic impedance | 50Ω | Operating Temperature Range | -10°C to +65°C |
| | Rated frequency | 0 to 40GHz | | |
| | Power | 1W CW (+65°C) | Operating relative humidity | 90% RH or less |

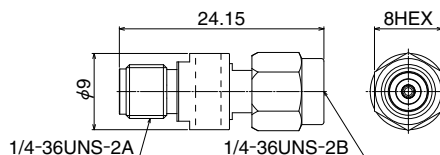
■ Materials / Finish

| 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

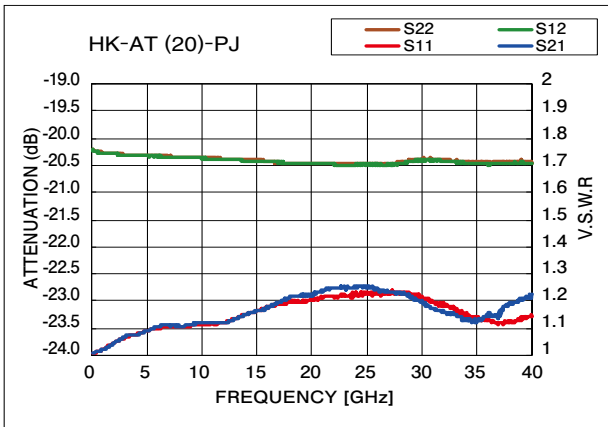
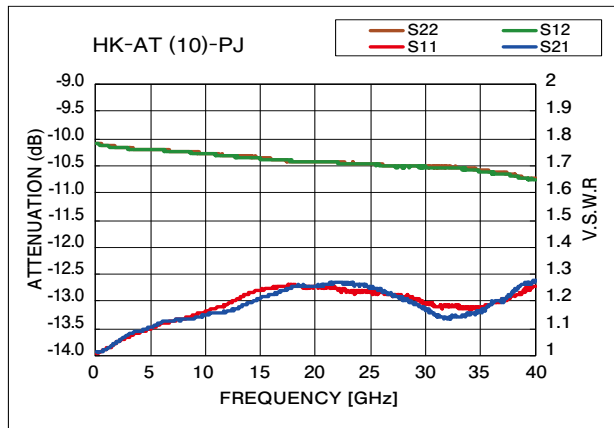
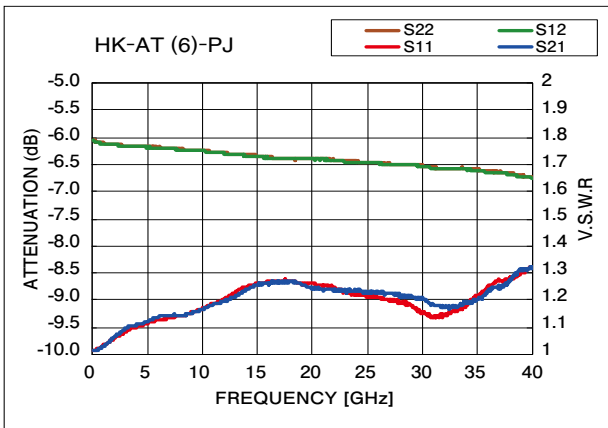
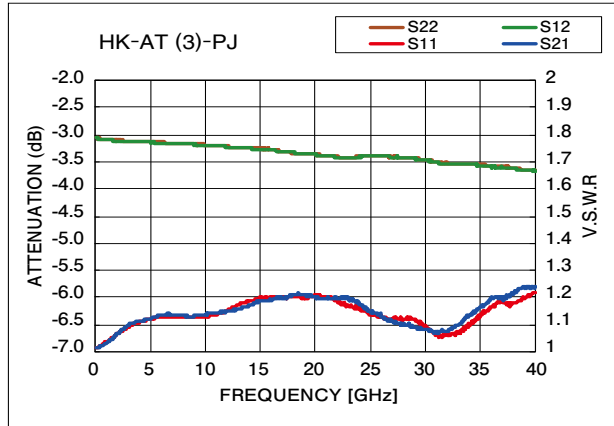
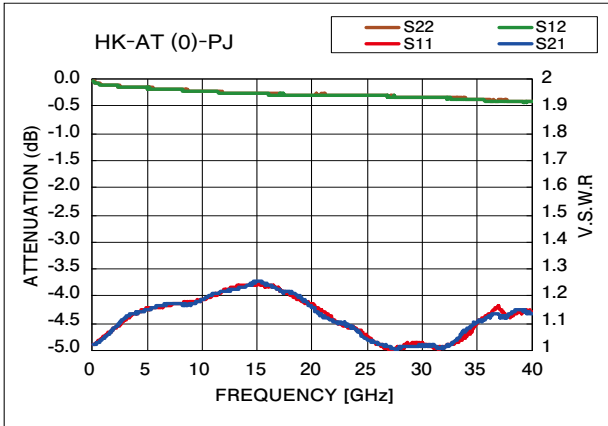
HK - AT (※※) - PJ

| | |
|------------------|---|
| ① Series name | HK |
| ② AT | Attenuator |
| ③ Attenuation | (例) (0) : 0dB (through) (3) : 3dB (10) : 10dB |
| ④ Connector type | PJ : Plug Jack |



| Part No. | HRS No. | Attenuation (dB) | | | Voltage standing wave ratio (V.S.W.R.)(max) | |
|--------------|------------|------------------------------------|------------------------------------|------------------------------------|---|----------|
| | | 0~18GHz | 18~26.5GHz | 26.5~40GHz | 0~12GHz | 12~40GHz |
| HK-AT(0)-PJ | 354-0295-0 | 0 ^{+0.4} ₀ | 0 ^{+0.5} ₀ | 0 ^{+0.8} ₀ | 1.35 | 1.4 |
| HK-AT(3)-PJ | 354-0296-0 | 3 ^{+0.7} _{-0.3} | 3 ^{+0.8} _{-0.3} | 3 ^{+1.0} _{-0.3} | 1.3 | |
| HK-AT(6)-PJ | 354-0297-0 | 6 ^{+0.8} _{-0.2} | 6 ^{+0.9} _{-0.2} | 6 ^{+1.0} _{-0.2} | 1.35 | 1.45 |
| HK-AT(10)-PJ | 354-0298-0 | 10 ^{+0.9} _{-0.3} | 10 ^{+1.0} _{-0.3} | 10 ^{+1.2} _{-0.3} | 1.3 | |
| HK-AT(20)-PJ | 354-0299-0 | 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 0.92mm.
Please handle with care. When mating the attenuator with the corresponding connector, rotate the hex part only.
2. When mating the attenuator, if any dust is found on the shell interface, please wipe with alcohol.



HIROSE ELECTRIC CO.,LTD.

2-6-3,Nakagawa Chuoh,Tsuzuki-Ku,Yokohama-Shi 224-8540,JAPAN

TEL: +81-45-620-3526 Fax: +81-45-591-3726

<http://www.hirose.com>

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