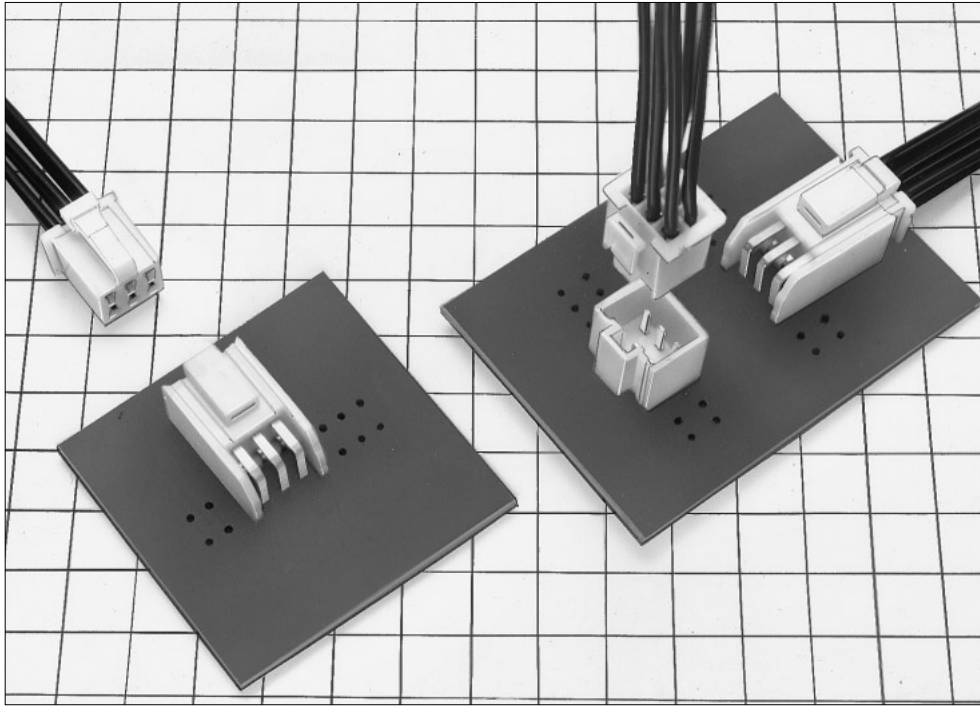


3.5mm Pitch Miniature Double Row Connector for Secondary Power (Product Compliant to UL/CSA Standard)

MDF6 Series



■ Features

1. Pitch 3.5mm Miniature Type

This is a space saving miniature connector where the adjacent contact pitch is set to 3.5mm and the opposite length is set to 5mm double-row alignment.

2. Current Capacity Secures 7A

Despite miniature power connector, the current capacity 7A is secured using the AWG No.16 cable.

3. Box Type Header

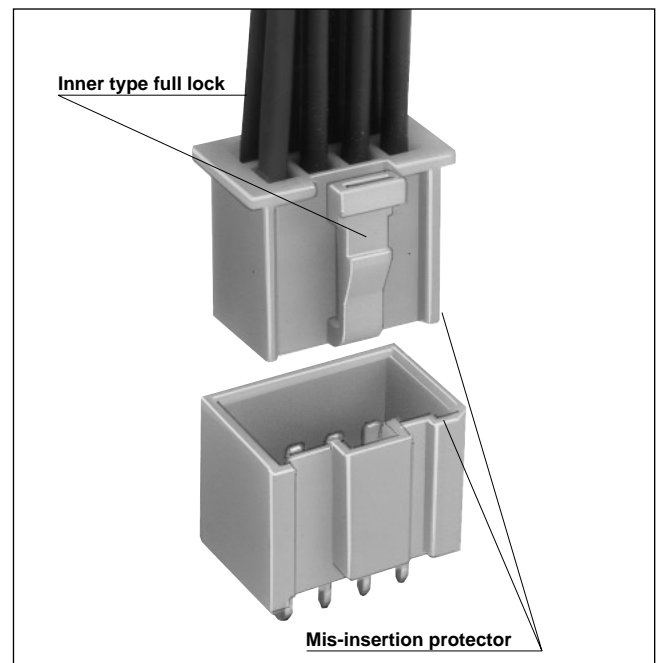
The box type header secures scoop-proof insertion, and perfectly prevents mis-insertion.

4. Inner Type Full Lock Adopted

Adopting the inner type full lock which the locking area is not exposed to the outside, the connector can be engaged under the high reliable and stable conditions.

■ Applications

Secondary power units for various equipment



■Product Specifications

Rating	Current rating (Note1)	Cable Size	AWG#16 : 7A	Operating Temperature Range	-30 to +85°C (Note2)
	Voltage rating		300V AC	AWG#18 : 6A	Operating Moisture Range
					AWG#20 : 5A
			AWG#22 : 4A	Storage Moisture Range	40 to 70% (Note3)

Standard Value Applicant to the UL CSA Safety Standard		
Rating	Current rating	Cable Size
	Voltage rating	

■UL CSA Safety Standard File No.

UL :E52653

CSA :LR95109

Item	Specification	Condition
1. Insulation Resistance	1000M ohms min	500V DC
2. Withstanding voltage	No flashover or insulation breakdown.	1500V AC/1 minute
3. Contact Resistance	30m ohms max	100mA
4. Single Insertor/Extraction Force	0.4N(40gf) min., 4.9N(500gf) max.	Measured at the steel pin with 1.52×0.76±0.002mm
5. Vibration	No electrical discontinuity of 1μs 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. Insulation resistance: 500M ohms min.	96 hours at temperature of 40°C and humidity of 90% to 95%
7. Temperature Cycle	Contact resistance: 30m ohms max. Insulation resistance: 1000M 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	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 be changed according to applicable cable sizes. The header rating only is 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 covers non conducting condition of installed connectors in storage, shipment or during transportation.

■Material

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

■Ordering Information

●Connector

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

① ② ③ ④ ⑤

① Series Name : MDF 6	④ Contact Pitch : 3.5mm
② Number of Contacts : 4 to 20	⑤ Contact type
③ Connector Type	C : Crimping socket
DS : Double row socket	DSA: Straight dip
DP : Double row pin header	DS : Right angle dip

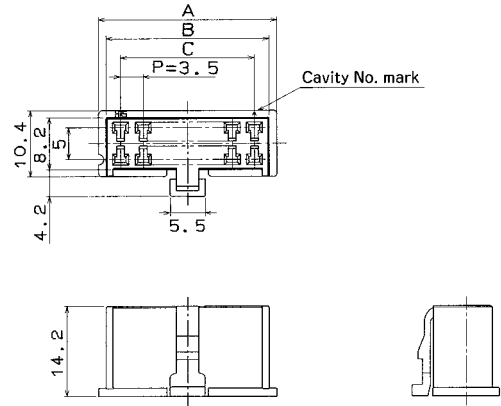
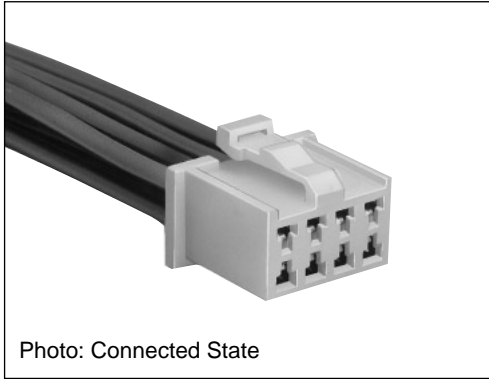
●Contact

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

① ②

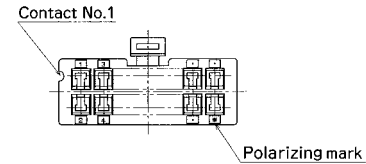
① Applicable Cable Size	② Packaging Type
1618 : AWG#16 to #18	SCF : Socket Contact, Reel
2022 : AWG#20 to #22	SC : Socket Contact, Bag

Double Row Socket



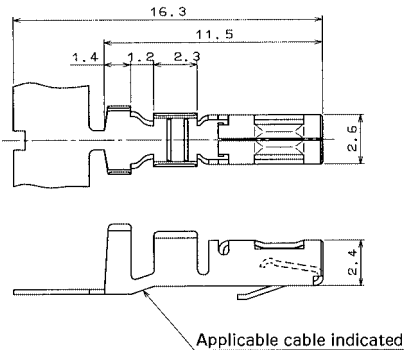
Unit: mm

Part Number	CL No.	Number of Contacts	A	B	C
MDF6- 4DS-3.5C	547-0074-1	4	10.5	8.1	3.5
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



Note: A packaging quantity is delivered by the bag unit (100 pcs.). If needed, please order the products per bag.

Socket Crimping contact



Applicable Cable (Tin plating Annealed Copper Wire)

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

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

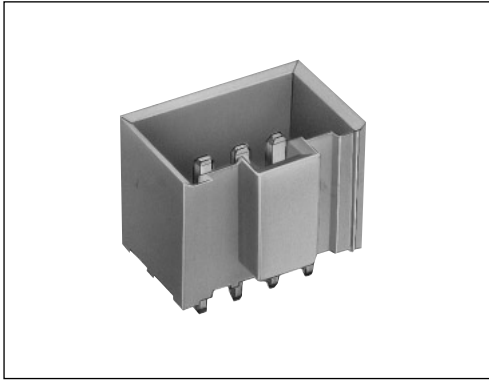
Part Number	CL No.	Applicable Cable		Packaging Type	Quantity
		AWG Size	Jacket Diameter		
MDF6-1618SCF	547-0070-0	#16 to #18	2.5 to 2.0	Reel	5000
MDF6-1618SC	547-0071-3			Bag	100
MDF6-2022SCF	547-0072-6	#20 to #22	1.9 to 1.5	Reel	5000
MDF6-2022SC	547-0073-9			Bag	100

Applicable Crimping Tool

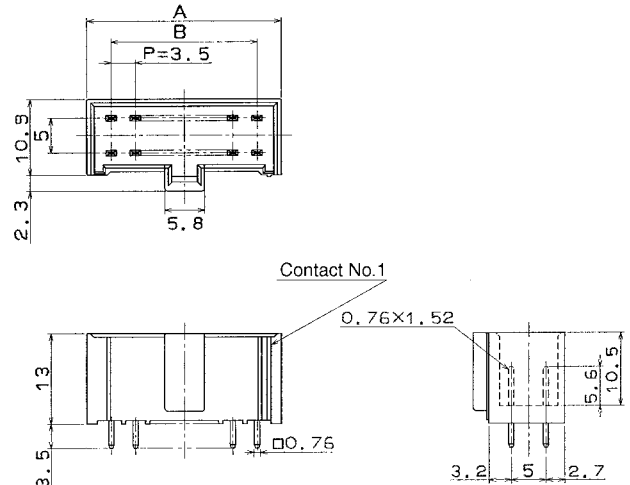
Type	Part Number	CL No.	Applicable Contact
Main press unit	CM105	901-0005-4	—————
Applicator	AP105-MDF6-1618S	901-4512-4	MDF6-1618SCF
	AP105-MDF6-2022S	901-4513-7	MDF6-2022SCF
Manual Crimping Tool	MDF6-TA1618HC	550-0203-5	MDF6-1618SC
	MDF6-TA2022HC	550-0204-8	MDF6-2022SC
Extraction Tool	DF-C-PO(A)	550-0170-8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

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

■Double Row Pin Header: Straight Type

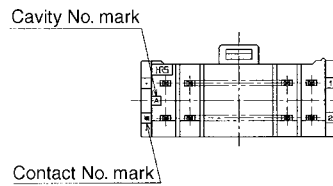


- Board Hole Diameter : $\phi 1.3^{+0.1}$
- Applicable Board Thickness : 1.6 ± 0.2



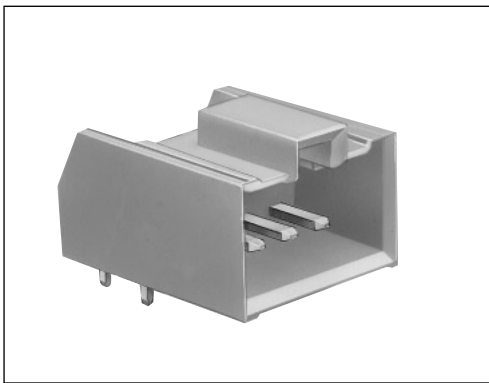
Unit: mm

Part Number	CL No.	Number of Contacts	A	B
MDF6- 4DP-3.5DSA	547-0083-2	4	10.5	3.5
MDF6- 6DP-3.5DSA	547-0084-5	6	14	7
MDF6- 8DP-3.5DSA	547-0085-8	8	17.5	10.5
MDF6-10DP-3.5DSA	547-0086-0	10	21	14
MDF6-12DP-3.5DSA	547-0087-3	12	24.5	17.5
MDF6-14DP-3.5DSA	547-0088-6	14	28	21
MDF6-16DP-3.5DSA	547-0089-9	16	31.5	24.5
MDF6-18DP-3.5DSA	547-0090-8	18	35	28
MDF6-20DP-3.5DSA	547-0091-0	20	38.5	31.5

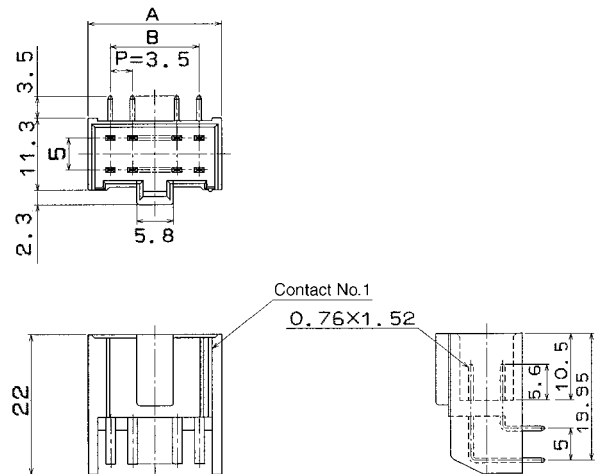


Note1: A packaging quantity is delivered by the bag unit (100 pcs.). If needed, please order the products per bag.

■Double Row Pin Header: Right Angle Type

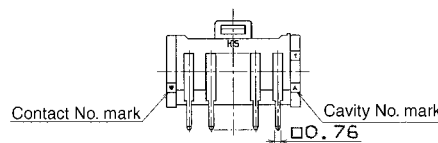


- Board Hole Diameter : $\phi 1.3^{+0.1}$
- Applicable Board Thickness : 1.6 ± 0.2



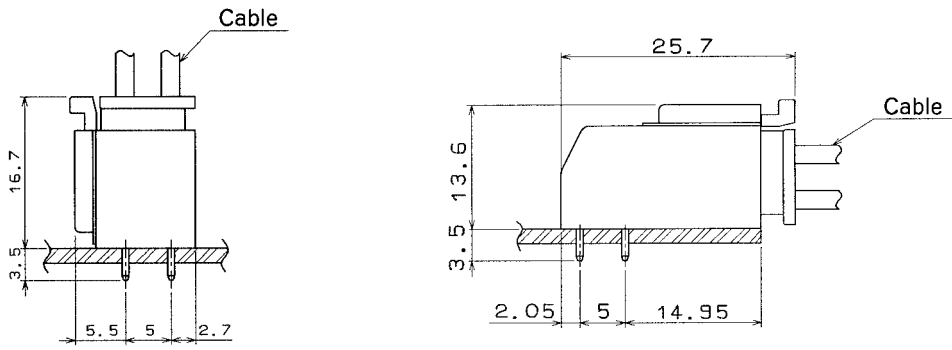
Unit: mm

Part Number	CL No.	Number of Contacts	A	B
MDF6- 4DP-3.5DS	547-0270-0	4	10.5	3.5
MDF6- 6DP-3.5DS	547-0271-2	6	14	7
MDF6- 8DP-3.5DS	547-0272-5	8	17.5	10.5
MDF6-10DP-3.5DS	547-0273-8	10	21	14



Note1: A packaging quantity is delivered by the bag unit (100 pcs.). If needed, please order the products per bag.

◆ Application Pattern



◆ Precautions

1. Recommended Soldering Condition	Flow: 250°C for 3 seconds Manual soldering: 290°C for 2 seconds
2. Cleaning Condition	Refer to the "Nylon Connector Use Hand book".
3. Connection Condition	Refer to the "Nylon Connector Use Hand book".
4. Cautions	<p>■ 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.</p>