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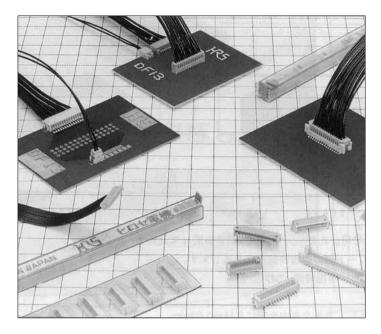
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1.25mm Pitch Miniature Crimping Connector

DF13 Series



Features

1. Miniature Size

Designed in the low profile at mounting height 5.8mm. (SMT mounting straight type) (For DIP type, the mounting height is to 5.3mm to the straight and 3.6mm at the right angle)

2. Multi-contact

The double row type achieves the multi-contact up to 40 contacts, and secures 30% higher density in the mounting area, compared with the single row type.

3. Correspond to Automatic Mounting

The header provides the grade with the vacuum absorption area, and secures automatic mounting by the embossed tape packaging.

In addition, the tube packaging can be selected.

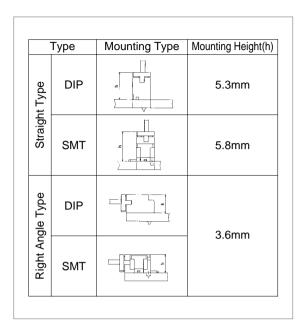
4. Integral Basic Function Despite Miniature Size

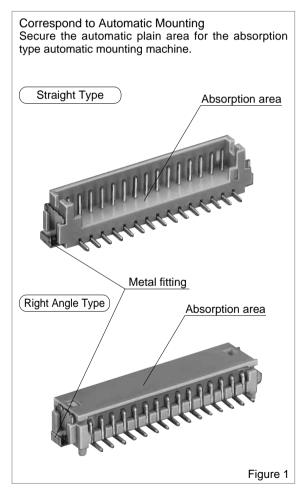
The header is designed in a scoop-proof box structure, and completely prevents mis-insertion.

In addition, the surface mounting (SMT) header is equipped with the metal fitting to prevent solder peeling.

Applications

Note PC, mobile terminal, miniature type business equipment, and other various consumer equipment, including video camera





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■Product Specifications

Rating	Current rating 1A	Operating Temperature Range: -35 to +8	5℃ (Note 1)	Storage Temperature Range: -10 to +60°C (Note 2)				
Kaung	Voltage rating 150V AC	Operating Moisture Range: 20 to 80%	•	Storage Moisture Range: 40 to 70% (Note 2)				
Item	Spe	ecification	Condition					
1.Insulation Resistance	500M ohms min.		100V DC					
2.Withstanding voltage	No flashover or insulation	n breakdown.	500V AC/1	minute				
3.Contact Resistance	30m ohms max.		100mA					
4.Single Insertion/Extraction Force	0.3N (30gf) min., 3N (300	Ogf) max.	Measured at the square steel pin of 0.35±0.002mm					
5.Vibration	No electrical discontinuity	y of 1 μ s or more	Frequency: 10 to 55 Hz, single amplitude of 0.75 mm, 2 hours in each of the 3 directions.					
6.Humidity (Steady state)	Contact resistance: 30m ohms max	a. Insulation resistance: 500M ohms min.	96 hours at temperature of 40 $^\circ C$ and humidity of 90% to 95%					
7.Temperature Cycle	Contact resistance: 30m ohms max	x. Insulation resistance: 500M ohms min.	(-55°C: 30 minutes→ 5 to 35°C: 10 minutes→ 85°C: 30 minutes→ 5 to 35°C: 10 minutes) 5 cycles					
8.Durability (Mating/un-mating)	Contact resistance: 30m	ohms max.	Tin plating: 30 cycles					
			Gold plating	: 50 cycles				
9.Resistance to Soldering heat	No deformation of compo	nents affecting performance.	. Flow: 250℃ for 10 seconds					
			Manual soldering: 300°C for 3 seconds					
			Reflow: At the recommended temperature profile					
			Manual solo	lering: 300°C for 3 seconds				

Note 1: Includes temperature rise caused by current flow.

Note 2: The term "storage" refers to products stored for long period of time prior to mounting and use. Operating Temperature Range and Humidity range covers non conducting condition of installed connectors in storage, shipment or during transportation.

Note 3: Information contained in this catalog represents general requirements for this Series. Contact us for the drawings and specifications for a specific part number shown.

Material

Product	Part	Material	Finish	Remarks
Crimping Socket	Insulator	Polyamide	Beige	UL94V-0
Crimping Contact for Socket	Contact	Phosphor copper	Tin plated or gold plated	
Die Haader (Threesh hale)	Insulator	Polyamide	Beige	UL94V-0
Pin Header (Through hole)	Contact	Brass	Tin plated	
	Insulator	Polyamide	Beige	UL94V-0
Pin Header (SMT Single row)	Contact	Brass	Tin plated or gold plated	
	Metal Fitting	Phosphor copper	Tin plated	
	Insulator	Polyamide	Beige	UL94V-0
Pin Header (SMT Double row)	Contact	Brass	Tin-copper plated or gold plated	
	Metal Fitting	Phosphor copper	Tin plated	

Ordering Information

Connector

$\frac{DF13}{0} \quad \frac{\#}{2} - \frac{*}{6} \frac{S}{0} - \frac{1.25}{6} \frac{C}{6}$

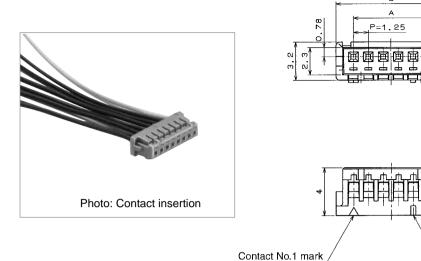
Series Name	: DF13	3 Number of Contacts	S Contact Pitch: 1.25mm
Style Symbol	: Blank: With boss	Single row: 2 to 12, 14, 15	6 Connection Form / Contact Style.
	A: Without boss	Double row: 10, 20, 30, 40	C : Crimping socket / DSA : Straight through hole
V Type –	B: With boss, embossed tape type	Onnector Type	DS : Right angle through hole / V : Straight SMT
	C: Without boss, embossed tape type	S: Single row socket / P: Single row pin header	H : Right angle SMT
		DS: Double row socket / DP: Double row pin header	

Contact



Style Symbol	Blanl	k: Standard	B Packaging Type	SCF: Socket Contact/Reel
	G: Lo	ow insertion / extraction	4 Plating Type	Blank: Tin plated
Applicable Cable	e Size	2630: AWG26 to 30		A : Gold plated
		3032: AWG30 to 32		

Single Row Socket



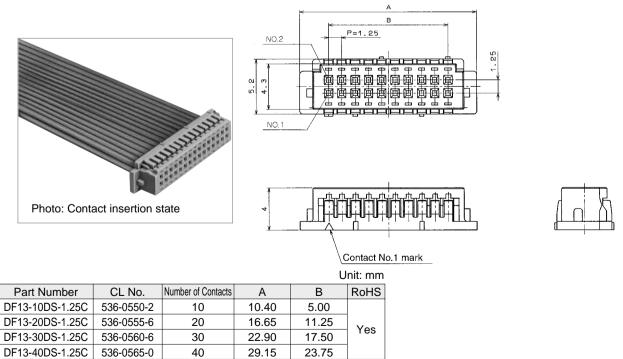
Marking per 5 contacts

Unit: mm

Part Number	CL No.	Number of Contacts	А	В	RoHS	Part Number	CL No.	Number of Contacts	А	В	RoHS
DF13-2S-1.25C	536-0001-4	2	1.25	4.15		DF13- 9S-1.25C	536-0008-3	9	10.00	12.90	
DF13-3S-1.25C	536-0002-7	3	2.50	5.40		DF13-10S-1.25C	536-0009-6	10	11.25	14.15	
DF13-4S-1.25C	536-0003-0	4	3.75	6.65		DF13-11S-1.25C	536-0010-5	11	12.50	15.40	
DF13-5S-1.25C	536-0004-2	5	5.00	7.90	Yes	DF13-12S-1.25C	536-0011-8	12	13.75	16.65	Yes
DF13-6S-1.25C	536-0005-5	6	6.25	9.15		DF13-13S-1.25C	536-0012-0	13	15.00	17.90	
DF13-7S-1.25C	536-0006-8	7	7.50	10.40		DF13-14S-1.25C	536-0013-3	14	16.25	19.15	
DF13-8S-1.25C	536-0007-0	8	8.75	11.65		DF13-15S-1.25C	536-0014-6	15	17.50	20.40	

Note 1.The quantity is delivered per bag (100 pcs.). If needed, please select and order the products per bag.

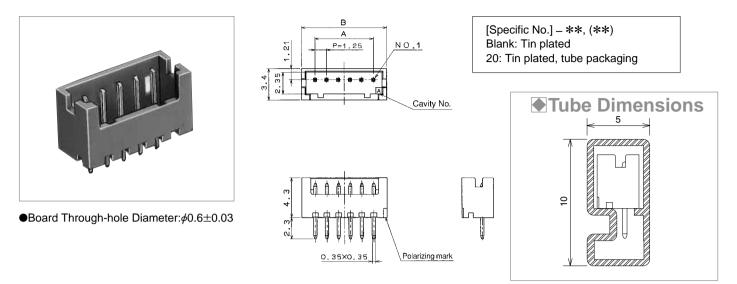
Double Row Socket



Note:The quantity is delivered per bag (100pcs). If needed, please select and order the products per bag.

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Single Row Straight Pin Header (Through hole)

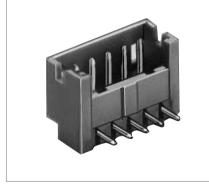


Unit: mm

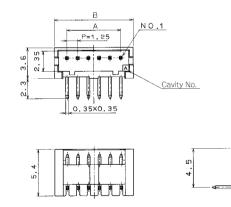
Part Number	CL No.	Number of Contacts	Α	В	Tube Packaging Quantity	RoHS	Part Number	CL No.	Number of Contacts	А	В	Tube Packaging Quantity	RoHS
DF13-2P-1.25DSA(**)	536-0101-9-**	2	1.25	4.15	115		DF13- 9P-1.25DSA(**)	536-0108-8-**	9	10.00	12.90	37	
DF13-3P-1.25DSA(**)	536-0102-1-**	3	2.50	5.40	89		DF13-10P-1.25DSA(**)	536-0109-0-**	10	11.25	14.15	34	
DF13-4P-1.25DSA(**)	536-0103-4-**	4	3.75	6.65	72		DF13-11P-1.25DSA(**)	536-0110-0-**	11	12.50	15.40	31	
DF13-5P-1.25DSA(**)	536-0104-7-**	5	5.00	7.90	61	Yes	DF13-12P-1.25DSA(**)	536-0111-2-**	12	13.75	16.65	29	Yes
DF13-6P-1.25DSA(**)	536-0105-0-**	6	6.25	9.15	52		DF13-13P-1.25DSA(**)	536-0112-5-**	13	15.00	17.90	27	
DF13-7P-1.25DSA(**)	536-0106-2-**	7	7.50	10.40	46		DF13-14P-1.25DSA(**)	536-0113-8-**	14	16.25	19.15	25	
DF13-8P-1.25DSA(**)	536-0107-5-**	8	8.75	11.65	41		DF13-15P-1.25DSA(**)	536-0114-0-**	15	17.50	20.40	23	

Note 1.The quantity at the specific No."None" is delivered per bag (100 pcs.). If needed, please select and order the products per bag. Note 2.Order the tube packaging product, multiplying the tube packaging quantity.

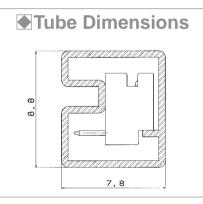
Single Row Right Angle Pin Header (Through hole)



●Board Through-hole Diameter: ϕ 0.6±0.03



[Specific No.] – ******, (*******) (20): Tin plated tube packaging



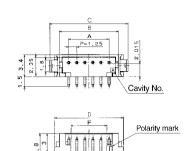
Unit: mm

Part Number	CL No.	Number of Contacts	Α	В	Tube Packaging Quantity	RoHS	Part Number	CL No.	Number of Contacts	Α	В	Tube Packaging Quantity	RoHS
DF13-2P-1.25DS(20)	536-0151-7-20	2	1.25	4.15	115		DF13- 9P-1.25DS(20)	536-0158-6-20	9	10.00	12.90	37	
DF13-3P-1.25DS(20)	536-0152-0-20	3	2.50	5.40	89		DF13-10P-1.25DS(20)	536-0159-9-20	10	11.25	14.15	34	
DF13-4P-1.25DS(20)	536-0153-2-20	4	3.75	6.65	72		DF13-11P-1.25DS(20)	536-0160-8-20	11	12.50	15.40	31	Yes
DF13-5P-1.25DS(20)	536-0154-5-20	5	5.00	7.90	61	Yes	DF13-12P-1.25DS(20)	536-0161-0-20	12	13.75	16.65	29	res
DF13-6P-1.25DS(20)	536-0155-8-20	6	6.25	9.15	52		DF13-14P-1.25DS(20)	536-0163-6-20	14	16.25	19.15	25	
DF13-7P-1.25DS(20)	536-0156-0-20	7	7.50	10.40	46		DF13-15P-1.25DS(20)	536-0164-9-20	15	17.50	20.40	23	
DF13-8P-1.25DS(20)	536-0157-3-20	8	8.75	11.65	41								

Note 1.Order the tube packaging product, multiplying the tube packaging quantity.

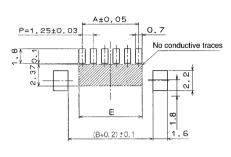
Single Row Straight Pin Header (SMT) (Three-Wall/Correspond to Vacuum Absorption)







♦ PCB mounting pattern



Note 1.Shaded area must be free of any electrically conductive traces to avoid contact with soldered pin header terminations.

This pin header is a three-wall type, header has sufficiently large flat areas to allow pick-up with vacuum nozzles of automatic placement equipment.

[Specific No.] – **, (**)

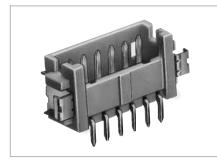
(21): Tin plated embossed tape packaging

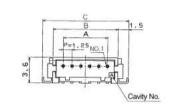
(51): Gold plated embossed tape packaging

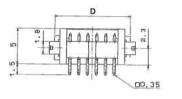
										Unit: mm
Part Number	CL No.	Number of Contacts	А	В	С	D	E	F	Emboss Width	RoHS
DF13C- 2P-1.25V(**)	536-0401-2-**	2	1.25	4.15	7.15	5.65	1.95	2.20	16	
DF13C- 3P-1.25V(**)	536-0402-5-**	3	2.50	5.40	8.40	6.90	3.20	3.45	16	
DF13C- 4P-1.25V(**)	536-0403-8-**	4	3.75	6.65	9.65	8.15	4.45	3.10	24	
DF13C- 5P-1.25V(**)	536-0404-0-**	5	5.00	7.90	10.90	9.40	5.70	4.35	24	
DF13C- 6P-1.25V(**)	536-0405-3-**	6	6.25	9.15	12.15	10.65	6.95	5.60	24	
DF13C- 7P-1.25V(**)	536-0406-6-**	7	7.50	10.40	13.40	11.90	8.20	6.85	24	
DF13C- 8P-1.25V(**)	536-0407-9-**	8	8.75	11.65	14.65	13.15	9.45	8.10	24	Yes
DF13C- 9P-1.25V(**)	536-0408-1-**	9	10.00	12.90	15.90	14.40	10.70	9.35	24	
DF13C-10P-1.25V(**)	536-0409-4-**	10	11.25	14.15	17.15	15.65	11.95	10.60	24	
DF13C-11P-1.25V(**)	536-0410-3-**	11	12.50	15.40	18.40	16.90	13.20	11.85	32	
DF13C-12P-1.25V(**)	536-0411-6-**	12	13.75	16.65	19.65	18.15	14.45	13.10	32	
DF13C-14P-1.25V(**)	536-0413-1-**	14	16.25	19.15	22.15	20.65	16.95	15.60	32	
DF13C-15P-1.25V(**)	536-0414-4-**	15	17.50	20.40	23.40	21.90	18.20	16.85	44	

Note 1.Please order the embossed tape packaging product according to reel number. (1000 pcs. per reel)

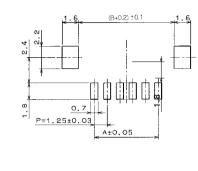
Single Row Straight Pin Header (SMT) (Four-Wall/Correspond to Vacuum Absorption)







●PCB mounting pattern



[Specific No.] - **, (**)

(21): Tin plated embossed tape packaging

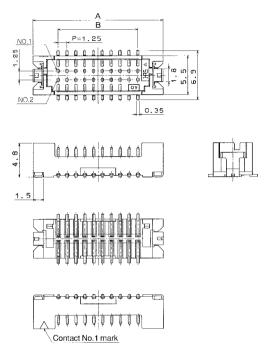
(51): Gold plated embossed tape packaging

								Unit: mm
Part Number	CL No.	Number of Contacts	A	В	С	D	Emboss Width	RoHS
DF13A- 2P-1.25H(**)	CL536-0301-8-**	2	1.25	4.15	7.15	5.65	16	
DF13A- 3P-1.25H(**)	CL536-0302-0-**	3	2.50	5.40	8.40	6.90	16	
DF13A- 4P-1.25H(**)	CL536-0303-3-**	4	3.75	6.65	9.65	8.15	24	
DF13A- 5P-1.25H(**)	CL536-0304-6-**	5	5.00	7.90	10.90	9.40	24	
DF13A- 6P-1.25H(**)	CL536-0305-9-**	6	6.25	9.15	12.15	10.65	24	
DF13A- 7P-1.25H(**)	CL536-0306-1-**	7	7.50	10.40	13.40	11.90	24	
DF13A- 8P-1.25H(**)	CL536-0307-4-**	8	8.75	11.65	14.65	13.15	24	Yes
DF13A- 9P-1.25H(**)	CL536-0308-7-**	9	10.00	12.90	15.90	14.40	24	
DF13A-10P-1.25H(**)	CL536-0309-0-**	10	11.25	14.15	17.15	15.65	24	
DF13A-11P-1.25H(**)	CL536-0310-9-**	11	12.50	15.40	18.40	16.90	32	
DF13A-12P-1.25H(**)	CL536-0311-1-**	12	13.75	16.65	19.65	18.15	32	
DF13A-14P-1.25H(**)	CL536-0313-7-**	14	16.25	19.15	22.15	20.65	32	
DF13A-15P-1.25H(**)	CL536-0314-0-**	15	17.50	20.40	23.40	21.90	44	

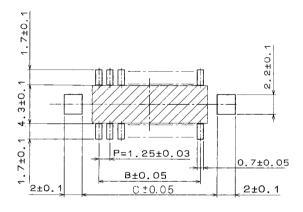
Note 1.Please order the embossed tape packaging product according to reel number. (1000 pcs. per reel)

Double Row Straight Pin Header (SMT) (Four-Wall/Correspond to Vacuum Absorption)





●PCB mounting pattern



Note 1.Shaded area must be free of any electrically conductive traces to avoid contact with soldered pin header terminations.

[Specific No.] - ******, (******) (26): Tin-copper plated embossed tape packaging (56): Gold plated embossed tape packaging

Unit: mm

Part Number	CL No.	Number of Contacts	A	В	С	Spec No. (26)	Spec No. (56)	Emboss Width	RoHS
DF13A-10DP-1.25V(**)	536-0600-9-**	10	12.10	5.00	8.70	0	0	24	
DF13A-20DP-1.25V(**)	536-0605-2-**	20	18.35	11.25	14.95	0	0	32	
DF13A-30DP-1.25V(**)	536-0610-2-**	30	24.60	17.50	21.20	_	0	44	Yes
DF13A-40DP-1.25V(**)	536-0615-6-**	40	30.85	23.75	27.45	_	0	44	

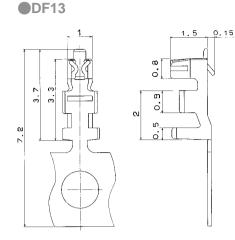
Note 1.Please order the tube packaging product, multiplying the tube packaging quantity.

Note 2.Please order the embossed tape packaging product according to reel number. (1 reel: 1000 pcs.)

Note 3.The absorption cap is attached to the embossed tape packaging product.

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Crimping Contact



Part Number	CL No.	Packaging Type	Quantity	Finish
DF13-3032SCF	536-0299-8			Tin plating
DF13-3032SCFA(04)	536-0641-6-04	Deal	40.000	Gold plating
DF13-2630SCF	536-0300-5	Reel	10,000	Tin plating
DF13-2630SCFA(04)	536-0298-5-04			Gold plating
DF13G-2630SCF	536-0643-1	Reel	40.000	Tin plating
DF13G-2630SCFA	536-0642-9	(Low insertion/extraction)	10,000	Gold plating

●Applicable Cable (Tin Plating Annealed Copper Wire)

Conductor Size (Wire construction)	Jacket Diameter
AWG26(7 cores./0.16mm)	
AWG28(7 cores./0.127mm)	10.05 to 14.0mm
AWG30(7 cores./0.1mm)	φ0.65 to φ1.0mm
AWG32(7 cores./0.08mm)	

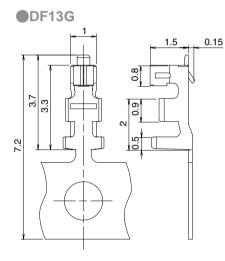
Note: If other cables are used instead of the applicable cable, please contact the Hirose sales department.

Recommended Cable

Strip Length

UL1571, UL1061

1.2 to 1.9mm



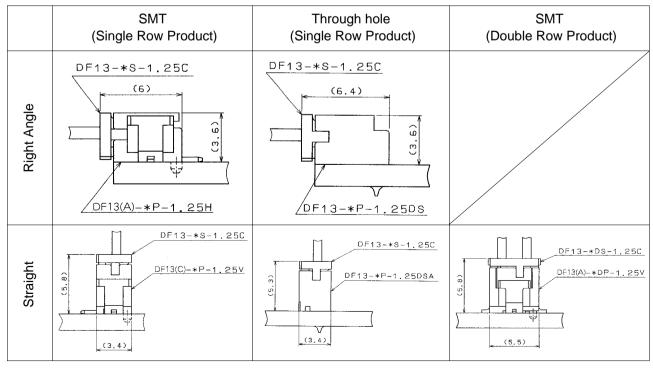
Applicable Crimping Tool

Туре	Part Number	CL No.	Applicable Contact	
Applicator	AP105-DF13-2630S	004 4524 0	DF13-2630SCF/SCFA	
		901-4531-9	DF13G-2630SCF/SCFA	
	AP105-DF13-3032S	901-4552-9	DF13-3032SCF/SCFA	
Press Main Unit	CM-105	901-0005-4		
Manual Crimping Tool	DF13-TB2630HC	550-0256-1	DF13-2630SCF	
Extraction Tool	DF-C-PO(B)		DF13-2630SCF/SCFA	
		550-0179-2	DF13G-2630SCF/SCFA	
			DF13-3032SCF/SCFA	

Note 1.If a trouble has occurred due to other tools, which are not designated by Hirose, Hirose won't guarantee any product.

Note 2. The manual crimping tool is used to sequentially cut the reel contact with carrier.

Application Pattern

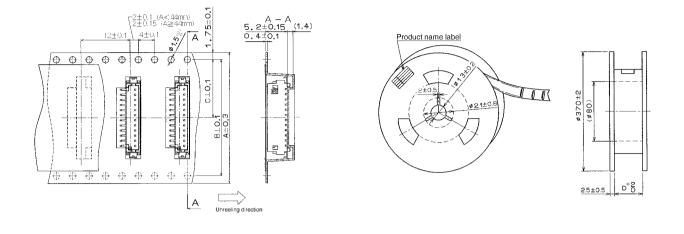


The product information in this catalog is for reference only. Please request the Engineering Drawing for the most current and accurate design information. All non-Rol Series been is supplied with this catalog is for the conducts status on the Hirose website Roll'S search at www.hirose-connectors.com, or contact your Hirose sales representative.

Embossed Carrier Tape Dimensions

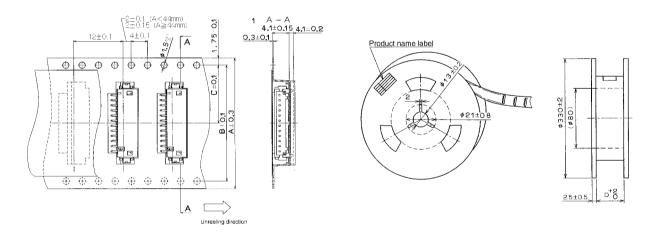
DF13B-*P-1.25V With boss

DF13C-*P-1.25V Without boss



DF13-*P-1.25H

DF13A-*P-1.25H



Unit: mm

Product Type	Number of Contacts	А	В	С	D
DF13B-*P-1.25V	2, 3	16		7.5	16.4
DF13C-*P-1.25V	4 to 10	24		11.5	24.4
DF13-*P-1.25H	11 to 14	32	28.4	14.2	32.4
DF13A-*P-1.25H	15	44	40.4	20.2	44.4

Note: The 13 contacts is not serialized.

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 PoHS Services with birds with at Circles Continued, or will be discontinued soon. Please check the products status on the Hirose website PoHS Services with birds with at Circles Continued soon.

Precautions

1. Recommended Temperature	■ DF13A-*P-1.25H				
Profile (SMT)	■ DF13C-*P-1.25V				
	Temperature				
	10s max.				
	250°C				
	200°C				
	180±10 Soldering				
	150°C				
	100°C				
	■ DF13A-*DP-1.25V				
	IR Reflow Condition				
	2 5 0 °C - Preheating 150 °C for 60 to 120 seconds 235 ± 5 °C within 10 seconds Soldering More than 220 °C 2 2 0 °C 2 2 0 °C				
	2000 -				
	1500				
	100 T - Preheating Soldering				
	50T -				
	010 I I I 0Sec 50Sec 100Sec 150Sec 200Sec Time				
	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.				
	Note 2.The temperature profile indicates the board surface temperature at the point or contacts with the connector terminals. Note 3.Slight variations in color of the plastic compounds do not affect form, fit or function of				
	2. Recommended Soldering Condition (SMT)	Manual soldering: 290±10°C for 2 seconds max.			
3. Recommended Screen	0.15 to 0.2mm				
Thickness (SMT)					
4. Board Warpage (SMT)	Max 0.03mm in the connector center area, based on both connector edges				
5. Recommended Soldering	Flow: 250±5°C for 3 seconds				
Condition (Through hole)	Manual soldering: 290±10°C for 2 seconds				
6. Cleaning Condition	Refer to Nylon Connector Use Hand book.				
7. Connection Condition	Refer to Nylon Connector Use Hand book.				
	Carefully carry out the crimping operation according to "Crimping Condition Sheet" and				
	"Crimping Quality Standard", because the crimping contact is an extremely small style.				
8. Cautions	Be careful for the excessive scoop insertion/extraction, which will cause damage to the product.				
9. Precautions	Refer to Nylon Connector Use Hand book.				

Precautions

<Precautions at Time of Insertion>

Align with the connector form and press down continue pressing until there is a tactile click.

Handing

Method: Lightly grasping the base the cable, press the connector with your finger and insert it.

Insertion Angle

Caution: Do not insert at an angle of 30° or greater. Doing so will cause contact deformation or case damage.

Method: Insert with the connector parallel.

<Precautions at Time of Disconnection>

Align with the connector form and press down continue pressing until there is a tactile click.

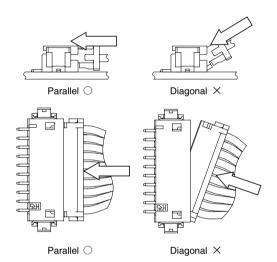
Handing

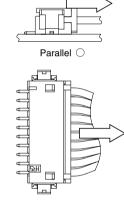
Method: Grasp the cable so that the entire cable is pulled evenly and it out.

Angle of Removal

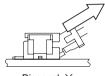
Caution: Do not remove at an angle of 30° or greater. Doing so will cause contact deformation or case damage.

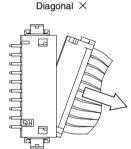
Method: Remove with the connector parallel.





Parallel O





Diagonal imes