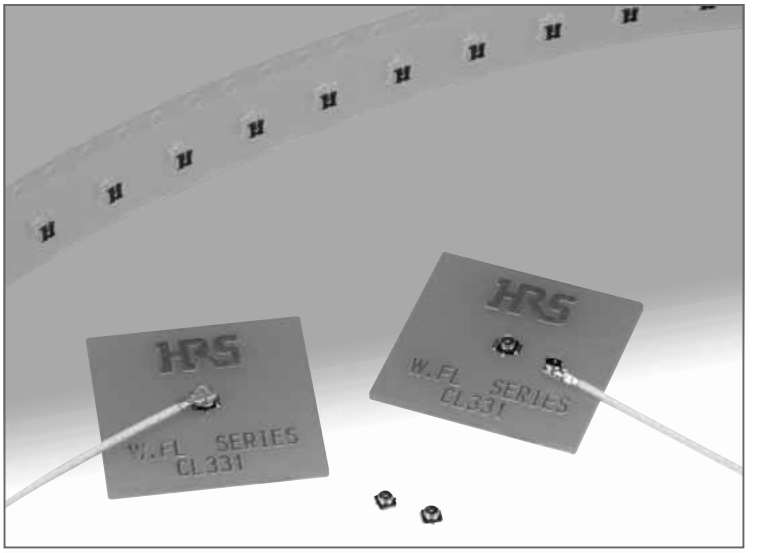
The product information in this catalog is for reference only. Please request the Engineering Drawing for the most current and accurate design information.
All non-RoHS products have been discontinued, or will be discontinued soon. Please check the products status on the Hirose website RoHS search at www.hirose-connectors.com, or contact your Hirose sales representative.

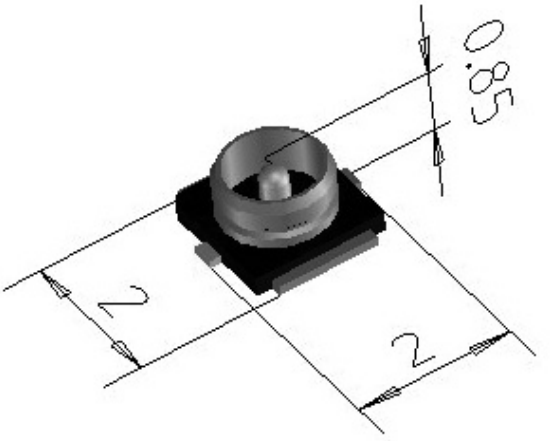
Ultra Small Surface Mount Coaxial Connectors – 1.4mm Mated Height

W.FL Series

Up to 6 GHz Transmission Speed



Occupied Mounting Area



Features

1. Nominal mated height of 1.4 mm (Max. 1.5 mm)

2. Small mounting area
The receptacle occupies an area of 3.4mm^2.

3. Lightweight
Receptacle: 5.6 mg
Right-angle plug: 18.6 mg

4. Accepts high frequency transmission.
To meet the frequency requirements of a wide variety of miniature devices, the connectors offer high frequency performance from DC to 6 GHz, with a V.S.W.R. of 1.35max.

5. Automatic board placement
Packaged on tape-and-reel the receptacles can be placed with vacuum nozzles of the automatic placement equipment.

6. Plugs are terminated with ultra-fine coaxial (fluorinated resin insulated) cable
Standard ultra-fine coaxial cable of 0.81 mm diameter (single braid shielding) is used for the plug termination, assuring secure and stable connections.

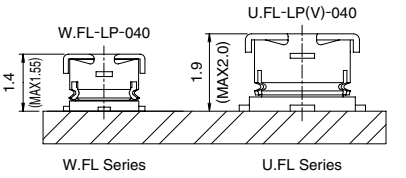
7. Simple connector mating / unmating
Use of available extraction tool assures correct disconnection of the plug and receptacle.

8. Verification of the fully mated condition
Tactile click sensation confirms fully mated condition, assuring complete electrical and mechanical connection.

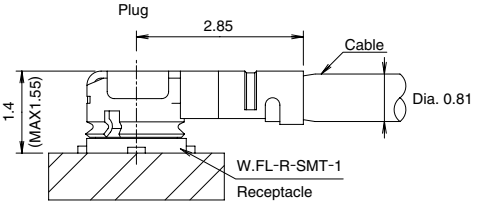
Applications

Cellular phones, PHS, mobile phones, wireless communication devices, electronic measuring instruments, GPS, wireless LAN, Bluetooth and any application requiring high frequency transmission using small coaxial connectors.

Mated height comparison (with U.FL Series)



W. FL Plug and Receptacle



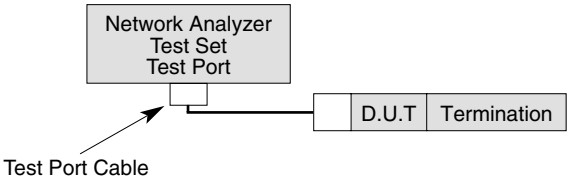
The product information in this catalog is for reference only. Please request the Engineering Drawing for the most current and accurate design information.
All non-RoHS products have been discontinued, or will be discontinued soon. Please check the products status on the Hirose website RoHS search at www.hirose-connectors.com, or contact your Hirose sales representative.

■Specifications

Ratings	Nominal characteristic impedance	50 ohms	Operating temperature range	-40°C to +90°C
	Frequency range	DC to 6 GHz	Operating humidity	90% RH max.

Item	Specification	Conditions
1. Contact resistance	Center contact: 20m ohms max. Outer contact: 10m ohms max.	10mA max.
2. Insulation resistance	500M ohms min.	100V DC
3. Withstanding voltage	No flashover or insulation breakdown	200V AC / 1 minute
4. V.S.W.R.∗	1.3 Max. 1.35 Max.	Up to 3 GHz 3 to 6 GHz
5. Durability	Contact resistance Center contact: 25m ohms max. Outer contact: 15m ohms max. No damage, cracks, or parts dislocation	20 cycles
6. Vibration	No electrical discontinuity of 1 μs or longer No damage, cracks, or parts dislocation	Frequency: 10 to 100 Hz, single amplitude of 1.5mm Acceleration: 59 m/s², in each of 3 axis 5 cycles
7. Shock	No electrical discontinuity of 1 μs or longer No damage, cracks, or parts dislocation	Acceleration of 735 m/s², 11 ms continuous time Waveform: sine half-wave, 3 cycles in each of the 3 axis
8. Humidity	Insulation resistance: 10M ohms min. (high humidity) Insulation resistance: 500M ohms min. (dry) No damage, cracks, or parts dislocation	96 hours at temperature of +40°C and humidity of 95%
9. Temperature cycle	No damage, cracks, or parts dislocation Contact resistance: 25m ohms max. (Center) 15m ohms max. (Outer)	Temperature:-40°C→+5°C to +35°C→+90°C→+5°C to +35°C Time: 30 min.→ 3 min. → 30 min. → 3 min. 5 cycles
10. Salt spray test	No excessive corrosion	5% salt water solution, 48 hours

∗V.S.W.R. Measurement System
Measured as shown on the block diagram below.



Note1: Measurement way of a W.FL Cable assembly (plug)
W.FL Cable assembly (plug) is measured with SMA conversion adapters mated with W.FL plugs at both ends of a 100cm coaxial cable harness
Note2: Measurement way of a W.FL receptacle
W.FL receptacle, which is mounted on a 50 ohms glass epoxy board, is measured with a SMA conversion adapter.

■Materials / Finishes

●Plug – right angle

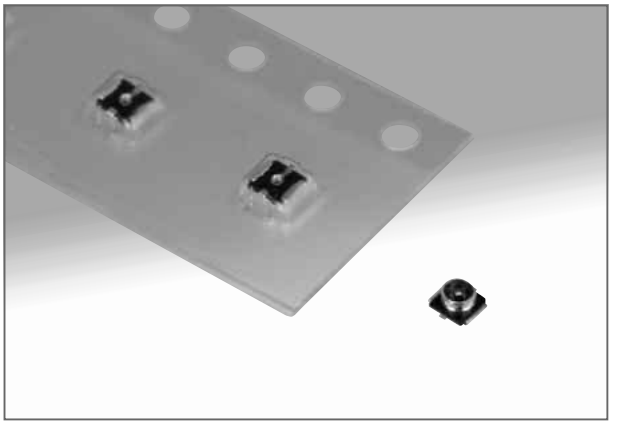
Part	Material	Finish	Remarks
Shell	Phosphor bronze	Silver plated	——
Female center contact	Phosphor bronze	Gold plated	——
Insulator	PBT	Color: Black	UL94V-0

●Receptacle

Part	Material	Finish	Remarks
Male center contact	Brass	Gold plated	——
Insulator	LCP	Color: Black	UL94V-0
Shell	Phosphor bronze	Silver plated	——

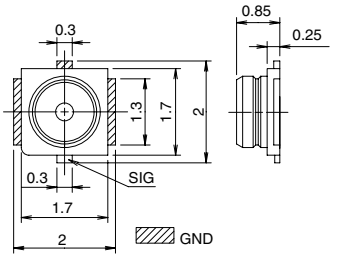
The product information in this catalog is for reference only. Please request the Engineering Drawing for the most current and accurate design information.
All non-RoHS products have been discontinued, or will be discontinued soon. Please check the products status on the Hirose website RoHS search at www.hirose-connectors.com, or contact your Hirose sales representative.

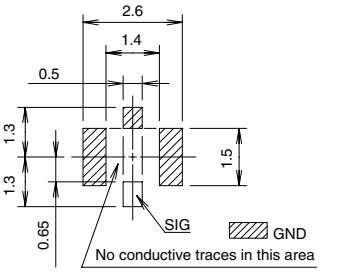
■Receptacle



Note : Receptacles of (10) specification are sold by the reel (2,000 pieces).
Order by reel.

◆Recommended PCB mounting pattern





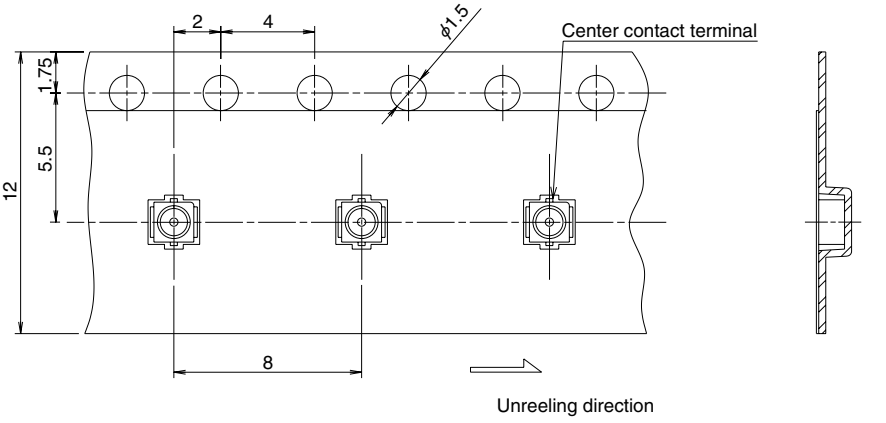
Recommended screen thickness: 0.1mm to 0.12mm

All dimensions: mm

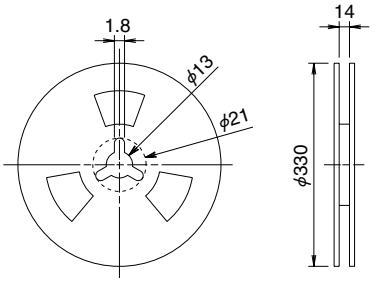
Part Number	CL No.	Packaging	Weight / EA	RoHS
W.FL-R-SMT-1(10)	CL331-0482-6-10	Reel (2000 pieces/reel)	5.6 mg	YES
W.FL-R-SMT-1(40)	CL331-0482-6-40	Reel (5000 pieces/reel)		

◆Packaging Specifications

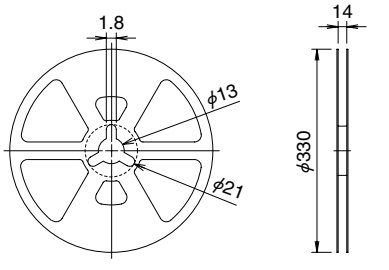
Embossed Carrier Tape Dimensions



Reel Dimensions



W.FL-R-SMT-1(10):
Reel material: Corrugated board

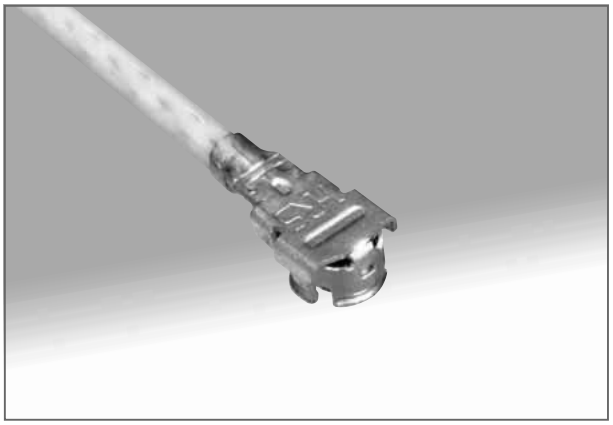


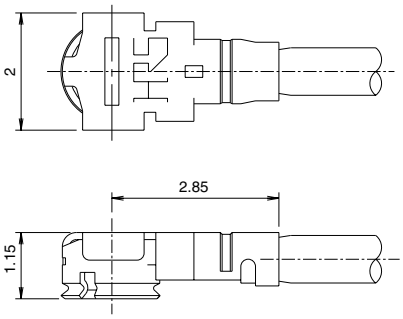
W.FL-R-SMT-1(40):
Reel material: Plastic

All dimensions: mm

The product information in this catalog is for reference only. Please request the Engineering Drawing for the most current and accurate design information.
All non-RoHS products have been discontinued, or will be discontinued soon. Please check the products status on the Hirose website RoHS search at www.hirose-connectors.com, or contact your Hirose sales represen

■Plug Assembly (Plug)

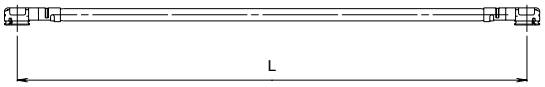
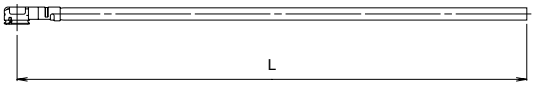




Plugs can be ordered only as terminated cable assemblies.

All dimensions: mm

■How to Specify Plug Cable Assembly

Double-ended cable assembly	Single-ended cable assembly
	

●Ordering Information

W.FL -- 2LP -- 04N [ ] T -- A -- (L)

❶ ❷ ❸ ❹ ❺

❶ Series name	W.FL
❷ Assembly type	LP : Single ended 2LP : Double ended
❸ Cable type	04N : Dia. 0.81mm ultra-fine coaxial cable
❹ Cable color	1: White, 2: Black
❺ Total length (mm)	Length (L)

●**Standard tolerances for (L)** (Note 2)

(L)	Standard Tolerance
L=35mm to 200mm	±4mm (Note 1)
L=200mm to 500mm	±8mm
L=500mm to 1000mm	±12mm
L= Longer than 1000mm	±1.5% of (L)

Note1:Minimum available length (L) is 35mm
Note2:Contact nearest HRS representative if different tolerances are required.
Note3:Contact Nearest HRS representative if one end requires preparation.

Part No. of Cable Assembly	Description	RoHS
W.FL-2LP-04N1T-A-(L)	Dia. 0.81mm double ended coaxial cable, color: white	YES

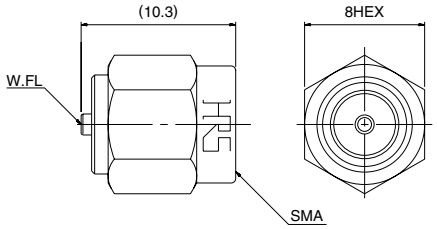
The product information in this catalog is for reference only. Please request the Engineering Drawing for the most current and accurate design information.
All non-RoHS products have been discontinued, or will be discontinued soon. Please check the products status on the Hirose website RoHS search at www.hirose-connectors.com, or contact your Hirose sales represen

■Conversion Adapters

● SMA Conversion Adapter (W.FL side jack – SMA side plug)



Note:Used for performance measurements only. The W.FL mating side has lower retention force than the regular product when mated to the corresponding part.

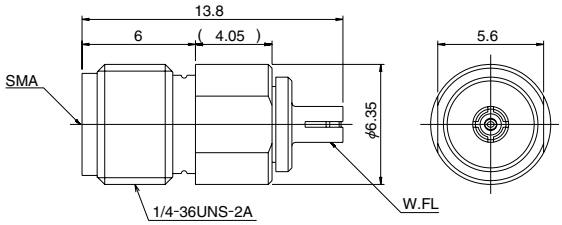


Part No.	CL No.	RoHS
HRMP-W.FLJ(40)	311-0367-3-40	YES

● SMA Conversion Adapter (W.FL side plug – SMA side jack)



Note:Used for performance measurements only. The W.FL mating side has lower retention force than the regular product when mated to the corresponding part.

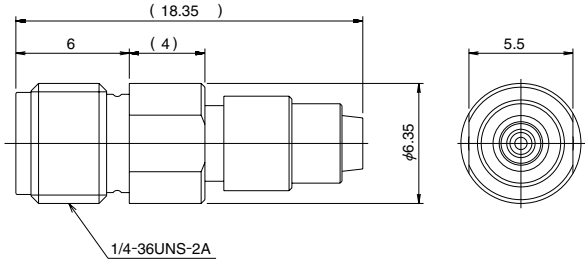


Part No.	CL No.	RoHS
HRMJ-W.FLP(40)	311-0368-6-40	YES

● SMA Conversion Adapter



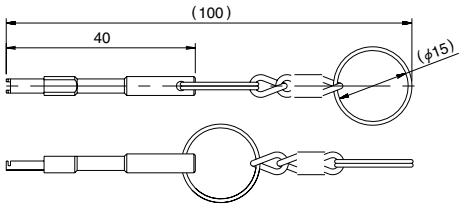
Note:When mating with corresponding part (W.FL-R-SMT-1) it must be pressed down and held to make complete connection.



Part No.	CL No.	RoHS
HRMJ-W.FLP-ST1(40)	311-0386-8-40	YES

■Plug Extraction Tool





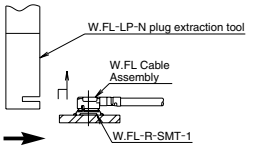
Part No.	CL No.	RoHS
W.FL-LP-N	331-0492-0	YES

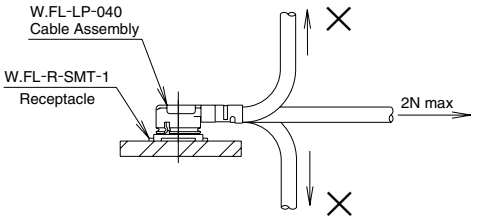
The product information in this catalog is for reference only. Please request the Engineering Drawing for the most current and accurate design information.
All non-RoHS products have been discontinued, or will be discontinued soon. Please check the products status on the Hirose website RoHS search at www.hirose-connectors.com, or contact your Hirose sales representative.

■Precautions

1. Plug

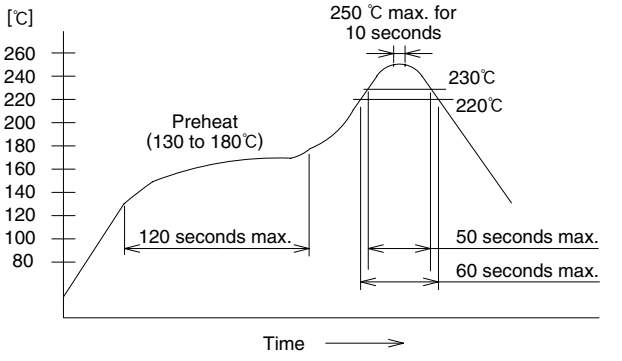
(1) Mating / unmating	• **Unmating** Insert both ends of the extraction tool under the plug (from the direction opposite to the Cable termination), as shown and pull-up in the direction perpendicular to the mounting surface of the receptacle. ●Recomended the use of the extraction tool for unmating. Any attempt of unmating by pulling on the cable may result in damage and affect the mechanical / electrical performance. • **Mating** Do not attempt to insert on an extreme angle.
(2) Pull forces on the cable after connectors are mated	After the connectors are mating, do not apply a load to the cable in excess of the values indicated in the diagram.
(3) Precautions	Do not twist connectors excessively during mating / unmating.





2. Receptacle

(1) Recommended reflow temperature profile	① The temperature of the printed circuit board surface temperature at the points of contact with the terminals. ② Reflow soldering should be performed at a printed circuit surface temperature of 250°C max. ③ In individual applications the actual temperature may vary, depending on the solder paste type, volume / thickness and board size / thickness. Consuly your solder paste and equipment manufacturer for specific recommendations.
(2) Manual soldering	Soldering iron temperature: 350°C, Soldering time: for 5 seconds max.
(3) Recommended metal mask thickness	0.1 mm to 0.12 mm
(4) Reflow cycles	2 times



3. Operating environment and storage conditions

(1) Operating environment	The connectors are not designed to operate in the following environments: • Exposed to a excessive amounts of fine particles and dust • Regions and places having a high density of sulfur dioxide, hydrogen sulfide, nitrogen dioxide or other corrosive gasses. • Environments having large rapid variations in temperature.
(2) Storage conditions - Receptacle	Store in the Hirose Electric packaging. Temperature: -10 to +40℃, Humidity: 85% max. Use within 6 months of delivery. Receptacles for which the storage period has elapsed must be tested for solderability to the PC board mounting surface.

Creative Links to World Electronics ®

HRS

HIROSE ELECTRIC CO.,LTD.
5-23,OSAKI 5-CHOME,SHINAGAWA-KU,TOKYO 141-8587,JAPAN
PHONE: 81-3-3491-5300, FAX: 81-3-3495-5230
http://www.hirose.com
http://www.hirose-connectors.com

The contents of this catalog are current as of date of 02/2009. Contents are subject to change without notice for the purpose of improvements.

TradeElectronics.ru

гарантия бесперебойности производства и качества выпускаемой продукции

О компании

ООО "ТрейдЭлектроникс" - это оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов. Реализуемая нашей компанией продукция насчитывает более полумиллиона наименований.

Благодаря этому наша компания предлагает к поставке практически не ограниченный ассортимент компонентов как оптовыми, мелкооптовыми партиями, так и в розницу.

Наличие собственной эффективной системы логистики обеспечивает надежную поставку продукции по конкурентным ценам в точно указанные сроки.

Срок поставки со стоков в **Европе и Америке – от 3 до 14 дней.**

Срок поставки из **Азии – от 10 дней.**

Благодаря развитой сети поставщиков, помогаем в поиске и приобретении экзотичных или снятых с производства компонентов.

Предоставляем спец цены на элементы для создания инженерных сэмплов.

Упорный труд, качественный результат дают нам право быть уверенными в себе и надежными для наших клиентов.

Наша компания это:

- Гарантия качества поставляемой продукции
- Широкий ассортимент
- Минимальные сроки поставок
- Техническая поддержка
- Подбор комплектации
- Индивидуальный подход
- Гибкое ценообразование

Наша организация особенно сильна в поставках модулей, микросхем, пассивных компонентов, ксайленсах (XC), EPF, EPM и силовой электроники.

Большой выбор предлагаемой продукции, различные виды оплаты и доставки, позволят Вам сэкономить время и получить максимум выгоды от сотрудничества с нами!

Trade Electronics.ru

гарантия бесперебойности производства и качества выпускаемой продукции

Перечень производителей, продукцию которых мы поставляем на российский рынок



Trade Electronics.ru

гарантия бесперебойности производства и качества выпускаемой продукции

С удовольствием будем прорабатывать для Вас поставки всех необходимых компонентов по текущим запросам для скорейшего выявления групп элементов, по которым сотрудничество именно с нашей компанией будет для Вас максимально выгодным!

С уважением,

Менеджер отдела продаж ООО

«Трейд Электроникс»

Шишлаков Евгений

8 (495)668-30-28 доб 169

manager28@tradeelectronics.ru

http://www.tradeelectronics.ru/