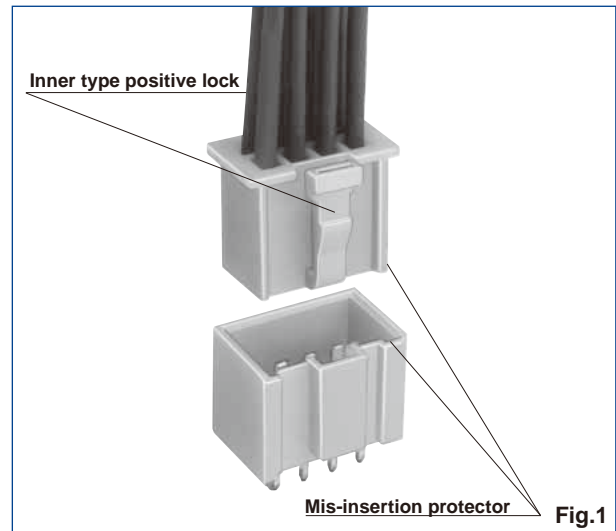
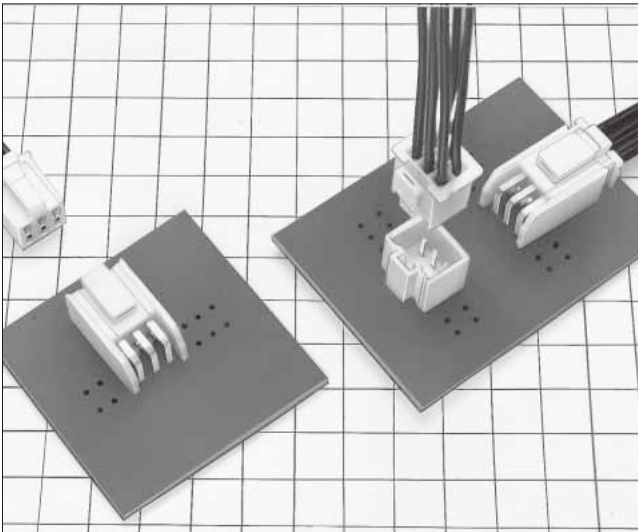


3.5mm Pitch Miniature Double Row Connector for Secondary Power (Compliant with UL/CSA Standard)

MDF6 Series



■ Features

1. Miniature type with 3.5mm pitch

A miniature, space-saving connector with a 3.5mm × 5mm pitch set in a double row alignment configuration.

2. 7A Current Capacity

Despite its small size as a power connector, the current capacity is rated at 7A when using 16 AWG wire.

3. Box Type Header

The box type header is highly resistant to twisting forces and is polarized to prevent mis-insertions.

4. Internal Latch Mechanism

The internal latch mechanism is designed to offer better protection from accidental un-matings and provides for a reliable and stable connection.

■ Applications

Secondary power units for various equipment

Product Specifications

Rating	Current rating (Note 1)	Cable Size	16 AWG : 7A 18 AWG : 6A 20 AWG : 5A 22 AWG : 4A	Operating Temperature Range	-30 to +85°C (Note2)
	Voltage rating		300V AC	Operating Humidity Range	40 to 80%
				Storage Temperature Range	-10 to +60°C (Note3)
				Storage Humidity Range	40 to 70% (Note3)

Standard Value Applicant to the UL CSA Safety Standard			
Rating	Current rating	Cable Size	16 to 18 AWG : 6A
	Voltage rating		20 to 22 AWG : 4A
		UL : 250V AC, CSA : 30V AC	

■UL CSA Safety Standard File No.
UL : E52653
CSA : LR95109

Item	Specifications	Conditions
1. Insulation Resistance	1,000MΩ min.	500V DC
2. Withstanding voltage	No flashover or insulation breakdown.	1,500V AC/1 minute
3. Contact Resistance	30mΩ max.	100mA
4. Single Insertion/Extraction Force	0.4N(40gf) min., 4.9N(500gf) max.	Measured with a steel pin with dimenions of 1.52 × 0.76 +/-0.002mm
5. Vibration Resistance	No electrical discontinuity of 1μs or more	Frequency : 10 to 55Hz, single amplitude of 0.75mm, 2 hours in each of the 3 axis directions.
6. Humidity (Steady state)	Contact resistance : 30mΩ max. Insulation resistance : 1,000MΩ min.	96 hours at temperature of 40±2°C and humidity of 90% to 95%
7. Temperature Cycle	Contact resistance : 30mΩ max. Insulation resistance : 1,000MΩ min.	(-55°C : 30 minutes → 5 to 35°C : 10 minutes 85°C : 30 minutes → 5 to 35°C : 10 minutes) 5 cycles
8. Mating Cycles	Contact resistance : 30mΩ max.	Tin/tin-copper plated 30 cycles
9. Resistance to Soldering heat	No deformation of components affecting performance.	Flow : 250°C for 10 seconds Manual soldering : 300°C for 3 seconds

Note 1 : The rated current will change depending on the cable size used. The header rating is only 7A.

Note 2 : Includes temperature rise caused by current flow.

Note 3 : The term "storage" refers to products stored for long period of time prior to mounting and use. Operating Temperature Range and Humidity range includes non-conducting condition of installed connectors in storage, shipment or during transportation.

Material / Finish

Product	Part	Material	Finish	Remarks
Crimping Socket	Insulator	Polyamide resin	White (Natural)	UL94V-0
Crimping Contact for Socket	Contact	Phosphor bronze	Tin plating	—
Pin Header	Insulator	Polyamide resin	White (Natural)	UL94V-0
	Contact	Brass	Tin-copper plating	—

Product Number Structure

●Connector

MDF6 - * **DS** - **3.5** **C**

① ② ③ ④ ⑤

① Series Name : MDF 6	④ Contact Pitch : 3.5mm
② No. of Contacts : 4 to 20	⑤ Contact type
③ Connector Type	C : Crimping socket
DS : Double row socket	DSA : Straight pin header
DP : Double row pin header	DS : Right angle pin header

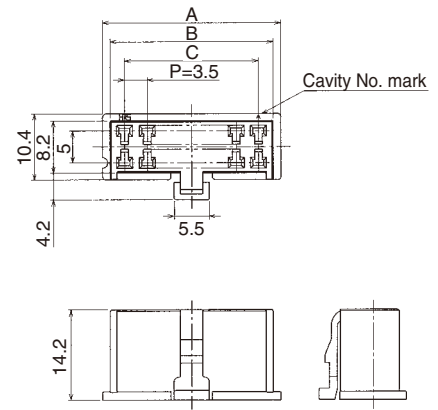
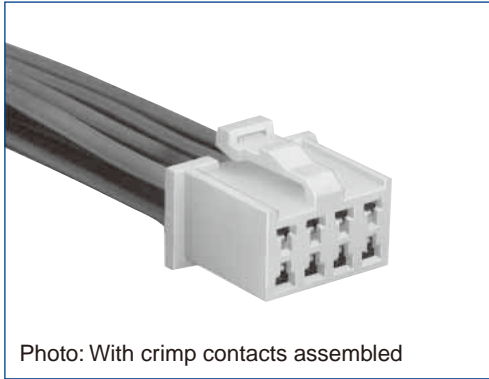
●Contact

MDF6 - **1618** **SCF**

① ②

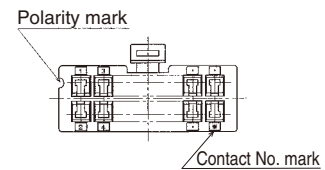
① Applicable Cable Size	② Packaging Type
1618 : 16 to 18 AWG	SCF : Socket Contact, Reel
2022 : 20 to 22 AWG	SC : Socket Contact, Pack

Double Row Socket

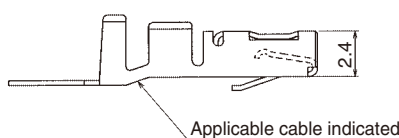
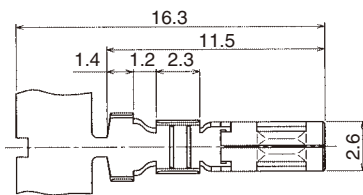


Unit : mm

Part No.	HRS No.	No. of Contacts	Packing	A	B	C	RoHS
MDF6-4DS-3.5C	547-0074-1	4	100pcs/pack	10.5	8.1	3.5	Yes
MDF6-6DS-3.5C	547-0075-4	6		14.0	11.6	7.0	
MDF6-8DS-3.5C	547-0076-7	8		17.5	15.1	10.5	
MDF6-10DS-3.5C	547-0077-0	10		21.0	18.6	14.0	
MDF6-12DS-3.5C	547-0078-2	12		24.5	22.1	17.5	
MDF6-14DS-3.5C	547-0079-5	14		28.0	25.6	21.0	
MDF6-16DS-3.5C	547-0080-4	16		31.5	29.1	24.5	
MDF6-18DS-3.5C	547-0081-7	18		35.0	32.6	28.0	
MDF6-20DS-3.5C	547-0082-0	20		38.5	36.1	31.5	



Crimp Contact



Applicable Cable (Tin plating Annealed Copper Wire)

Conductor Size (Wire construction)	Jacket Diameter
16 AWG (26/0.254mm)	φ2.5 to φ2.0mm
18 AWG (34/0.18mm)	
20 AWG (21/0.18mm)	
22 AWG (17/0.16mm)	φ1.9 to φ1.5mm

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

Recommended Cable

UL1061, UL1007

Strip Length

2.7 to 4.4mm

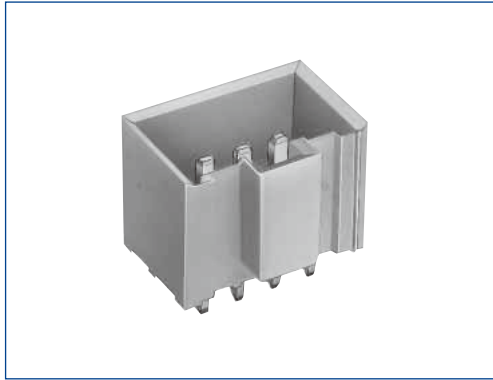
Part No.	HRS No.	Applicable Cable		Packaging Type	RoHS
		AWG Size	Jacket Diameter		
MDF6-1618SCF	547-0070-0	16 to 18	2.5 to 2.0	5,000pcs/reel	Yes
MDF6-1618SC	547-0071-3			100pcs/pack	
MDF6-2022SCF	547-0072-6	20 to 22	1.9 to 1.5	5,000pcs/reel	
MDF6-2022SC	547-0073-9			100pcs/pack	

Applicable Crimping Tool

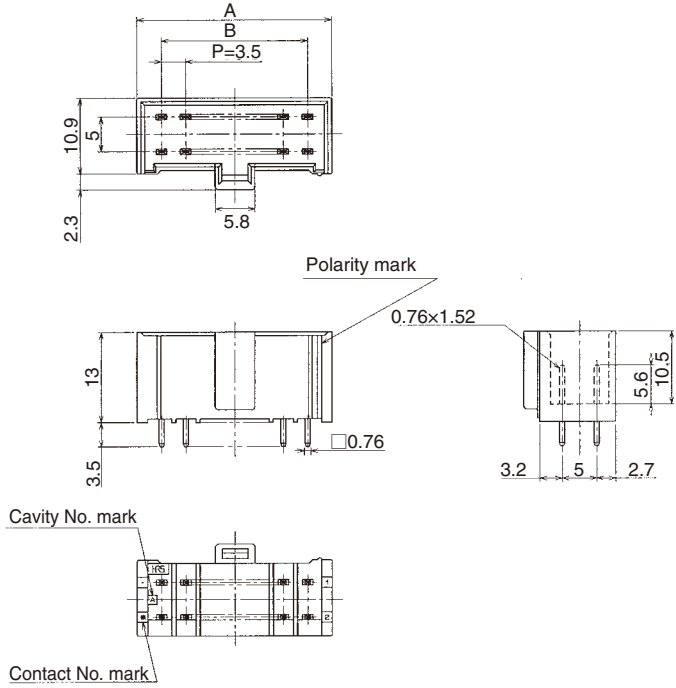
Type	Part No.	HRS No.	Applicable Contact
Main press unit	CM105	901-0005-4	_____
Applicator	AP105-MDF6-1618S	901-4512-4	MDF6-1618SCF
	AP105-MDF6-2022S	901-4513-7	MDF6-2022SCF
Manual Crimping Tool	MDF6-TA1618HC	550-0203-5	MDF6-1618SC
	MDF6-TA2022HC	550-0204-8	MDF6-2022SC
Extraction Tool	DF-C-PO(A)	550-0170-8	MDF6-***SC(F)

Note : Hirose does not guarantee products if tools other than the ones designed or recommended by Hirose are used.

Double Row Pin Header: Straight Type



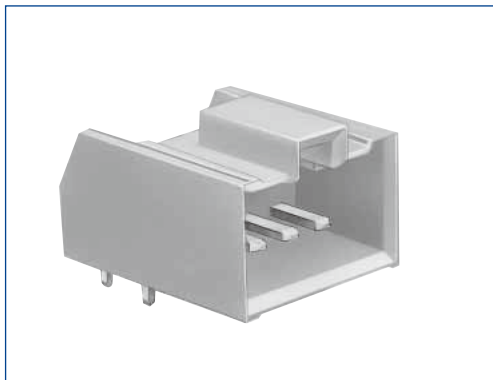
- Applicable Through Hole Diameter of PCB : $\phi 1.3^{+0.1}_{0}$
- Applicable Thickness of PCB : 1.6 ± 0.2



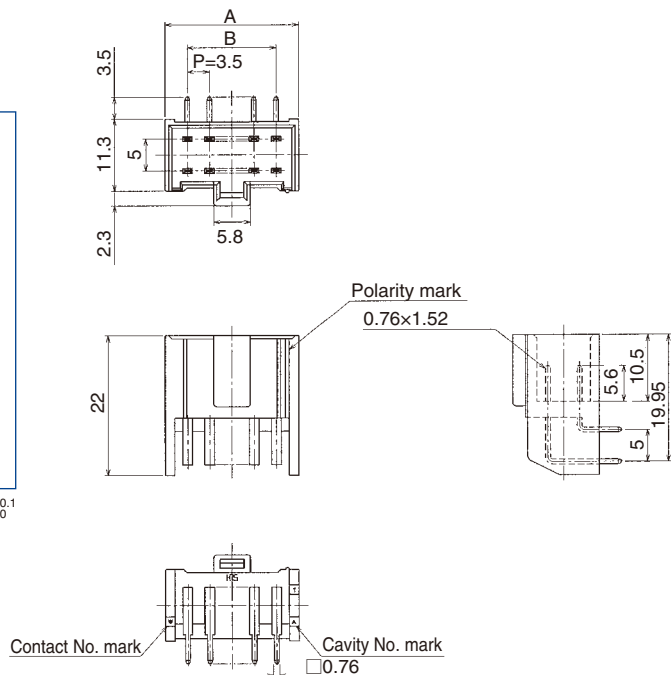
Unit : mm

Part No.	HRS No.	No. of Contacts	Packing	A	B	RoHS
MDF6-4DP-3.5DSA(05)	547-0083-2 05	4	100pcs/pack	10.5	3.5	Yes
MDF6-6DP-3.5DSA(05)	547-0084-5 05	6		14.0	7.0	
MDF6-8DP-3.5DSA(05)	547-0085-8 05	8		17.5	10.5	
MDF6-10DP-3.5DSA(05)	547-0086-0 05	10		21.0	14.0	
MDF6-12DP-3.5DSA(05)	547-0087-3 05	12		24.5	17.5	
MDF6-14DP-3.5DSA(05)	547-0088-6 05	14		28.0	21.0	
MDF6-16DP-3.5DSA(05)	547-0089-9 05	16		31.5	24.5	
MDF6-18DP-3.5DSA(05)	547-0090-8 05	18		35.0	28.0	
MDF6-20DP-3.5DSA(05)	547-0091-0 05	20		38.5	31.5	

Double Row Pin Header: Right Angle Type



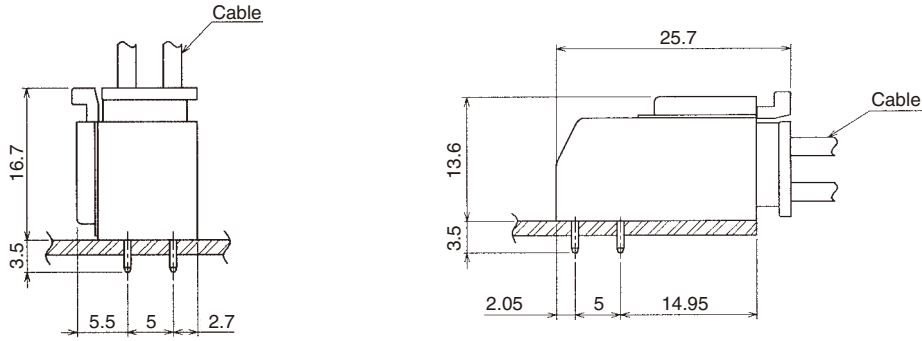
- Applicable Board Hole Diameter of PCB : $\phi 1.3^{+0.1}_{0}$
- Applicable Thickness of PCB : 1.6 ± 0.2



Unit : mm

Part No.	HRS No.	No. of Contacts	Packing	A	B	RoHS
MDF6-4DP-3.5DS(05)	547-0270-0 05	4	100pcs/pack	10.5	3.5	Yes
MDF6-6DP-3.5DS(05)	547-0271-2 05	6		14.0	7.0	
MDF6-8DP-3.5DS(05)	547-0272-5 05	8		17.5	10.5	
MDF6-10DP-3.5DS(05)	547-0273-8 05	10		21.0	14.0	

Application Pattern



Precautions

1. Recommended Soldering Condition	<ul style="list-style-type: none"> ■Flow : 250°C for 10 seconds max. ■Manual soldering : 300°C for 3 seconds max.
2. Cleaning Condition	Please Refer to the "Nylon Connector Use Hand book".
3. Connection Condition	Please Refer to the "Nylon Connector Use Hand book".
4. Cautions	<ul style="list-style-type: none"> ■The color phase of this product is slightly different from that of the formed product according to the manufacturing lot and future storage conditions, but the difference doesn't affect the performance.
5. Precautions	<ul style="list-style-type: none"> ■Please Refer to the "Nylon Connector Use Hand book". ■Please Refer to the documents "Crimp Condition" and "Crimp Quality Standards" for the cable assembly procedures.

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