

Micro-Coaxial Connector Lineup

- Purpose
 - To introduce Hirose's Micro-Coaxial connectors
- Objective
 - To explain features and benefits
- Content
 - 12 pages
- Learning time:

Welcome to the Hirose Micro-Coaxial Connector Product Training Module (PTM). This module is intended to introduce the various connectors manufactured by Hirose and to discuss some of the features and construction.

Micro-Coaxial Connector Lineup

Horizontal mating	Vertical mating		
DF81 Series Space Saving New! 	DF80 Series Space Saving New! 	DF36A Series Enhanced Shielding 	DF36 Series Space Saving 
<ul style="list-style-type: none">• Pitch: 0.4mm• Mating Height: 0.9mm• No. of Contacts: 30, 40, 50	<ul style="list-style-type: none">• Pitch: 0.5mm• Mating Height: 1.72mm• No. of Contacts: 30, 40, 45, 50	<ul style="list-style-type: none">• Pitch: 0.4mm• Mating Height: 1.5mm• No. of Contacts: 15, 25, 30, 40, 45, 50	<ul style="list-style-type: none">• Pitch: 0.4mm• Mating Height: 1.5mm• No. of Contacts: 15, 20, 25

The series that will be reviewed in this training module are the DF81 series which is a 0.4mm pitch connector with a mated height of 0.9mm. The DF80 series which has a 0.5mm pitch and 1.72mm mated height, the DF36 and DF36A which both have a 0.4mm pitch and 1.5mm mating height.

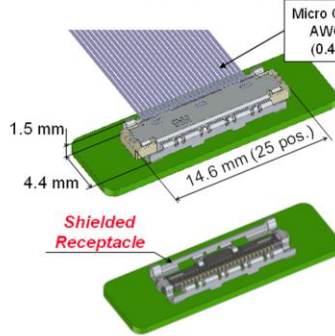
DF36A/DF36 Series

0.4 mm pitch with a mating height of 1.5 mm

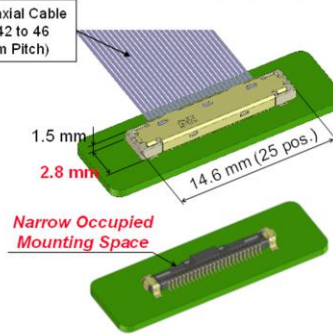
◆ Features

1. Enhanced shielding for EMI prevention and compact, space-saving types are available.
2. Secure lock with clear tactile click
3. Robust plug structure
4. High contact reliability
5. Easy cable soldering to plug unit
6. Wide vacuum pick-up area
7. Board area underneath the connector is available for patterning
8. Satisfies RoHS requirements

◆ Shielded Type (DF36A)



◆ Space-Saving Type (DF36)



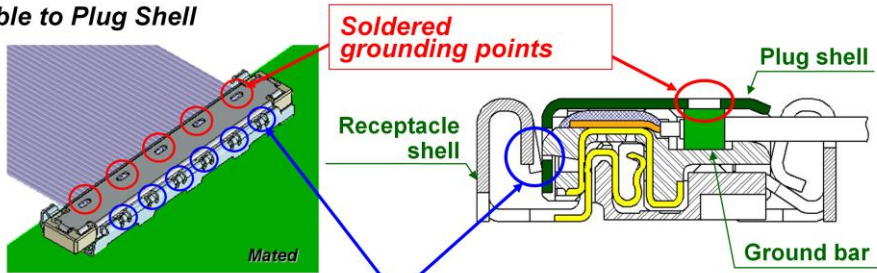
Micro Coaxial Cable
AWG#42 to 46
(0.4 mm Pitch)

*: no. of pos. in the parentheses () are under development.

The DF36A series has enhanced shielding for EMI prevention. The non-shielded DF36 series has a space saving width of 2.8mm. Both have a secure lock with clear tactile click and are robust in structure. Board area underneath the connector is available for patterning.

Enhanced Shielding Structure for EMI Prevention

◆ Cable to Plug Shell



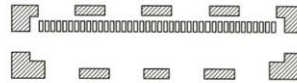
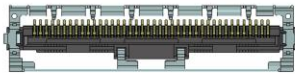
◆ Plug Shell to Receptacle Shell

Multiple grounding springs

The same contact resistance for shielding and contacts (80 mΩ max.)

◆ Receptacle Shell to PCB

Signal leads are completely surrounded by shields.

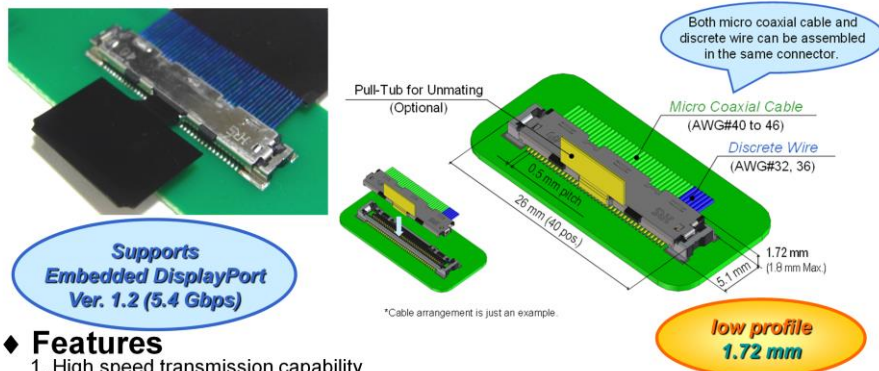


Soldering points for the shield surround the SMT leads. (PCB pattern: 40 pos.)

The enhanced shielding of the DF36A has multiple grounding springs and soldered grounding points. The signal leads are completely surrounded by the shields.

DF80 Series

0.5 mm Pitch, Space Saving and Low Profile Micro-Coaxial



◆ Features

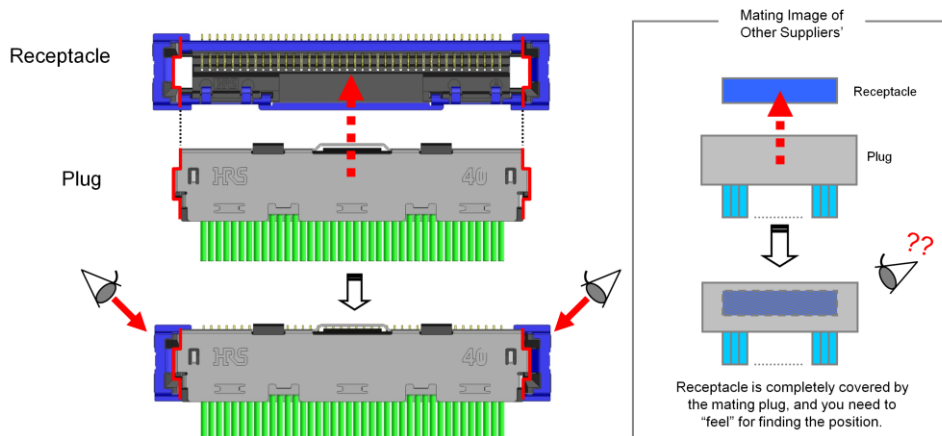
1. High speed transmission capability
2. Both micro coaxial cable and discrete wire acceptable in the same connector
3. Easy plug alignment with wide and visually recognizable plug alignment
4. High contact reliability with clipping 2-point contact and clear tactile click
5. Enhanced shielding
6. Robust plug structure with interlocked metal shells
7. Strong against cable pull up force
8. Optional pull-tab for user-friendly operation
9. Satisfies RoHS requirements, Halogen-free product*

*This product satisfies halogen free requirements defined as 900 ppm maximum chlorine, 900 ppm maximum bromine, and 1500 ppm maximum total of chlorine and bromine

The DF80 series has high speed transmission capability and supports Embedded DisplayPort Ver. 1.2 (5.4 Gbps). The same connector will accept both micro coaxial and discrete wires. It has high contact reliability with clipping 2-point contact and a clear tactile click. This series satisfies RoHS requirements and is a Halogen-free product.

Clear, Visual Plug Alignment

- ◆ The plug does not completely cover over the receptacle and allows for a clear, visual check for correct mating position.

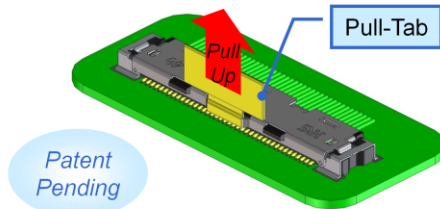


Easy mating operation

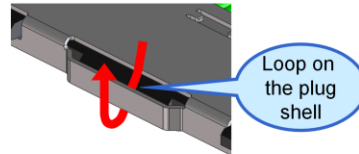
The plug does not completely cover over the receptacle, which allows for a clear visual recognition in confirming a correctly mated condition.

Plug Removal with Optional Pull-Tab

◆ Optional pull-tab helps with connector removal.



Pull-tab is attachable after plug assembly by simply passing it through the loop on the plug.



■ The DF80 Pull-Tab

1. With or without pull-tab can be optioned after plug assembly.
2. Just one points for pull-tab to go through
3. Pull-tab can be replaced when it is broken.

■ Other Suppliers' Pull-Tab

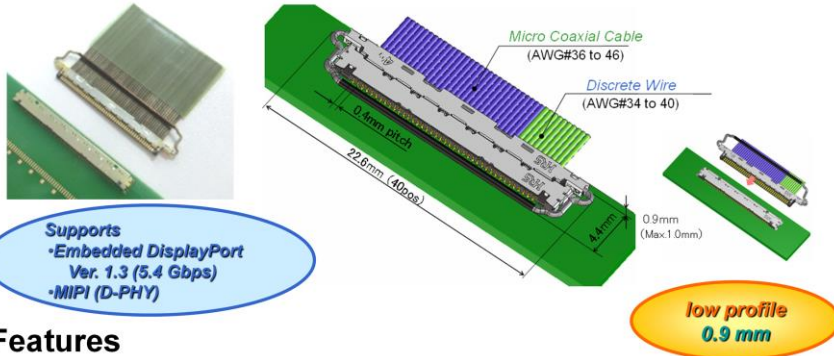
1. Pull-tab is assembled before the metal shell assembly
2. Two points for pull-tab to go through
3. Once pull-tab is broken, it's non-repairable.

User friendly pull-tab assembly

The optional pull-tab helps with connector removal. The pull-tab is attachable after plug assembly by simply passing it through the loop on the plug shell as shown here.

DF81 Series

0.4 mm Pitch, 0.9 mm Height, Right Angle, Micro-Coaxial Connector



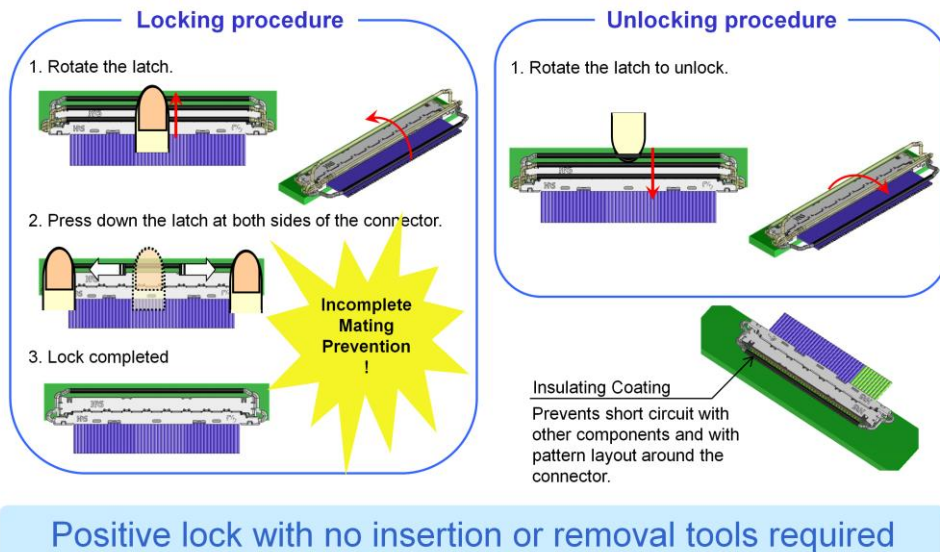
◆ Features

1. Space saving both in depth and smaller occupied PCB mounting area
2. High speed transmission capability
3. Improved grounding performance
4. Lock Structure / Complete Locking with latch
5. Both micro coaxial cable and discrete wire can be used together in the same connector
6. Satisfies RoHS requirements, Halogen-free product*

*This product satisfies halogen free requirements defined as 900 ppm maximum chlorine, 900 ppm maximum bromine, and 1500 ppm maximum total of chlorine and bromine

The DF81 series is a 0.4mm pitch, 0.9mm height, horizontal mating micro-coaxial connector with rotary latch. This series supports Embedded DisplayPort Ver. 1.3, (5.4 Gbps). Both micro coaxial cable and discrete wire can be used together in the same connector. Satisfies RoHS requirements and is a Halogen-free product.

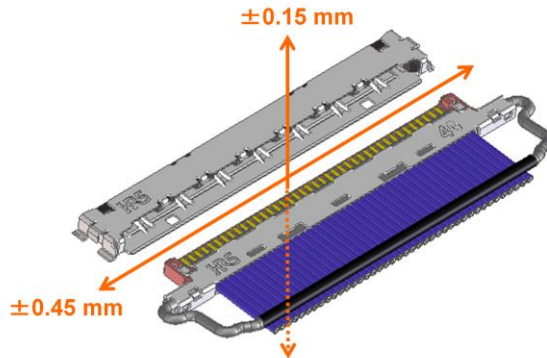
Secure, easy to use rotary latch lock mechanism



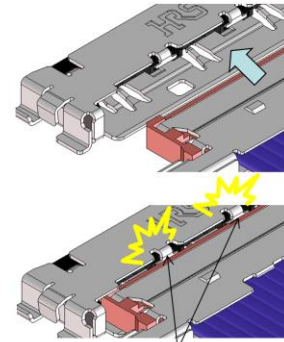
The DF81 series features a rotary latch that is secure and easy to use. Positive locking is accomplished with no special insertion or removal tools.

User-Friendly Operation

- ◆ Wide self-alignment range
Height direction: ± 0.15 mm
Pitch direction: ± 0.45 mm



- ◆ Reverse insertion prevention



These tabs block reverse insertion.

Breaking strength of reverse insertion
Actual value: 95 N

Smooth insertion and reverse insertion prevention

The series offers a wide self-alignment range and has reverse insertion prevention.

Application examples

Mobile Phone,
Smart Phone



Tablet PC



Notebook PC



DSC / DVC



Portable
Medical Equipment



MFP



Security Camera



The DF36, DF36A, DF80 and DF81 series has a wide range of applications that include; portable medical equipment, security camera, tablet PCs and mobile and smart phones.

In Summary

- Hirose has a broad range of interconnect solutions for coaxial wire applications are not limited to just these connectors
- The Hirose offering includes vertical and horizontal configurations
- Some series will accept both micro coaxial or discrete wire

In summary, Hirose has a broad range of interconnect solutions for micro coax applications that feature low profiles and either vertical or horizontal mating styles. Several series have multiple pin count options available and all connectors are RoHS compliant. Thank you.