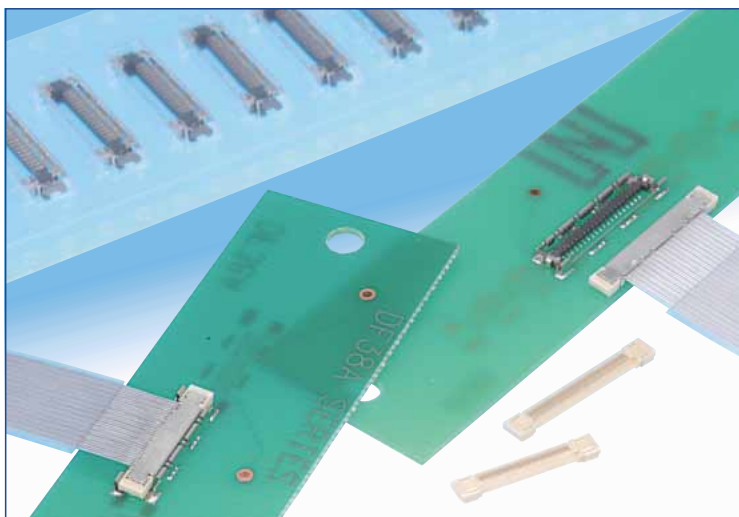
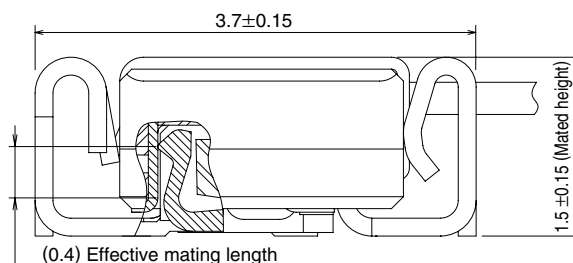


0.3 mm Pitch, 1.5 mm Mated Height, Board- to-Fine Coaxial Cable Connectors

DF38 Series



**High contact reliability –
Effective mating length of 0.4 mm**



■ Features

1. Small mated height and board occupied space

Small pitch (0.3mm) and mated height (1.5mm) allows use in space-restricted areas.

Plug's height of 1.3mm and width of 2.38mm allow its passage through narrow openings in small-diameter hinge applications.

2. Enhanced shielding and ground connections

Metal shells on the plug and receptacle connect to each other with a reliable multi-point ground contacts, assuring reliable ground connection and EMC protection.

3. Reliable lock

Fully mated condition is assured with reliable locks at 4 locations, confirming it with a distinct tactile click.

4. Reliable electrical and mechanical connection

Despite its small mated height, unique contact configuration assures highly reliable connection, with effective mating length of 0.4mm.

5. Solder wicking prevention

Nickel barriers prevent solder wicking in the critical contact areas.

6. Durable plug construction

Formed metal shells on the top and side surfaces form a strong and rigid assembly.

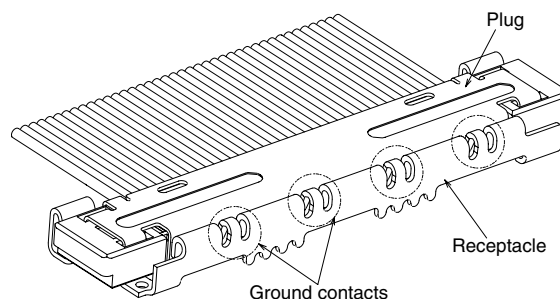
7. RoHS compliant

All components and materials comply with the requirements of EU Directive 2002/95/EC.

■ Applications

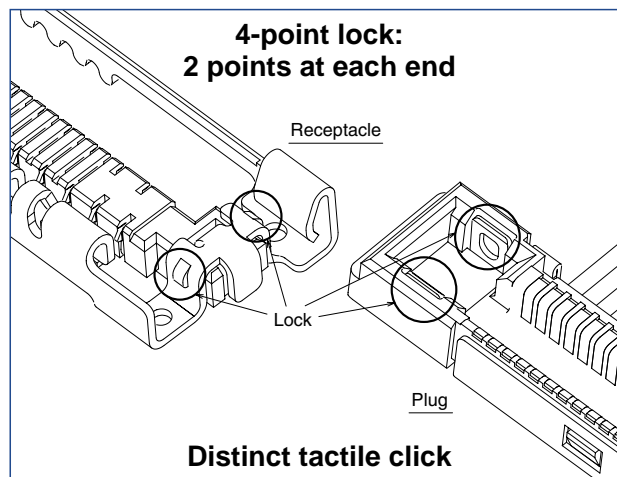
Mobile phones, digital cameras, digital camcorders and other thin portable devices requiring high-speed reliable connection with a fine coaxial cable.

Enhanced shielding



Multi-point ground contacts

4-point lock: 2 points at each end



Distinct tactile click

DF38 Series 0.3 mm Pitch, 1.5 mm Mated Height, Board-to-Fine Coaxial Cable Connectors

Specifications

Ratings	Current rating (Note 1)	Wire size AWG #42: 0.15 A AWG #44: 0.10 A	Operating temperature range	-35 to +85°C (Note 2)
	Voltage rating	30 V AC	Operating humidity range	RH 20% to 80%
			Storage temperature range	-10 to +60°C (Note 3)
			Storage humidity range	RH 40% to 70% (Note 3)

Item	Specification	Conditions
1. Insulation resistance	50MΩ min	100V DC
2. Withstanding voltage	No flashover or insulation breakdown	100 V AC / 1 minute
3. Contact resistance	Signal: 80mΩ max., Ground: 80mΩ max.	100mA (DC or 1,000Hz)
4. Vibration	No electrical discontinuity of 1 μs or longer	Frequency: 10 to 55 Hz, single amplitude of 0.75 mm, 3 axis, 2 hours
5. Humidity	Contact resistance (change from initial value) 50 mΩ max. Insulation resistance: 25 MΩ min.	96 hours at of 40 ±2°C, and humidity of 90 to 95%
6. Temperature cycle	Contact resistance (change from initial value) 50 mΩ max. Insulation resistance: 50 MΩ min.	-55°C → 5 to 35°C → 85°C → 5 to 35°C Time: 30 min. → 2 to 3 min. → 30 min. → 2 to 3 min. 5 cycles
7. Durability	Contact resistance (change from initial value) 50 mΩ max.	30 cycles
8. Resistance to soldering heat	No deformation of affecting performance	Reflow: At the recommended temperature profile Manual soldering: 350°C for 3 seconds

Note 1: The rated current will differ depending on the wire size used.

Note 2: Includes temperature rise caused by current flow.

Note 3: The term "storage" refers to products stored for a long period prior to mounting and use.

The operating temperature and humidity range covers the non-conducting condition of connectors after board mounting and the temporary storage conditions of transportation, etc.

Material

Product	Part	Material	Finish	Remarks
Receptacle	Insulator	LCP	Color: Black	UL94-V0
	Contacts	Phosphor bronze	Gold plated	_____
	Metal cover		Tin plated	_____
	Pick-and-place platform	Polyamide	Color: Black	UL94-HB
Plug	Insulator	LCP	Color: Natural (Beige)	UL94-V0
	Contacts	Phosphor bronze	Gold plated	_____
	Metal cover		Tin plated	_____

Ordering information

Reel Dimensions

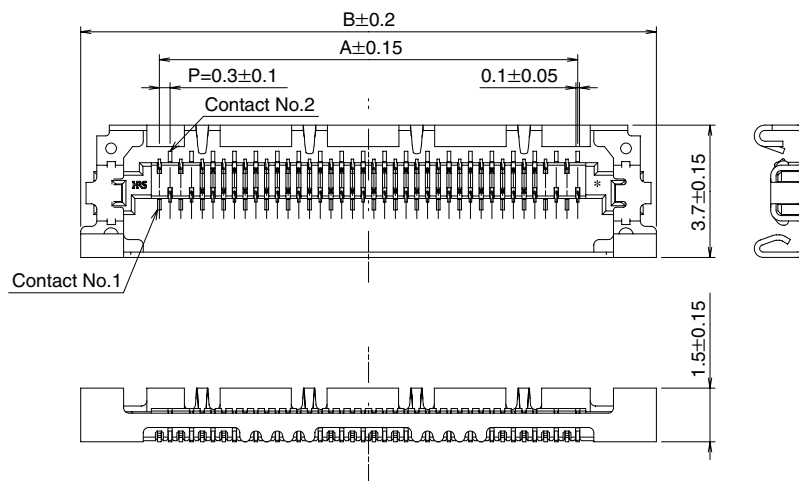
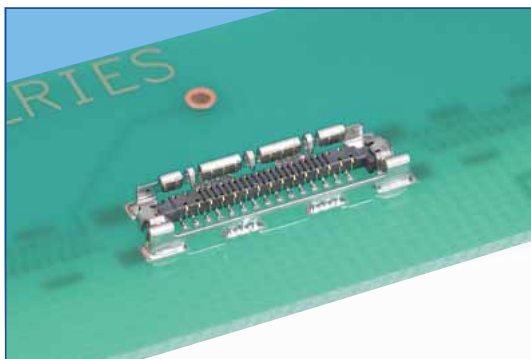
DF38 A - * S - 0.3 V
 ① ② ③ ④ ⑤ ⑥

DF38 - * P - SHL
 ① ⑤ ⑥ ⑦

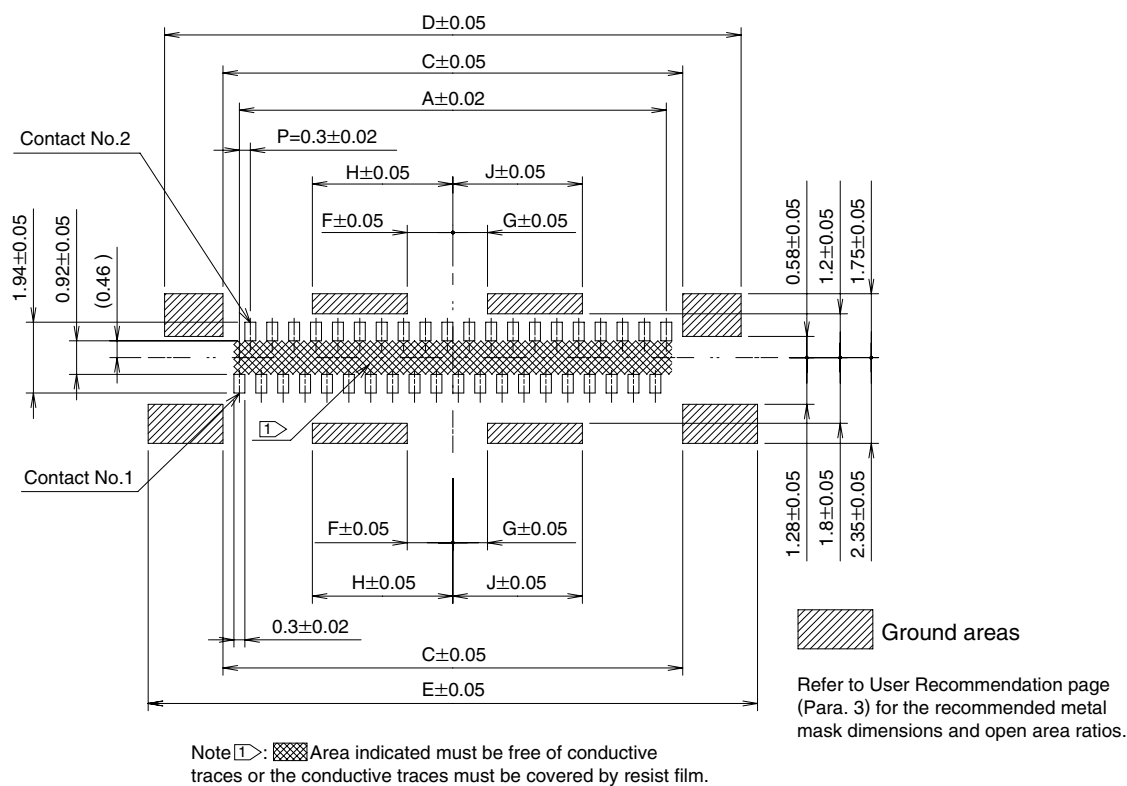
① Series name : DF38	④ Connector style S: Single-row receptacle P: Single-row plug	⑥ Termination type V : Straight SMT SD : Fine coaxial cable plug
② Insulator typestyle Receptacle A : Standard Plug Blank : Standard	⑤ Contact pitch: 0.3mm	⑦ Installation item (separate) SHL : Metal cover
③ Number of contacts: 30, 40		

DF38 Series 0.3 mm Pitch, 1.5 mm Mated Height, Board-to-Fine Coaxial Cable Connectors

Receptacles



Recommended PCB mounting pattern



[Specifications number] - **, (**)
 (51) : Gold plated, Embossed tape packaging
 (5,000 pieces per reel)

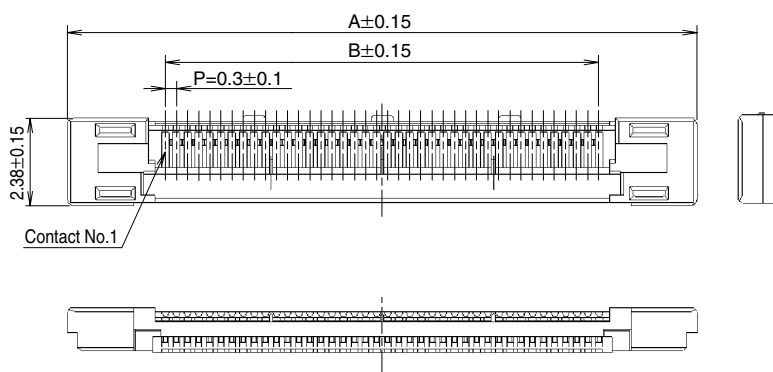
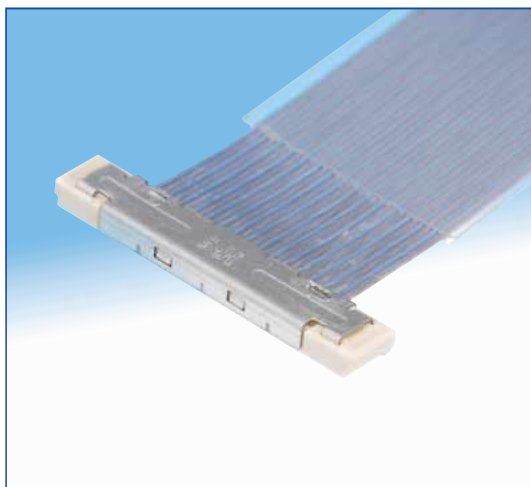
All dimensions: mm

Part Number	CL No.	Number of Contacts	A	B	C	D	E	F	G	H	J	RoHS
DF38A-30S-0.3V(**)	662-4505-4-***	30	8.7	13.1	9.6	12.8	13.7	0.95	1.25	2.95	3.25	YES
DF38A-40S-0.3V(**)	662-4501-3-***	40	11.7	16.1	12.6	15.8	16.7	1.25	0.95	3.85	3.55	

Note 1: Tape and reel packaging (5,000 pieces/reel).
 Order by number of reels.

DF38 Series 0.3 mm Pitch, 1.5 mm Mated Height, Board-to-Fine Coaxial Cable Connectors

■ Plug - separate metal cover required



All dimensions: mm

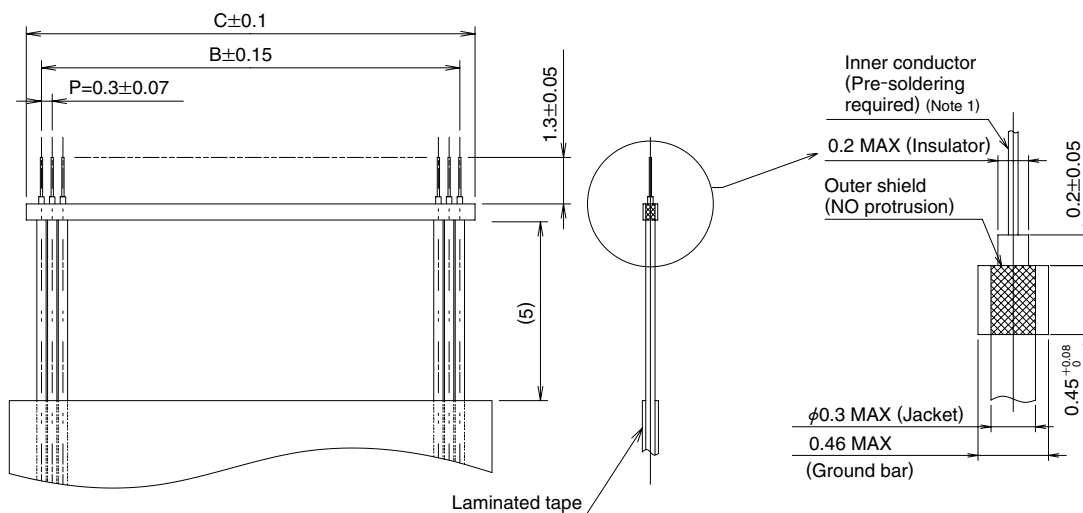
Part Number	CL No.	Number of Contacts	A	B	C	RoHS
DF38-30P-0.3SD	662-4506-7-**-	30	14	8.7	9.55	YES
DF38-40P-0.3SD	662-4502-6-**-	40	17	11.7	12.55	

Note 1: Tray packaging (100 pieces/tray).

Order by quantity of trays.

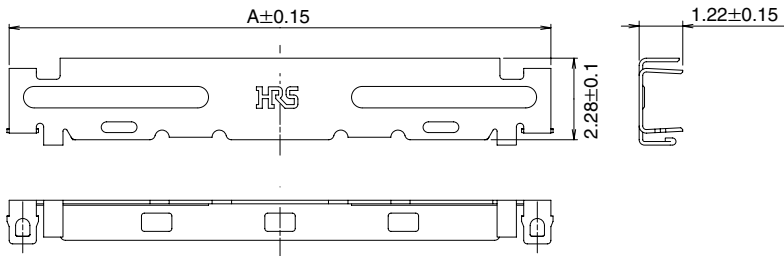
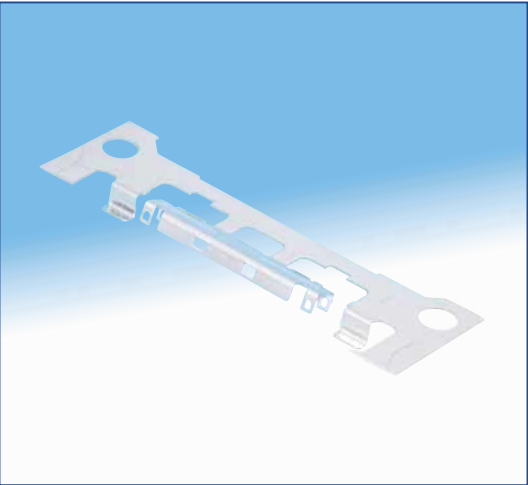
Note 2: The metal cover is required for fine coaxial cable termination.

◆ Recommended Fine Coaxial Cable Preparation



Note 1: Contact Hirose for Termination Procedures.

■Metal cover - Required for assembly of the Plug



All dimensions: mm

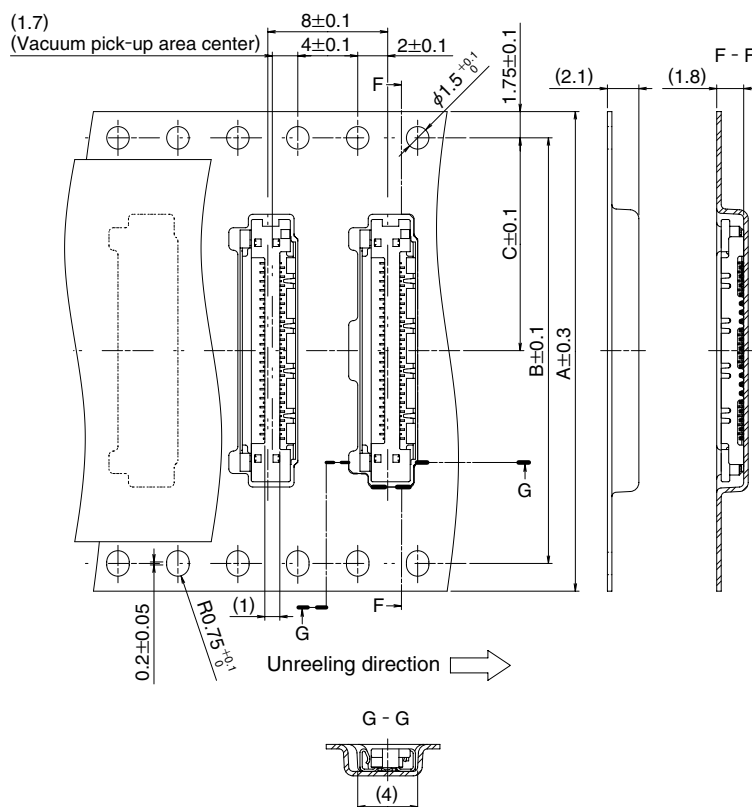
Part Number	CL No.	Number of Contacts	A	RoHS
DF38-30P-SHL	662-4507-0	30	12.15	YES
DF38-40P-SHL	662-4503-9	40	15.15	

Note 1: Tape and reel packaging (10,000 pieces/reel).
Order by number of reels.

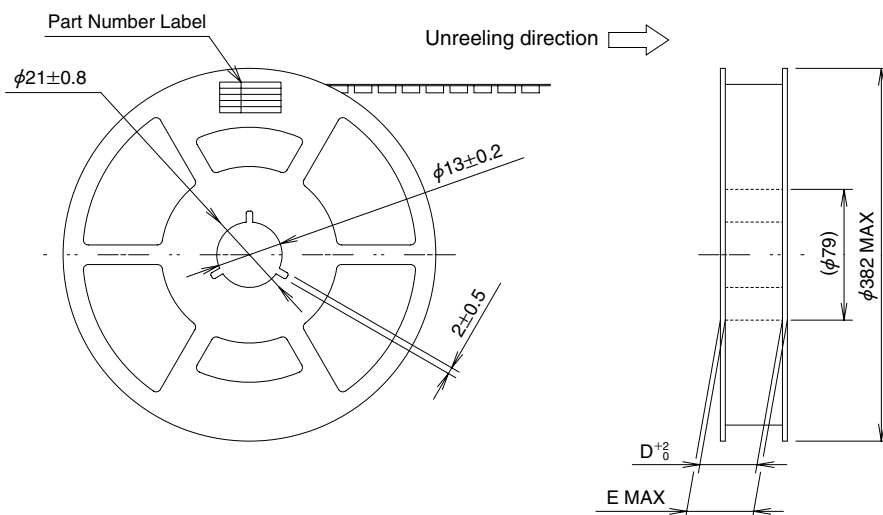
DF38 Series 0.5 mm Pitch, 1.5 mm Mated Height, Board-to-Fine Coaxial Cable Connectors

◆ Packaging Specification

● Embossed Carrier Tape Dimensions - Receptacle



● Reel Dimensions

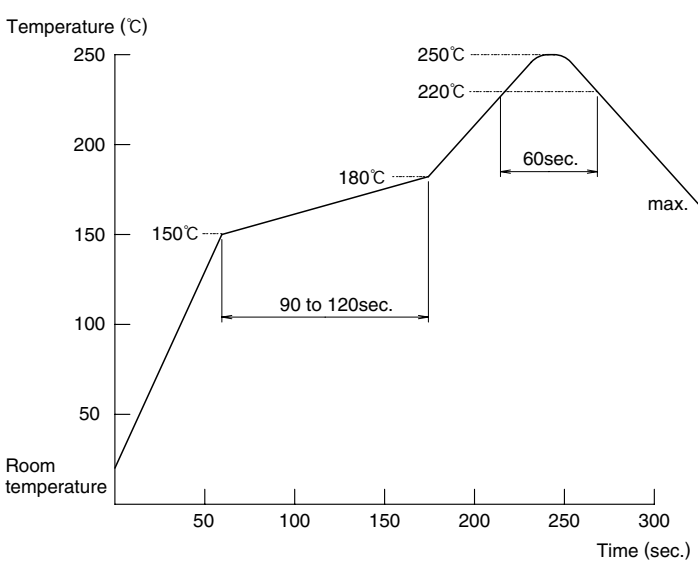


All dimensions: mm

Part Number	CL No.	Number of Contacts	A	B	C	D	E
DF38A-30S-0.3V(51)	662-4505-4-51	30	32	28.4	14.2	32.4	38.4
DF38A-40S-0.3V(51)	662-4501-3-51	40	32	28.4	14.2	32.4	38.4

Tape and reel packaging (5,000 pieces/reel).

◆ Usage Recommendations

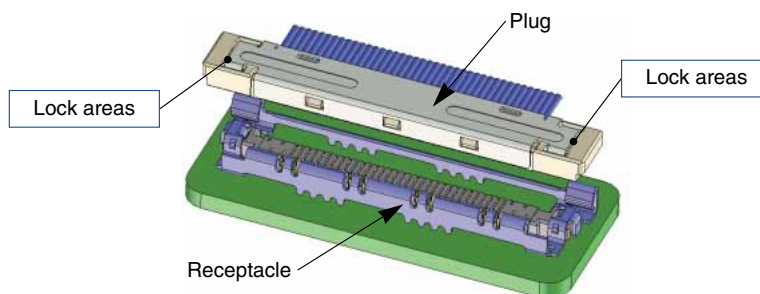
1. Recommended temperature profile	 <p>Solder composition: Paste, 96.5%Sn/3.0%Ag/0.5%Cu</p> <p>Note 1: Up to 2 cycles of Reflow soldering are possible under the same conditions, provided that there is a return to normal temperature between the first and second cycle.</p> <p>Note 2: The temperature profile indicates the board surface temperature at the point of contacts with the connector terminals.</p>
2. Recommended manual soldering	<p>Manual soldering: 350°C for 3 seconds</p> <p>Do NOT use flux compound when manual soldering.</p>
3. Recommended screen thickness and open area ratio (Pattern area ratio)	<p>Thickness: 0.1 mm</p> <p>Open area ratio: Lead terminal: 80%</p> <p>Ground terminal: 100%</p>
4. Board warpage	<p>Maximum of 0.02mm at the connector center, with both ends of the connector as reference points.</p>
5. Cleaning conditions	<p>Refer to "Nylon Connector Use Handbook".</p>
6. Precautions	<ul style="list-style-type: none"> * Mating and un-mating of the connectors when not soldered on the boards is not recommended as this may cause deformation of the terminals, damage to the contacts or insulators. * When mating/un-mating do not twist or lift by the corners. Apply the forces evenly across the entire length and width of the connectors taking care NOT to damage or deform soldered terminations. * Slight discoloration on the insulating materials will not affect form, fit or function of the connectors.

◆Precautions

Precautions

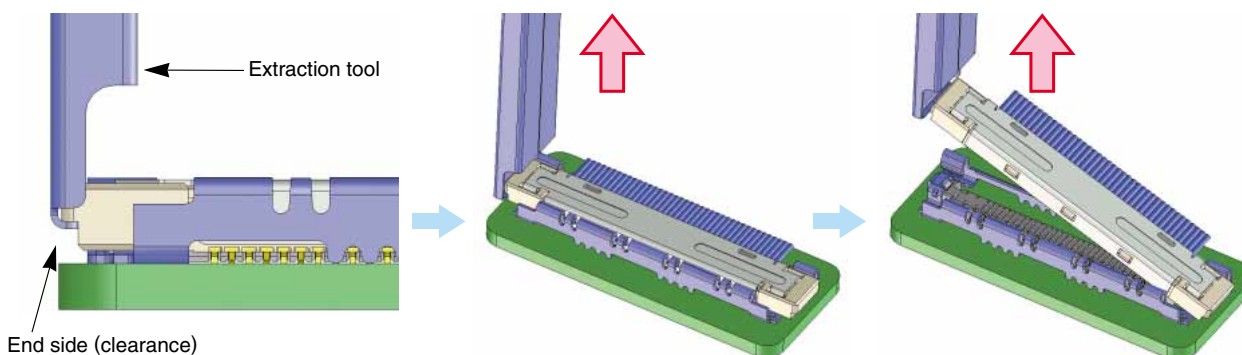
■Mating

Mate the plug with the receptacle by pressing straight against the entire plug surface.
 Do NOT mate the plug while holding by the terminated cable.



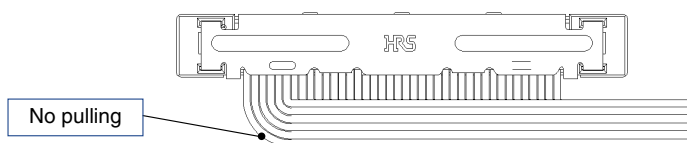
■Un-mating

Use a dedicated extraction tool to un-mate the plug. Insert the tool under either end of the plug (clearance) and pull straight up as illustrated.



■Routing of the fine coaxial cable after termination

Allow sufficient clearance between the plug and the fine coaxial cable to avoid sharp bend, excessive twist or pull forces applied to the connector.



■Other

- Do NOT mate / un-mate the connectors when receptacle is not mounted on the board.
- Different production lots may exhibit different shades of the insulator materials. No affect on form, fit or function of the connectors.
- Rework of the soldered terminations on the board-mounted receptacles is not possible.
- Sides of the metal cover protrude over the termination areas.
- Do not mate / un-mate the connectors when receptacle is not mounted on the board.



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