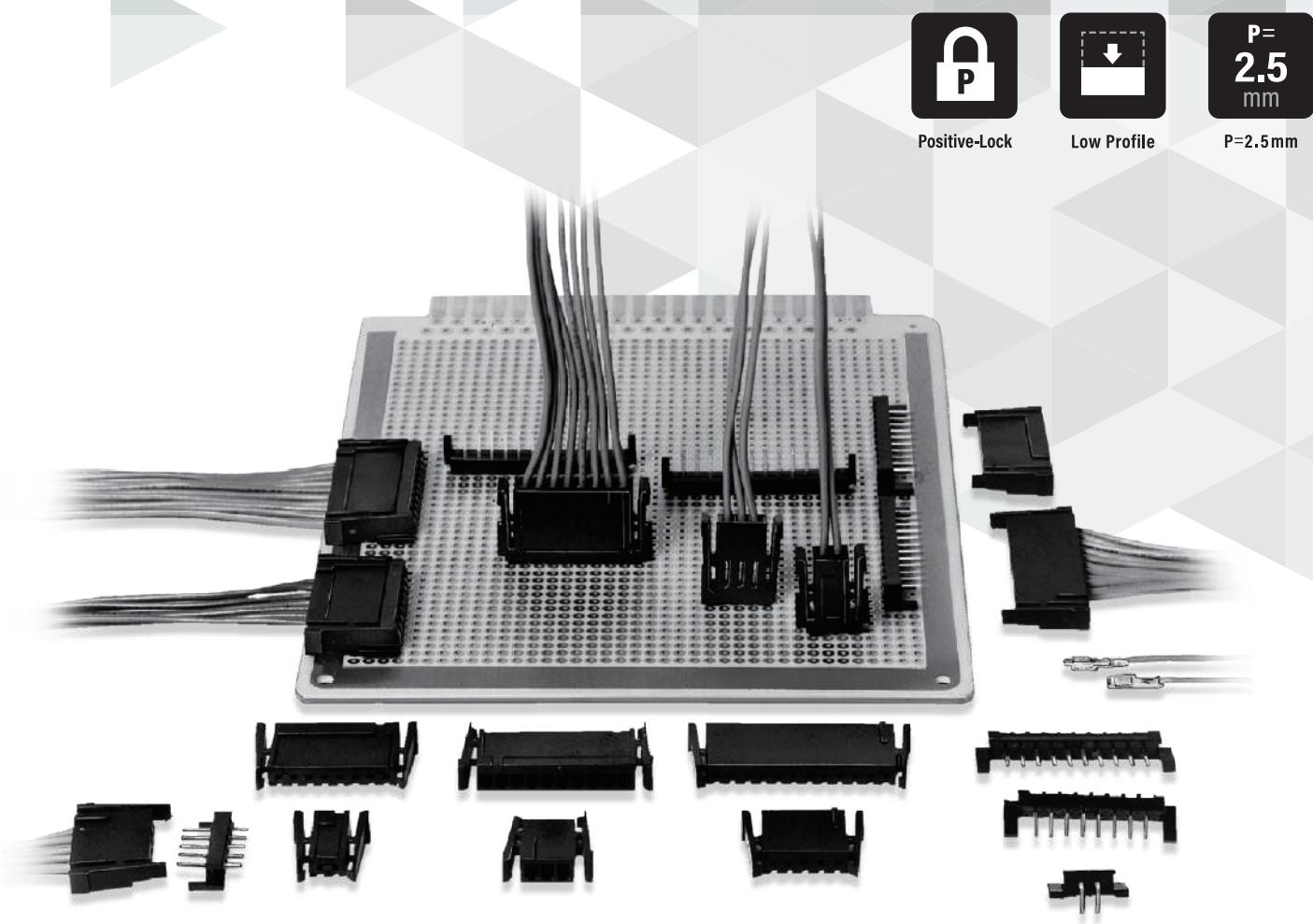


HNC Series

2.5mm Pitch Connector for Discrete Wire Connection



Алматы (7273)495-231
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47

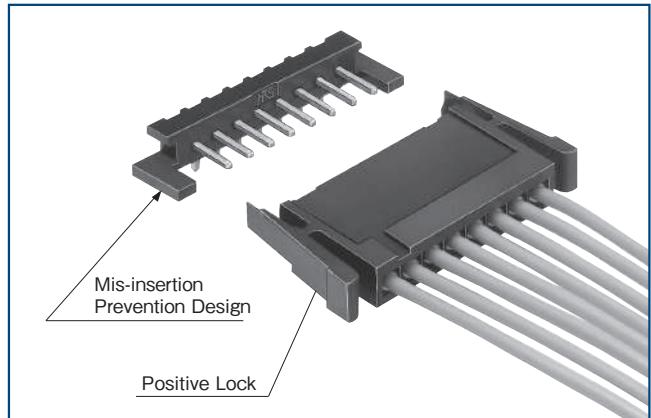
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35

Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

Features

1. Positive Lock

Positive lock design does not unlock without releasing the lock on both sides for effective prevention against cable disconnection when the cable gets caught, etc.



2. Low Profile

Mounted height when the connector is used at a right angle : 4.8mm

3. Mechanism to Prevent Mis-insertion

This thin type connector is equipped with a mis-insertion prevention design.

4. Tin and Gold Plating Variations Available

Two plating types, tin and gold, are available and can be chosen based on your application needs. Additionally, the tin plating type has a light operating feel.

Applications

Various business equipment, financial terminals

Product Specifications

Rated Current (Note 1)	22 AWG	24AWG	26 AWG	28 AWG	30 AWG	Operating Temperature (Note 2)	-55 to +85°C
	3A/pin	3A/pin	2A/pin	1A/pin	0.5A/pin	Storage Temperature Range	-10 to +60°C
Rated Voltage	250V AC/DC					Operating Humidity Range (Note 3)	20 to 80%
						Storage Humidity Range	40 to 70%

Item	Specification	Condition
Insulation Resistance	1000M Ω Min.	500V DC
Withstanding Voltage	No flashover or insulation breakdown.	1000V AC for 1 min.
Contact Resistance	10m Ω Max.	Measured at a maximum of 20mV, 1mA (DC or 1000Hz)
Insertion/Extraction Force	Insertion force : 4.4N Max. Extraction force : 0.4N Min.	Measure at the square steel pin of 0.635 ± 0.002 mm
Vibration	No electrical discontinuity of 10μ s or more	10 cycles in each of three axis at frequency 10-55Hz, half amplitude 0.75mm
Humidity (Steady State)	Contact resistance : 10m Ω Max. Insulation resistance : 1000M Ω Min.	96 hours at temperature of 40 ± 2 °C and humidity of 90% to 95%
Temperature Cycle	Contact resistance : 10m Ω Max. Insulation resistance : 1000M Ω Min.	(-55°C : 30 minutes → 5 to 35°C : 2 to 3 minutes -85°C : 30 minutes → 5 to 35°C : 2 to 3 minutes) 5 cycles
Mating Durability	Tin plating : Contact resistance : 30m Ω Max. Gold plating : Contact resistance : 20m Ω Max.	Tin plating : 30 cycles Gold plating : 50 cycles
Resistance to Soldering Heat	No deformation of components affecting performance.	Flow : 250°C for 5 seconds Manual soldering : 300°C for 2 seconds

Note 1 : The rated current varies based on the cable size for use. The rated current of the header only is 3A.

Note 2 : Includes temperature rise caused by current flow.

Note 3 : The connector should be completely dry (no condensation present).

Note 4 : Information contained in this catalog represents general requirements for this Series. Contact us for the drawings and specifications for a specific part number shown.

Materials / Finish

Product	Part	Material	Finish	Remarks	RoHS
Crimp Socket	Insulator	Polyamide	Black	UL94V-2	
Socket Crimp Contact	Contact	Phosphor Bronze	Tin Plated or Gold Plated	-	
Pin Header	Insulator	Polyamide	Black	UL94V-2	
	Contact	Brass	Tin Plated or Gold Plated	-	

Product Number Structure

Refer to the chart below when determining the product specifications from the product number.
Please select from the product numbers listed in this catalog when placing orders.

■ Connector

HNC2 - 2.5 P - # DSL

① ② ③ ④ ⑤

① Series Name	HNC2	④ Number of Contacts	2 to 5
② Contact Pitch	2.5mm	⑤ Contact Type	None : Crimp Socket DS : Straight DSL : Right Angle
③ Connector Type	S : Socket P : Pin Header		

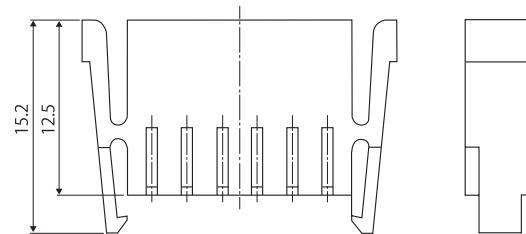
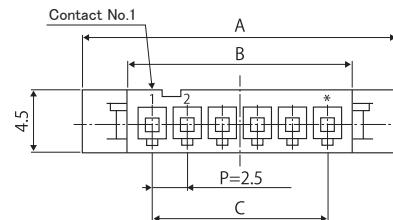
■ Contact

HNC - 2.5S - C - A

① ② ③

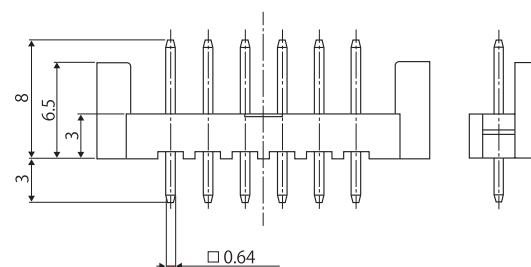
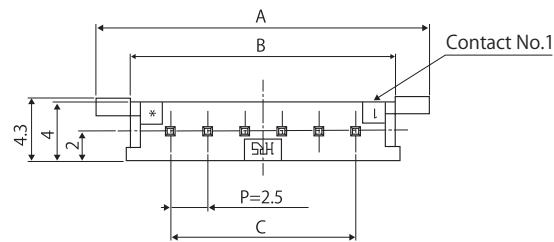
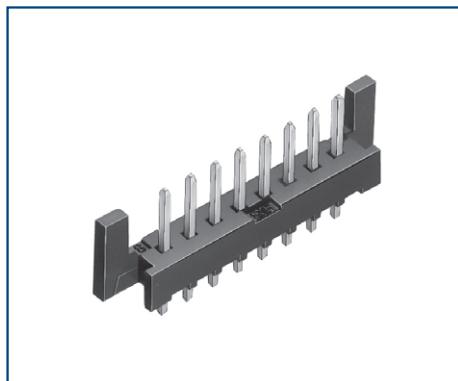
① Type	2.5mm Pitch Socket	③ Applicable Cable Size	A : 22-26 AWG B : 26-30 AWG
② Packaging Type	C : Reel D : Bag		

Crimp Socket



Part No.	HRS No.	No. of Pos.	A	B	C	Unit : mm	Purchase Unit
HNC2-2.5S-2	CL0218-00111-1-00	2	12.4	6.0	2.5		100pcs per bag
HNC2-2.5S-3	CL0218-00222-8-00	3	14.9	8.5	5.0		
HNC2-2.5S-4	CL0218-00339-0-00	4	17.4	11.0	7.5		
HNC2-2.5S-5	CL0218-00227-1-00	5	19.9	13.5	10.0		

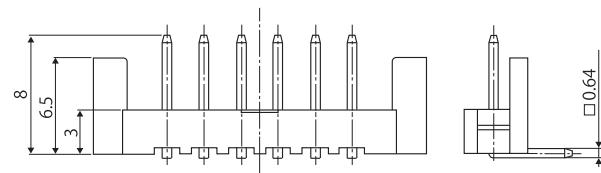
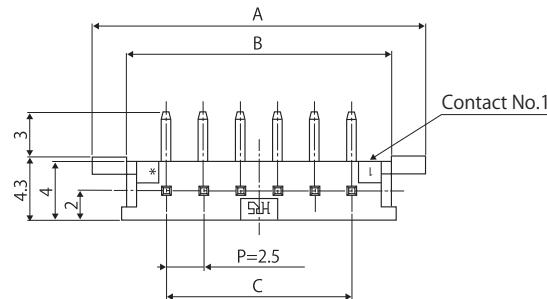
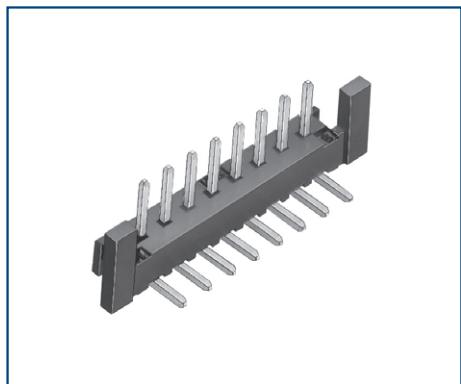
Straight Pin Header



Note : Board Through-hole Diameter : $\phi 1.1^{+0.1}_0$

Part No.	HRS No.	No. of Pos.	A	B	C	Specific No.		Purchase Unit	Unit : mm
						Tin Plating	Gold Plating		Unit : mm
HNC2-2.5P-2DS(##)	CL0218-0012-4-##	2	12.5	7.8	2.5	55	02	100pcs per bag	
HNC2-2.5P-3DS(##)	CL0218-0023-0-##	3	15.0	10.4	5.0	-	02		
HNC2-2.5P-5DS(##)	CL0218-0028-4-##	5	20.0	15.4	10.0	-	02		

Right Angle Pin Header

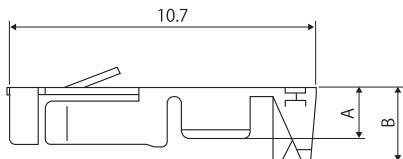


Note : Board Through-hole Diameter : $\phi 1.1^{+0.1}_{-0.0}$

Unit : mm

Part No.	HRS No.	No. of Pos.	A	B	C	Specific No.		Purchase Unit
						Tin Plating	Gold Plating	
HNC2-2.5P-3DSL(##)	CL0218-0024-3-##	3	15.0	10.4	5.0	55	-	100pcs per bag
HNC2-2.5P-4DSL(##)	CL0218-0041-2-##	4	17.5	12.9	7.5	55	-	

Socket Crimp Contact



Unit : mm

Part No.	A	B
HNC-2.5S-C-A(15)	1.8	2.6
HNC-2.5S-C-A(02)		
HNC-2.5S-D-A(15)		
HNC-2.5S-D-A(02)		
HNC-2.5S-C-B(15)	1.5	1.7
HNC-2.5S-C-B(02)		
HNC-2.5S-D-B(15)		
HNC-2.5S-D-B(02)		

● Reel Contact (Applicable Tool : Applicator)

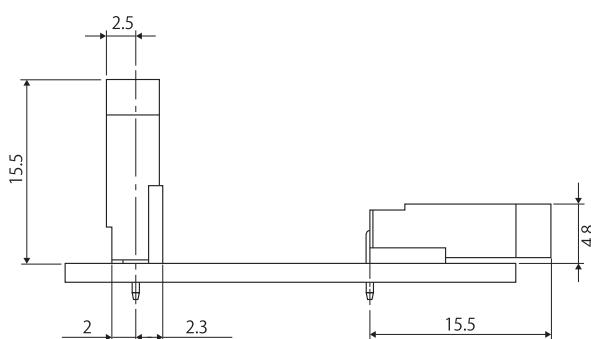
Part No.	HRS No.	Finish	Applicable Wire (Tin Plated Annealing Copper Wire) (Note 2)					Purchase Unit		
			UL	AWG	Wire Construction	Sectional Area	Jacket Diameter			
HNC-2.5S-C-A(15)	CL0218-0021-5-15	Tin Plated Gold Plated	1007	22	17/0.16mm	0.342mm ²	1.35 to 1.7mm	10,000pcs per reel		
HNC-2.5S-C-A(02)				24	11/0.16mm	0.221mm ²				
HNC-2.5S-C-B(15)	CL0218-0020-2-15	Tin Plated Gold Plated		26	7/0.16mm	0.141mm ²	1.0 to 1.35mm			
HNC-2.5S-C-B(02)				28	7/0.127mm	0.089mm ²				
HNC-2.5S-D-B(15)	CL0218-0038-8-15	Tin Plated Gold Plated	1061,1007	30	7/0.1mm	0.055mm ²				
HNC-2.5S-D-B(02)				26	7/0.16mm	0.141mm ²				
HNC-2.5S-D-B(15)	CL0218-0038-8-02	Tin Plated Gold Plated		28	7/0.127mm	0.089mm ²	1.3mm	100pcs per bag		
HNC-2.5S-D-B(02)				30	7/0.1mm	0.055mm ²				

● Loose Contact (Applicable Tool : Manual Crimping Tool)

Part No.	HRS No.	Finish	Applicable Wire (Tin Plated Annealing Copper Wire) (Note 2)					Purchase Unit	
			UL	AWG	Wire Construction	Sectional Area	Jacket Diameter		
HNC-2.5S-D-A(15)	CL0218-0037-5-15	Tin Plated Gold Plated	1007	22	17/0.16mm	0.342mm ²	1.6mm	100pcs per bag	
HNC-2.5S-D-A(02)				24	11/0.16mm	0.221mm ²	1.5mm		
HNC-2.5S-D-B(15)	CL0218-0038-8-15	Tin Plated Gold Plated		26	7/0.16mm	0.141mm ²	1.3mm		
HNC-2.5S-D-B(02)				28	7/0.127mm	0.089mm ²	1.2mm		
HNC-2.5S-D-B(15)	CL0218-0038-8-02	Tin Plated Gold Plated		30	7/0.1mm	0.055mm ²	1.1mm		

Note : Please consult with a Hirose representative when using wires other than those specified.

Mated Diagram



Applicable Crimping Tool

Type	Part No.	HRS No.	Applicable Contact
Applicator	AP105-HNC	CL0901-4502-0-00	HNC-2.5S-C-A(15)、HNC-2.5S-C-A(02) HNC-2.5S-C-B(15)、HNC-2.5S-C-B(02)
Press Main Unit	CM-105C	CL0901-0001-0-00	—
Manual Crimping Tool	TC-HNC-B	CL0250-0005-7-00	HNC-2.5S-D-B(15)、HNC-2.5S-D-B(02)
	TC-HNC-A	CL0250-0006-0-00	HNC-2.5S-D-A(15)、HNC-2.5S-D-A(02)
Extraction Tool	Flat-blade screwdriver (thickness < 0.75mm)		

Note 1 : Please conduct crimping work according to the "Crimping Quality Standard" (ETAD-H0980-00) and "Crimping Condition Table".

Note 2 : Issues with non-Hirose specified tools are outside the scope of warranty.

Note 3 : When non-authorized tools are used, please consult with Hirose sales representative about provision of the drawing of the crimping tool.

High Current Power Connector for Internal Automotive Connection, Heat Resistant up to 125°C

HVH-280 Series



● High Current Terminal

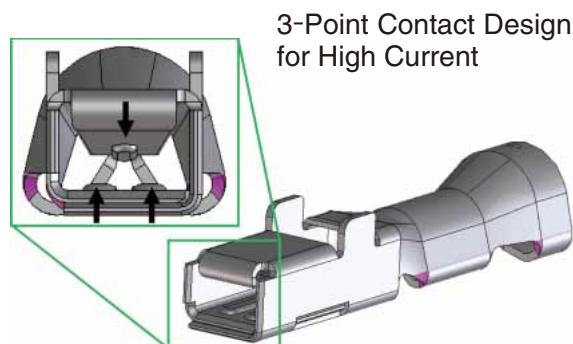


Fig.1

■ Features

**1. Rated Current : 30A,
Rated Voltage : 600V AC/DC**

2. High Heat Resistance

Suitable for use in 125°C environments.

3. High Reliability 3-Point Contact Design

High contact pressure design enables high current capacity.

4. High Vibration Resistance

The cable sheath is firmly secured to reduce cable runout during vibration.

5. Lock Designed for Easy Operation

Stroke depth and long lock arm allow workers to operate the lock with ease.

6. Clear Tactile Click and Stable Connection

Clear tactile click during mating and firm lock supports reliable mating operation.

7. Crimp Terminal Insertion Ensured

Retainer prevents incomplete insertion of crimp terminals.

8. Prevents Mis-Insertion

Designed to prevent reversed insertion of terminals and reversed connector insertion during mating.

● 600V Rated Voltage

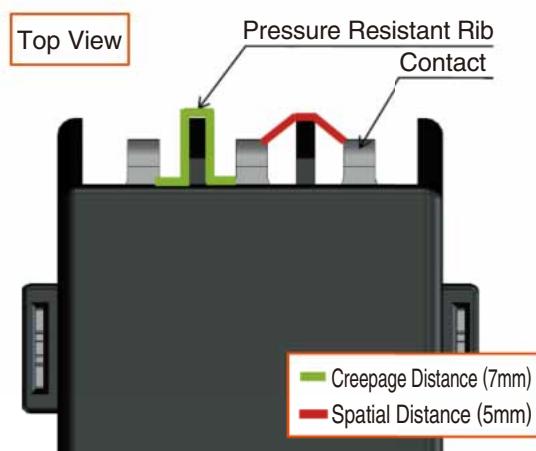


Fig.2

● Incomplete Insertion Prevention and High Vibration Resistance

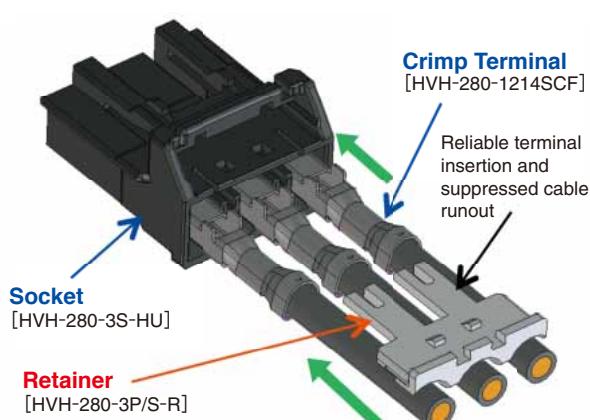


Fig.3

■Product Specifications

Ratings	Rated Current	30A (Note 1)	Operating Temperature	-40°C to +125°C
			Storage Temperature Range	-10°C to +60°C (Note 2)
	Rated Voltage	600V AC/DC	Storage Humidity Range	Relative humidity 85% or less (No condensation)

Items	Specifications	Conditions
1. Contact Resistance	100MΩ Min	Measured at 1000V DC
2. Withstanding Voltage	There shall be no dielectric breakdown or flashover.	2200V AC applied for 1 minute.
3. Voltage Drop	5mΩ Max	Measured at A (Cable cross-sectional area×5) DC
4. Connector Insertion Force	45N Max. No damage, strain or deformation to components.	Inserted at a constant speed of 50mm/min Max.
5. Connector Unmating Force	75N Max. No damage, strain or deformation to components.	Removed at a constant speed of 50mm/min Max.
6. Connector Retention Force	110N Min.	Removed at a constant speed of 50mm/min Max.
7. Vibration/ Mechanical Shock	Voltage Drop : 5mΩ Max. Contact Resistance : 100MΩ Min. No electrical discontinuity of 1μs or more. No damage, strain or deformation to components.	[Vibration] Random vibration frequency 5 to 1000Hz (Acceleration/1.81grms) 8 hour test in each of the three directions under the above conditions [Shock] Acceleration of 35G, 10 times in both directions of the 3 axes
8. Thermal Shock	Voltage Drop : 5mΩ Max. Contact Resistance : 100MΩ Min. No electrical discontinuity of 1μs or more. Withstanding Voltage:No dielectric breakdown or flashover. No damage, strain or deformation to components.	Temperature -40°C → Room temperature → 125°C → Room temperature Time : 30 → 5 → 30 → 5 minutes for 100 cycles
9. Temperature Cycle	Retention force between contact and connector : 50N. Min. Voltage Drop : 5mΩ Max. Contact Resistance : 100MΩ Min. Withstanding Voltage : No dielectric breakdown or flashover. No damage, strain or deformation to components.	Left for 40 cycles at a temperature of -40 to 125°C, and relative humidity of 80 to 100%
10. High Temperature Storage	Voltage Drop : 5mΩ Max. Contact Resistance : 100MΩ Min. Withstanding Voltage : No dielectric breakdown or flashover. No damage, strain or deformation to components.	Left at a temperature of 125°C for 1008 hours.

Note 1 : The rating current depends on operating temperature and cable used. Please contact a Hirose Sales Office for inquiries.
 Note 2 : This storage temperature is for long-term storage of unused products.

■Materials/Finish

Component	Part	Material	Finish	UL Standard
Header	Housing	PBT Resin	Black	UL94V-0
	Crimp Terminal	Copper Alloy	Tin Plating	—
	Retainer	PBT Resin	Dark Gray	UL94V-0
Socket	Housing	PA Resin	Black	UL94V-0
	Terminal	Copper Alloy	Tin Plating	—
	Solder Tabs	Phosphor Bronze	Tin Plating	—

■Product Number Structure

Refer to the chart below when determining the product specifications from the product number. Please select from the product numbers listed in this catalog when placing orders.

●Connector

HVH-280 – 3 P 6.5 DS

① ② ③ ④ ⑤

●Terminal

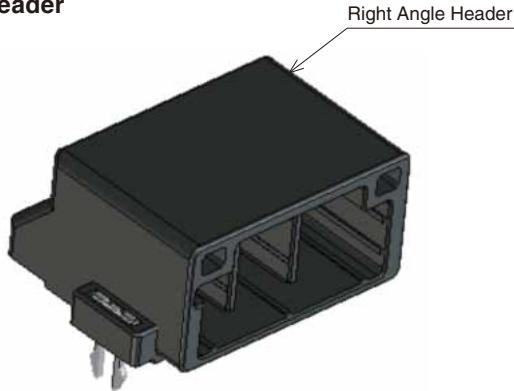
HVH-280 – 1214 SCF

⑥ ⑦

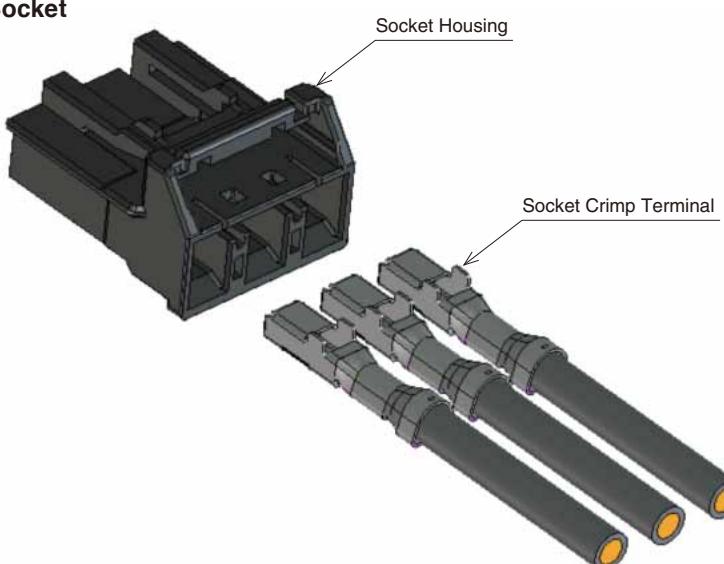
① Series Name : HVH-280
② No. of Pos : 2, 3
③ Connector Type P : Header S : Socket
④ Contact Pitch : 6.5mm
⑤ Termination Form DS : Right Angle DIP HU : Housing
⑥ Applicable Cable Size 1214 : 12 to 14 AWG
⑦ Form Type/Packaging SCF Socket Contact/Reel

■ Product Configurations

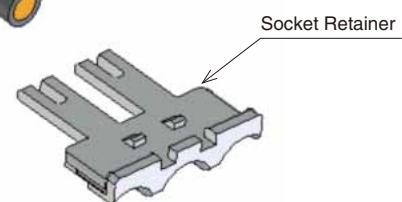
● Header



● Socket



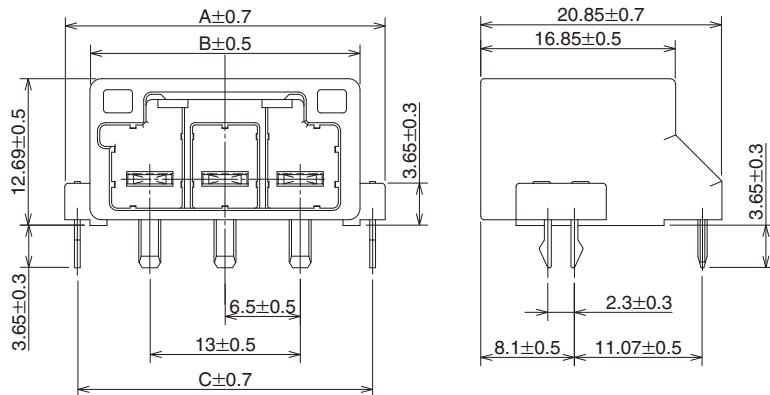
■ Assembled Socket Connector



■ HVH-280 Series Mating Table

Header		Socket	
HVH-280 *pos. Header (Board Side)	Configuration Product Name	HVH-280 *pos. Socket	Configuration Product Name
	HVH-280-*P-6.5DS		HVH-280-*S-HU HVH-280-*P/S-R HVH-280-1214SCF

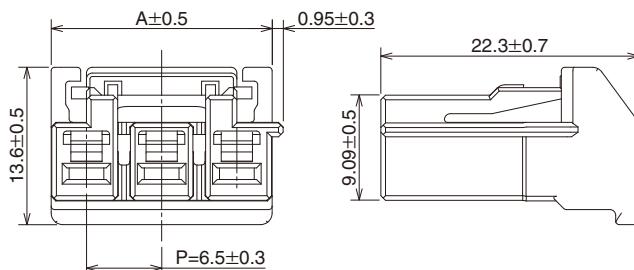
■Right Angle Header



Part No.	HRS No.	No. of Pos.	Number of tray packages	Finish	A	B	C
HVH-280-2P-6.5DS	778-0703-0	2	700	Tin Plating	21.2	16.85	19.03
HVH-280-3P-6.5DS	778-0700-0	3	560	Tin Plating	27.7	23.35	25.53

Note : Tray packages must be ordered in multiples of 560.

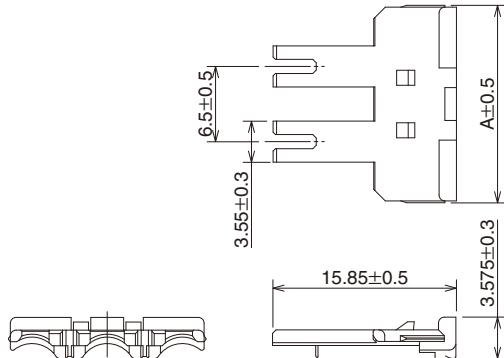
■Socket Housing



Part No.	HRS No.	No. of Pos.	A
HVH-280-2S-HU	778-0704-0	2	12.6
HVH-280-3S-HU	778-0701-0	3	19.1

Note : The product is sold in packs (100 pieces per pack) so please order based on number of packs.

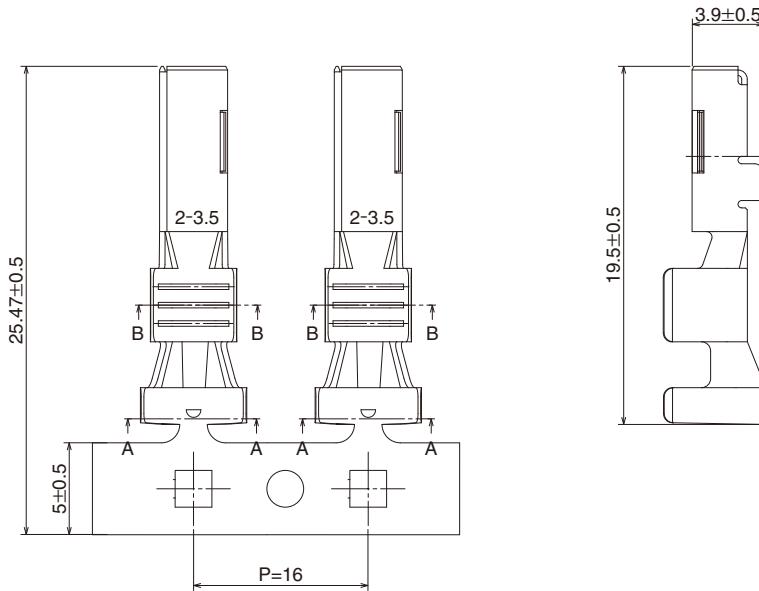
■ Socket Retainer



Part No.	HRS No.	No. of Pos.	A
HVH-280-2P/S-R	778-0705-0	2	10.565
HVH-280-3P/S-R	778-0702-0	3	17.065

Note : The product is sold in packs (100 pieces per pack) so please order based on number of sets.

■ Socket Crimp Terminal



Part No.	HRS No.	Type	Amount	Finish
HVH-280-1214SCF	778-0502-0	Reel Terminal	1,700 pcs/reel	Tin Plating

Note 1 : The applicable cable's conductor is a tin plated soft copper wire.

Note 2 : Any problems that occur from using tools other than those specified by Hirose are not covered by warranty.

Note 3 : The applicable cable size is 12 to 14 AWG (2 to 3.5mm²).

■ Applicable Crimp Tool

Type	Part No.	HRS No.	Applicable Contact
Applicator	AP105-HVH-280-1214S	901-5244-0	HVH-280-1214SCF

Note 1 : Any problems that occur from using tools other than those specified by Hirose are not covered by warranty.

Note 2 : Crimping work shall be conducted in accordance with the "Crimping Standard" and "Crimping Conditions Table".

◆How to Extract the Terminal

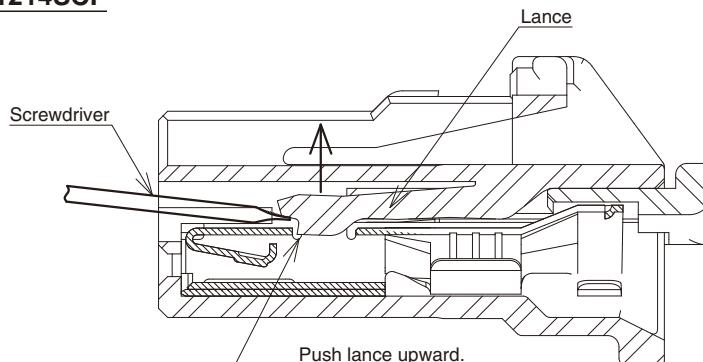
- Terminal Extraction Tools : Precise screwdriver (flathead screwdriver)
- Applicable crimp terminals : HVH-280-1214SCF
- Operation Method

●Repair Method

To repair, press the mold lance with the terminal extraction tool in the direction shown in the diagram below. While pressing extract the terminal. Make sure not to deform the terminal lock or contact part.

Caution : Do not push the terminal locking feature or contact. It may lead to deformation or damage to the housing and other parts. When damaged, please replace it with a new one.

HVH-280-1214SCF



◆Usage Precautions

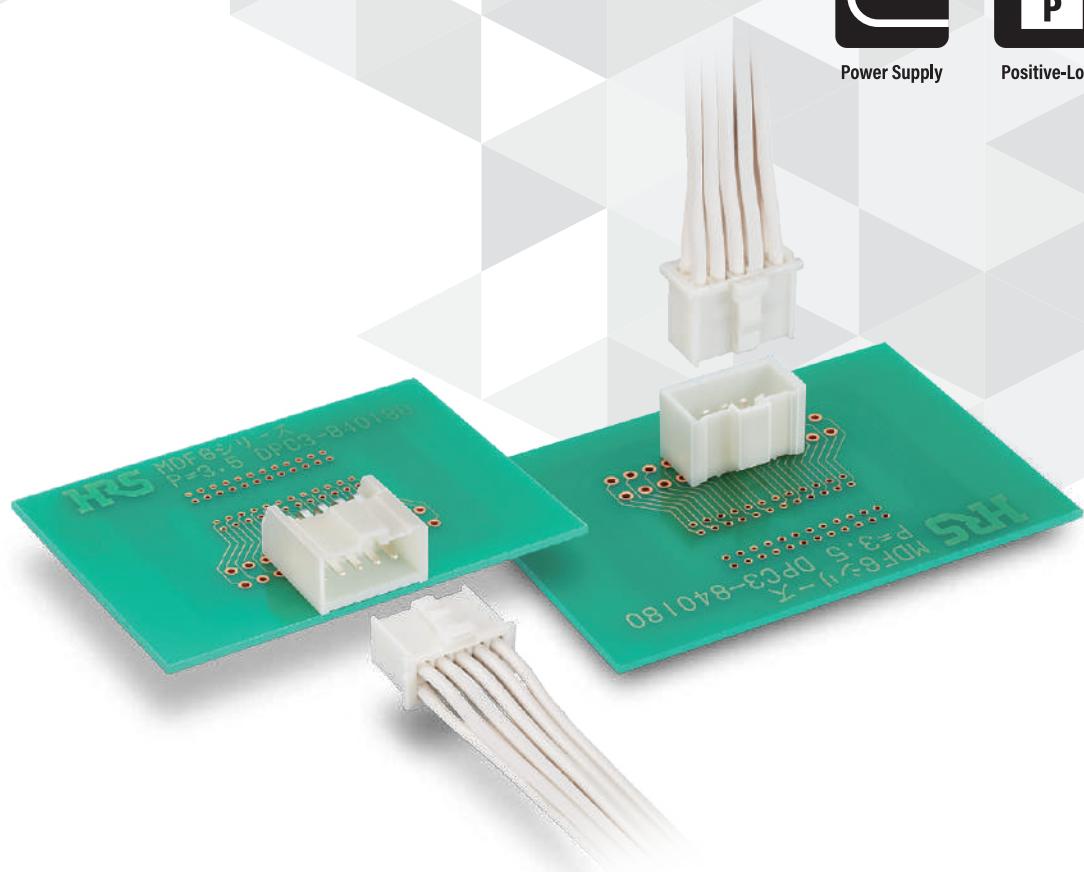
1. Pulling out the connector with force may result in damage. If it is difficult to pull out, lightly push it once and then operate the lock to pull it out.
2. When inserting or extracting the terminal, always disconnect from the power source first.
3. Do not touch the terminals while the power is on since it is very dangerous.
4. Contact a sales representative for harness instructions and handling manuals.
5. Do not perform insertion or extraction with a live wire. (Live wire insertion/extraction refers to inserting/extracting while electricity is running)

◆Usage Environment

Please consult with your Hirose Electric sales representative if your system environmental conditions repeat high and low temperatures.

MDF6 Series

3.5mm Pitch, Double Row, Compact Internal Power Connector (UL/CSA Standard Certified Product)



Power Supply



Positive-Lock



Compact

Features

1. 3.5mm pitch compact connector

MDF6 Series is a compact, space-saving power connector with a 3.5mm × 5mm pitch set in a double row alignment configuration.

2. 7A Current Capacity

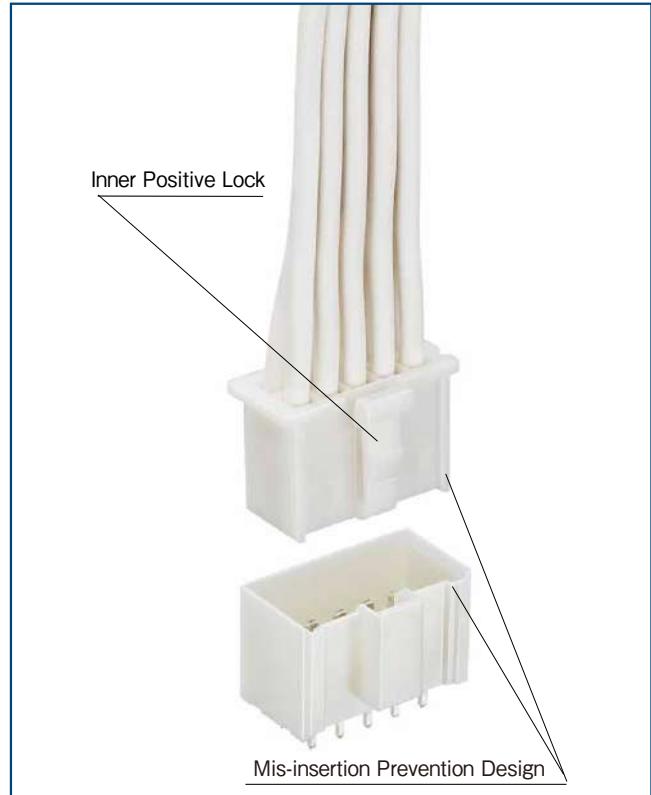
Compact power connector that maintains a current capacity of 7A when using 16 AWG (UL/CSA standard is 6A).

3. Box Type Header

The box type header is highly resistant to prying and is polarized to prevent mis-insertion.

4. Internal Positive Lock

Secure mating with enhanced safety is secured by the internal positive lock.



Applications

Internal power supply for various devices

Product Specifications

Rated Current (Note 1)	16 AWG	18 AWG	20AWG	22 AWG	Operating Temperature (Note 2)	-30 to 85°C
	7A/pin	6A/pin	5A/pin	4A/pin	Operating Humidity Range (Note 3)	40 to 80%
Rated Voltage	300V AC/DC			Storage Temperature Range		-10 to 60°C
				Storage Humidity Range		40 to 70%

UL/CSA	Rated Current	16 AWG	18 AWG	20 AWG	22 AWG
		6A/pin	6A/pin	4A/pin	4A/pin
	Rated Voltage	UL : 250V AC CSA : 30V AC			

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

Item	Specifications	Conditions
Insulation Resistance	1000MΩ Min.	500V DC
Withstanding Voltage	No flashover or insulation breakdown.	1,500V AC per min.
Contact Resistance	30mΩ Max.	1mA
Vibration Resistance	No electrical discontinuity of 1μs or more	Frequency : 10 to 55Hz, single amplitude of 0.75mm, 10 cycles in each of the 3 directions.
Humidity (Steady state)	Contact Resistance : 30mΩ Max. Insulation Resistance : 1000MΩ Min.	96 hours at temperature of 40±2°C and humidity of 90% to 95%
Temperature Cycle	Contact Resistance : 30mΩ Max. Insulation Resistance : 1000MΩ Min.	(-55°C : 30 minutes → 5 to 35°C : 10 minutes → 85°C : 30 minutes → 5 to 35°C : 10 minutes) 5 cycles
Mating Durability	Contact Resistance : 30mΩ Max.	Tin Plated : 30 cycles
Soldering Heat Resistance	No deformation of components affecting performance.	Flow : 250°C for 10 seconds Manual soldering : 300°C for 3 seconds

Note 1 : The rated current changes depending on the cable used. Only the rated current of the header is 7A.

Note 2 : Includes temperature rise due to current flow.

Note 3 : No condensing.

Note 4 : 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 / Finish

Product	Part	Material	Finish	Remarks	RoHS2
Crimp Socket	Insulator	Polyamide Resin	Natural (White)	UL94V-0	
Socket Crimp Contact	Contact	Phosphor Bronze	Tin Plating	-	
Pin Header	Insulator	Polyamide Resin	Natural (White)	UL94V-0	
	Contact	Brass	Tin Plating	-	

Product Number Structure

■ Connector

MDF6 - # DS - 3.5 C

1 2 3 4 5

1 Series Name	MDF6	4 Contact Pitch	3.5mm
2 No. of Pos.	4 to 10	5 Contact Type	C : Crimp Socket DSA : Straight Pin Header DS : Right Angle Pin Header
3 Connector Type	DS : Double Row Socket DP : Double Row Pin Header		

■ Contact

MDF6 - 1618 SCF

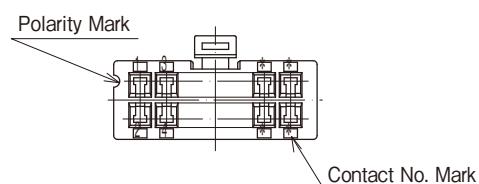
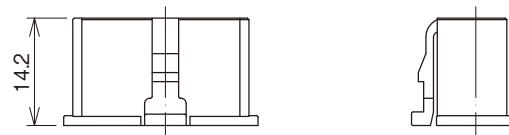
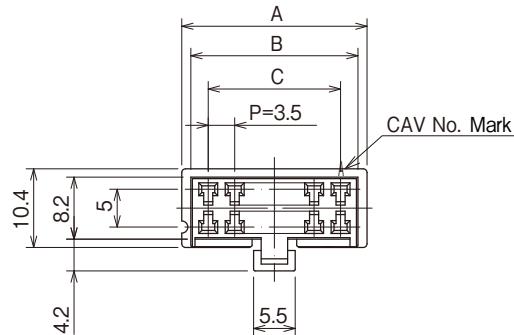
1 2

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

Double Row Socket

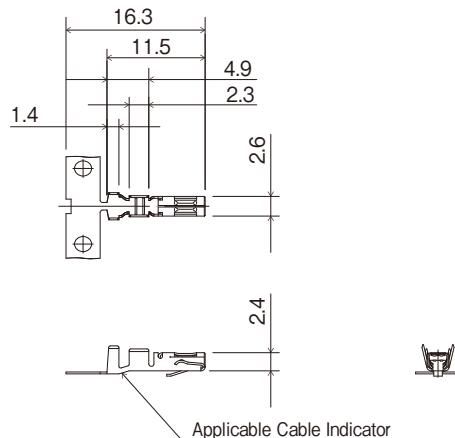


Shown with crimp contacts assembled.



Part No.	HRS No.	No. of Pos.	A	B	C	Purchase Unit
MDF6-4DS-3.5C	CL0547-0074-1-00	4	10.5	8.1	3.5	100pcs per bag
MDF6-6DS-3.5C	CL0547-0075-4-00	6	14.0	11.6	7.0	
MDF6-8DS-3.5C	CL0547-0076-7-00	8	17.5	15.1	10.5	
MDF6-10DS-3.5C	CL0547-0077-0-00	10	21.0	18.6	14.0	

Socket Crimp Contact



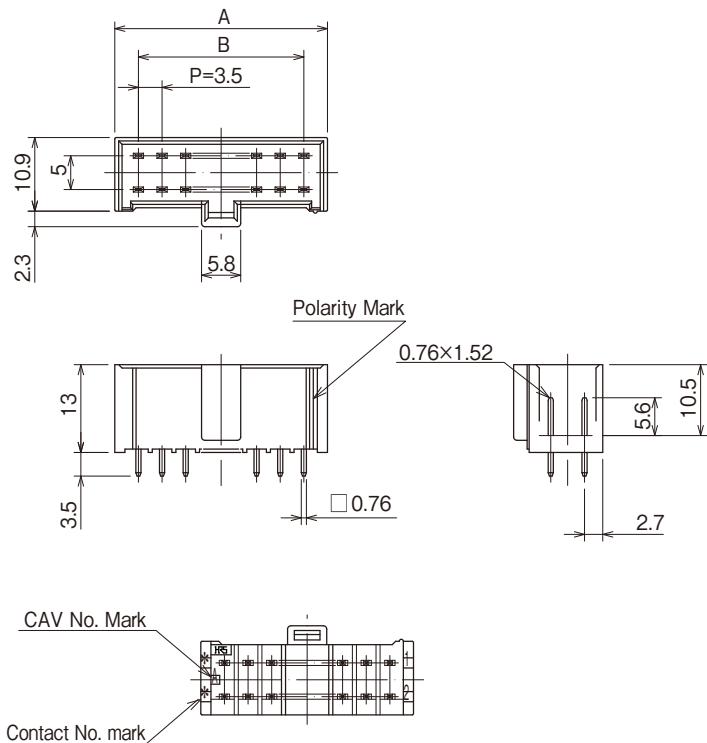
Part No.	HRS No.	Applicable Cable AWG Size	Applicable Cable Jacket Diameter	Type	Purchase Unit
MDF6-1618SCF	CL0547-0070-0-00	16-18 AWG	ϕ 2.5 to 2.0	Reel Contact	5000pcs per reel
MDF6-1618SC	CL0547-0071-3-00			Loose Contact	100pcs per bag
MDF6-2022SCF	CL0547-0072-6-00	20-22 AWG	ϕ 1.9 to 1.5	Reel Contact	5000pcs per reel
MDF6-2022SC	CL0547-0073-9-00			Loose Contact	100pcs per bag

● Applicable Cable (Tin Plated Annealed Copper Wire)

Conductor Size (Wire Construction)	Jacket Diameter	Recommended Cable	Strip Length		
16 AWG (26/0.254mm)	ϕ 2.5 to 2.0	UL1061, UL1007	2.7 to 4.4mm		
18 AWG (34/0.18mm)					
20 AWG (21/0.18mm)	ϕ 1.9 to 1.5				
22 AWG (17/0.16mm)					

Note : Please contact a Hirose sales representative when using cables other than those specified.

Double Row Pin Header : Straight Type



●Applicable Through Hole Diameter of PCB : $\phi 1.3^{+0.1}_0$

●Applicable PCB Thickness : 1.6 ± 0.2

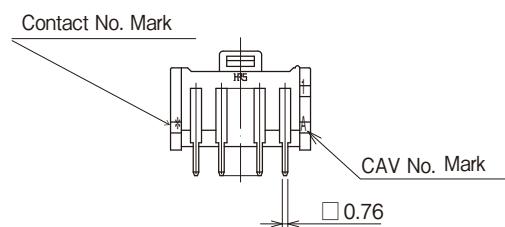
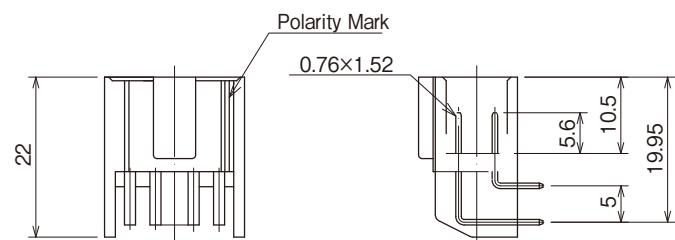
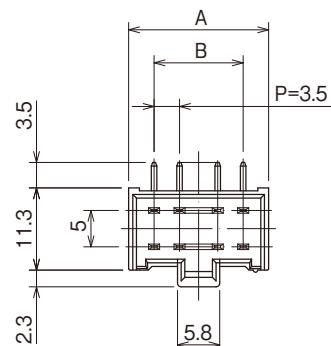
Part No.	HRS No.	No. of Pos.	A	B	Purchase Unit
MDF6-4DP-3.5DSA(23)	CL0547-0083-2-23	4	10.5	3.5	100pcs per bag
MDF6-6DP-3.5DSA(23)	CL0547-0084-5-23	6	14.0	7.0	
MDF6-8DP-3.5DSA(23)	CL0547-0085-8-23	8	17.5	10.5	
MDF6-10DP-3.5DSA(23)	CL0547-0086-0-23	10	21.0	14.0	

Double Row Pin Header : Right Angle Type



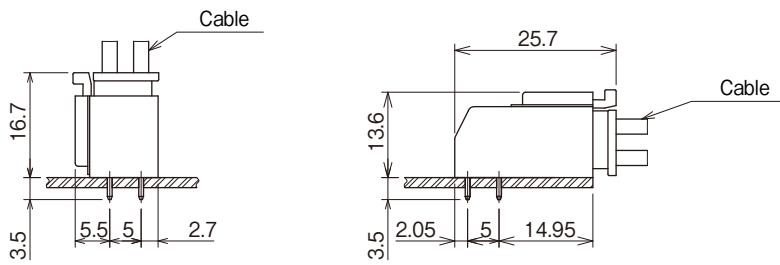
●Applicable Board Hole Diameter of PCB :
 $\phi 1.3^{+0.1}_0$

●Applicable PCB Thickness : 1.6 ± 0.2



Part No.	HRS No.	No. of Pos.	A	B	Purchase Unit
MDF6-4DP-3.5DS(23)	CL0547-0270-0-23	4	10.5	3.5	
MDF6-6DP-3.5DS(23)	CL0547-0271-2-23	6	14.0	7.0	
MDF6-8DP-3.5DS(23)	CL0547-0272-5-23	8	17.5	10.5	
MDF6-10DP-3.5DS(23)	CL0547-0273-8-23	10	21.0	14.0	100pcs per bag

Application Pattern



Applicable Crimping Tool

Type	Part No.	HRS No.	Applicable Contact
Main Press Unit	CM-105C	CL0901-0001-0-00	-
Applicator	AP105-MDF6-1618S	CL0901-4512-4-00	MDF6-1618SCF
	AP105-MDF6-2022S	CL0901-4513-7-00	MDF6-2022SCF
Manual Crimping Tool	MDF6-TA1618HC	CL0550-0203-5-00	MDF6-1618SC
	MDF6-TA-2022HC	CL0550-0204-8-00	MDF6-2022SC
Extraction Tool	DF-C-PO(A)	CL0550-0170-8-00	MDF6-####SC(F)

Note 1 : Issues caused by tools other than those specified by Hirose are outside the scope of warranty.

Note 2 : Please conduct crimping work according to the "Crimp Quality Standard (ETAD-H0792-00)" and "Crimp Condition Table".

Note 3 : When non-authorized tools are used, please consult with Hirose sales representative about provision of the drawing of the crimping tool.

Precautions When Crimping

■ Required Documents Prior to Crimping

The work-related documents listed below are required before beginning cable assembly (The ● mark indicates required documents). Please contact a Hirose sales representative if you do not have these documents.

Document Title	Description	Automatic Crimping Machine	Hand Crimping Tool	Reference
1. Crimping Machine Main Unit Instruction Manual	Explanation of main press machine unit	●	-	Bundled with purchase of main press machine unit. Bundled with purchase of applicator.
2. Applicator Instruction Manual	Crimping Method	●	-	
3. Applicator Spare Parts List	Explanation for Applicator Installation	●	-	
4. Crimp Conditions	Standard crimp height and tensile strength values	●	-	
5. Crimp Quality Standards	Various standards for crimping conditions	●	-	
6. Operating Instructions for Hand Tool	Crimping method, standard crimp height and tensile strength values	-	●	Bundled with purchase of hand tool.

■ Tools

Use the tools designated by Hirose when performing crimping. Crimping performed with tools other than those designated is outside the scope of warranty. The operating instruction manual for the crimping machine and applicator are provided. Be sure to carefully read the operating instructions before beginning work.

■ Applicable Cables

Check that the cables to be used are within the applicable range. If you intend to use a cable other than those recommended, contact a sales representative.

[Precautions]

- Cables applicable to crimping connectors are tin-plated stranded soft-copper wire.
- Avoid crimping solid wire, wires with polyester threads or tin coated wires.
- Avoid crimping two cables together.
- The crimp height setting values (Note) may vary between tin-plated and gold-plated terminals even if the same electric wires are used.
- The crimp height setting values (Note) may vary depending on the difference in the core wire configuration even if the computed cross-sectional area is the same.

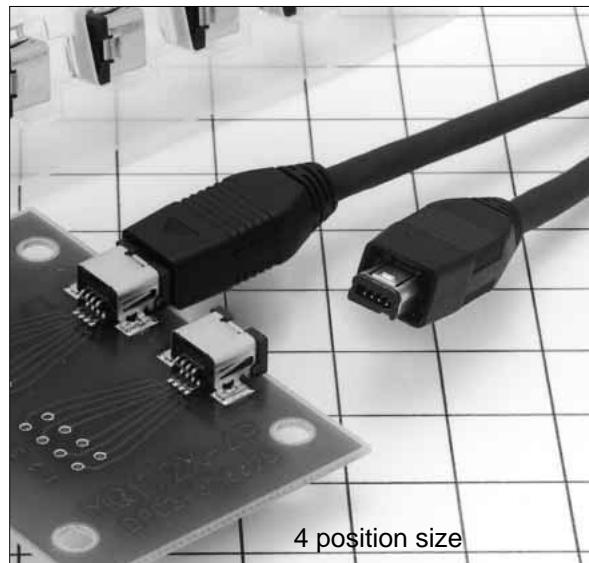
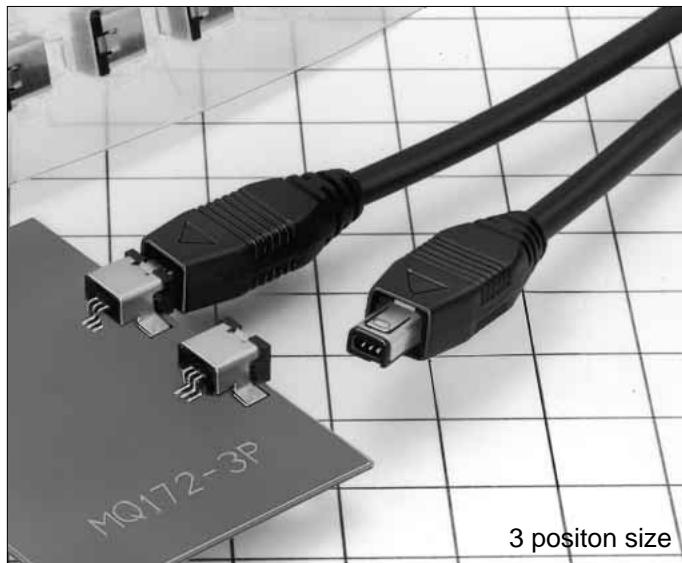
Note : The crimp height is an important item that determines crimping quality. We execute crimping tests for each electric wire to ensure the optimal value for the crimp height with high precision, thereby ensuring optimal setup values.

Precautions

1.Cleaning Conditions	Please refer to the "Wire-to-Board Connector Use Handbook".
2.Connection Conditions	Please refer to the "Wire-to-Board Connector Use Handbook".
3.Precautions	<ul style="list-style-type: none"> ■ The color of the plastic molding may differ slightly depending on product lot and future storage conditions but this does not affect the product performance. ■ Black spots may appear on the mold resin but this does not affect the product quality.
4.Handling	<ul style="list-style-type: none"> Please refer to the following documents when handling the product. ■ Crimp Quality Standard (ATAD-H0792-00) ■ Wire-to-Board Connector Use Handbook

Micro-Miniature Interface Connectors For Power Supply/Signaling

MQ172 Series



■Features

1. Ultra Miniature/Low Profile SMT Design

With dimensions of 3.9mm(H) x 6.4mm (W) x 6mm (D) for the 3 contact type, this series is ideal for today's miniature, lightweight electronic products.

2. Automatic Mounting:

SMT receptacles are packaged in embossed tape and reel for automatic pick and place installation.

3. Reliable contact:

The 2-point contact design and lead construction provide a contact which is resistant to vibration and shocks.

4. High current capacity:

Unique contact design ensures high current capacity (e.g., 3A for 3-position), small as it is.

5. Positive Locking

Use of a snap-lock system provides the sensation of locking at the time of insertion.

6. Wide variety of suitable cables:

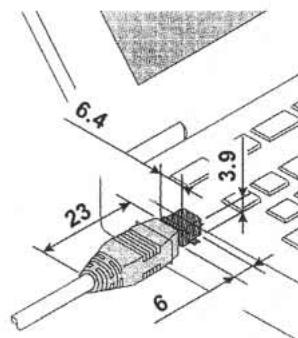
A wide selection of cable types can be utilized since the plug is of the soldered wiring type.

Additionally, the plug case and cord bushing are integrated into a one piece body, allowing for easy assembly by simply pressing the case into place after the harness work.

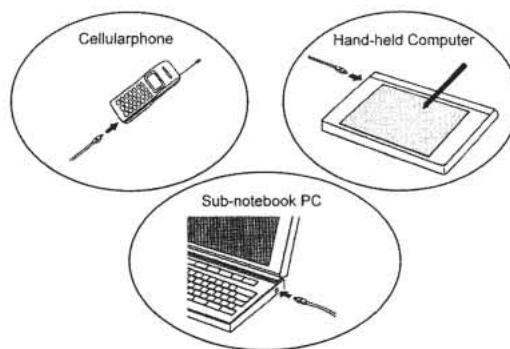
6. Keys for preventing incorrect insertion:

Both 3 and 4-contact types have keys to prevent incorrect insertion.

Space saving [3 Position type]



Applications



■Applications

Portable remote terminals, portable telephones, PHS(personal handy phone system), Notebook PCs, Electronic measuring instruments, etc.

■Product Specifications

RATINGS	Rated Current: 3A (Note.1) Rated Voltage: DC 30V or less AC 40V or less	Applicable Temperature Range: -30°C - +75°C
---------	---	--

DESCRIPTION	SPECIFICATIONS	REQUIREMENTS	
1. Insulation resistance	1000MΩ or more	Should be measured at DC 100V.	
2. Voltage resistance	No flashover/dielectric Breakdown	Should be powered at AC 250V for 1 minute.	
3. Contact resistance	30mΩ or less	Measured at 10mA.	
4. Vibration resistance	No instantaneous electric Disconnection of 1μsec or more	10~55Hz, one-sided amplitude 0.75mm, 3 directions for 2 hours, respectively	
5. Humidity resistance	Contact resistance: 50mΩ or less Insulation resistance: 10MΩ or more	Leave under the condition of 40±2°C in temperature and of 90-95% in humidity for 96 hours.	
6. Temperature cycle	Contact resistance: 50mΩ or less Insulation resistance: 1000MΩ or more	(-55°C: 30 minutes → 15-35°C: max. 5 minutes → 85°C: 30 minutes → 15-35°C: max. 5 minutes) 5 cycles	
7. Plugging/ unplugging life	Contact resistance: 50mΩ or less	5,000 times	
8. Heat resistance of soldering	No fusion of resin section affecting performance	SMT type manual soldering (receptacle and plug)	reflow: at recommended temp. profile Temperature of soldering iron: 350°C 3 sec.

(Note.1) For 4-contact type, rated current is 2A, or 3A for optional 2 terminals and 0.5A for other 2 terminals.

(Note.2) Above-stated specifications are typical of this series. For respective formal contract, please refer to "Delivery Specifications".

■Material Quality

Parts	Material	Processing	Remarks
Dielectric	Synthetic resin	Black color	UL94V-0
Terminal	Phosphor bronze	Engagement area...Gold plating of 0.2μm Lead section...Solder-plating	
Cover case(plug)	Synthetic resin	Black color	UL94V-0
Metal fittings(receptacle)	Stainless steel		
Lock case(plug)	Stainless steel		

■Ordering information

●RECEPTACLE

MQ172 X - 4 P A (66)

① ② ③ ④ ⑤ ⑥

●PLUG

MQ172 X - 4 S A - CV (50)

① ② ③ ④ ⑤ ⑦ ⑧

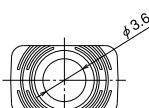
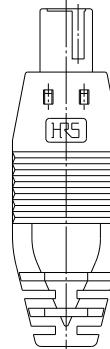
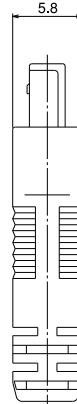
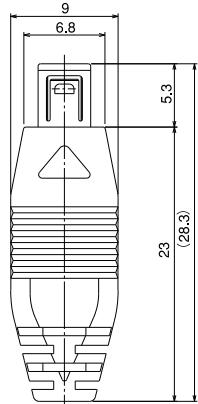
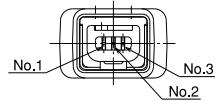
① Series name: MQ172
② Series configuration symbol: none...unshielded type X ...shielded type
③ Number of contacts: 3, 4
④ Connector type: P...receptacle S...plug
⑤ Key type symbol: A (only for A type)
⑥ Packing type: (55)...tray-based packing (66)...embossed tape packing
⑦ Cover case type: CV...standard product (color: black)
⑧ RoHS compliant : (50)

■Plugs

●3-Position type



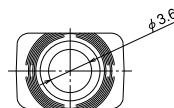
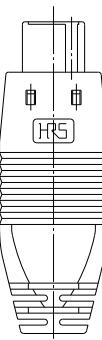
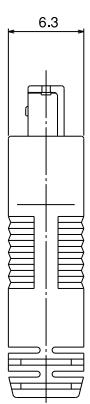
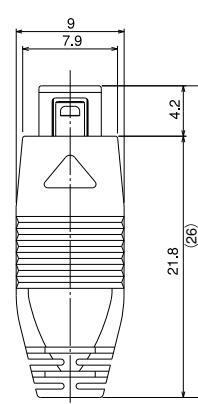
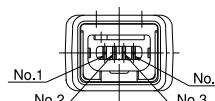
Parts No.	HRS No.	RoHS
MQ172-3SA-CV(50)	CL206-0951-7-50	YES



●4-Position type



Parts No.	HRS No.	RoHS
MQ172X-4SA-CV(50)	CL206-2001-9-50	YES



■Harness Tool

Tool name	Parts No.	HRS No.	Parts name of adaptive plugs	Adaptive cable
Cable caulking jig	MQ172-3S/CK-MP	CL902-2069-4	MQ172-3SA-CV(50)	Outside diameter:Φ3.5
	MQ172-4S/CK-MP	CL902-2070-3	MQ172X-4SA-CV(50)	AWG#24-#32

(Note.) As the crimp height after crimping depends on cable type, please consult factory about your designated cable.

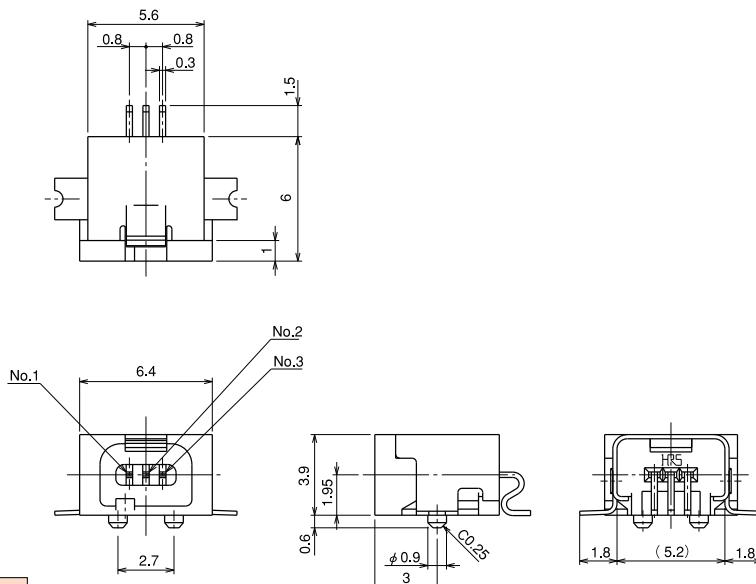
■Receptacles

●3-Position type



Parts No.	HRS No.	RoHS
MQ172-3PA-(**)	CL206-0950-4(**)	YES

** (55) : tray-based packing
 (66) : embossed tape packing
 (1 reel = 1,000 pcs.)

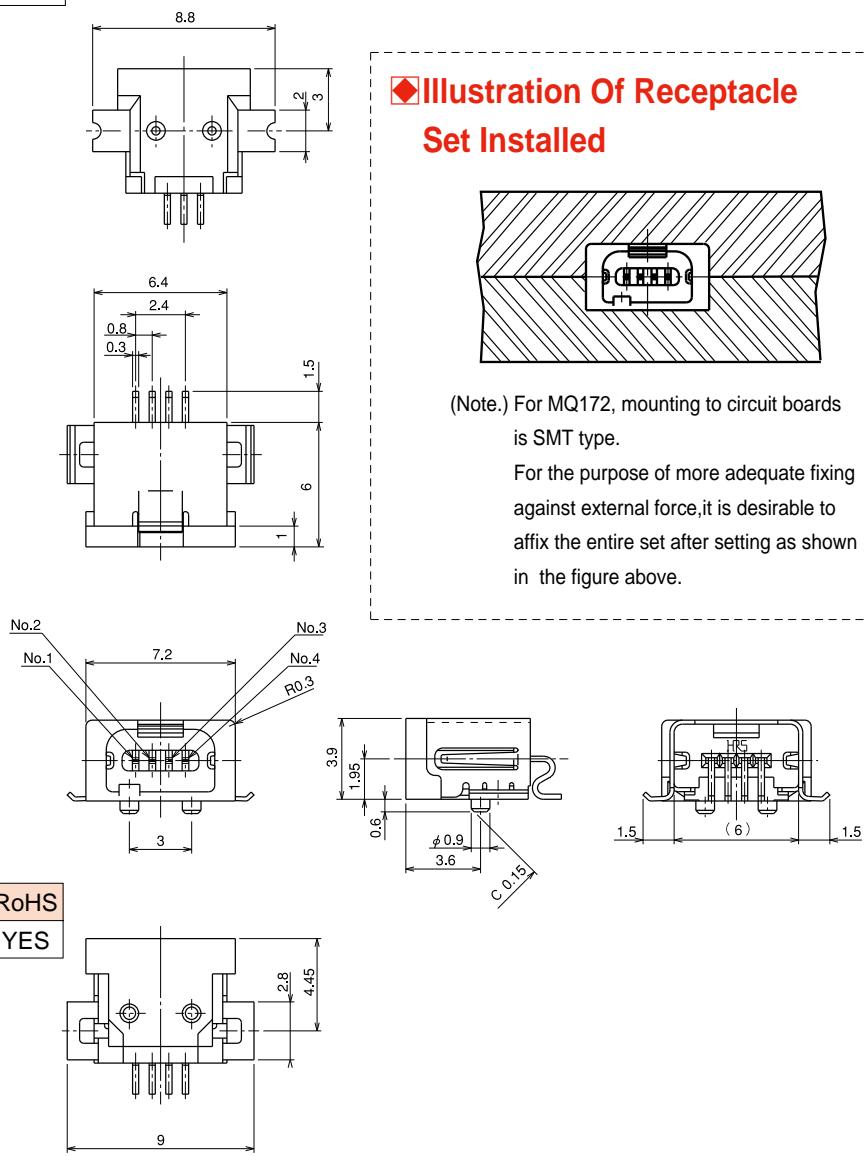


●4-Position type

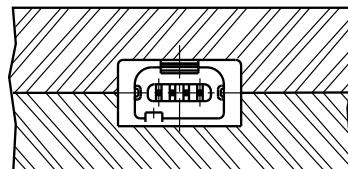


Parts No.	HRS No.	RoHS
MQ172X-4PA-(**)	CL206-2000-6(**)	YES

** (55) : tray-based packing
 (66) : embossed tape packing
 (1 reel = 1,000 pcs.)



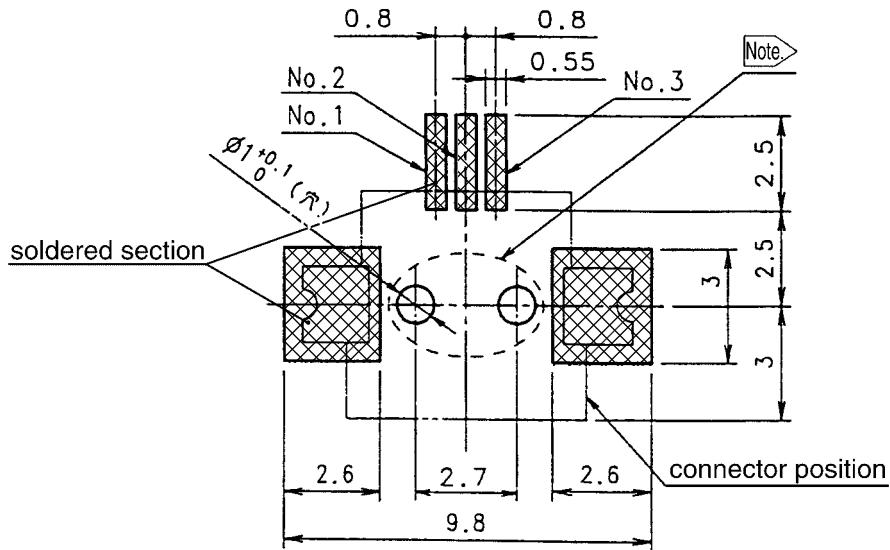
◆Illustration Of Receptacle Set Installed



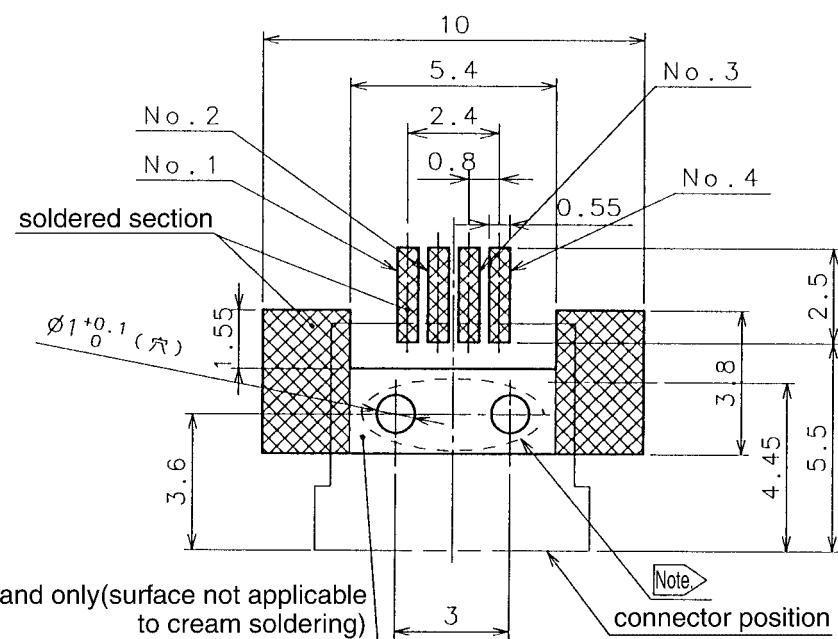
(Note.) For MQ172, mounting to circuit boards is SMT type.
 For the purpose of more adequate fixing against external force, it is desirable to affix the entire set after setting as shown in the figure above.

◆Recommended Land Pattern Dimensions Diagram

●3-Position type



●4-Position type

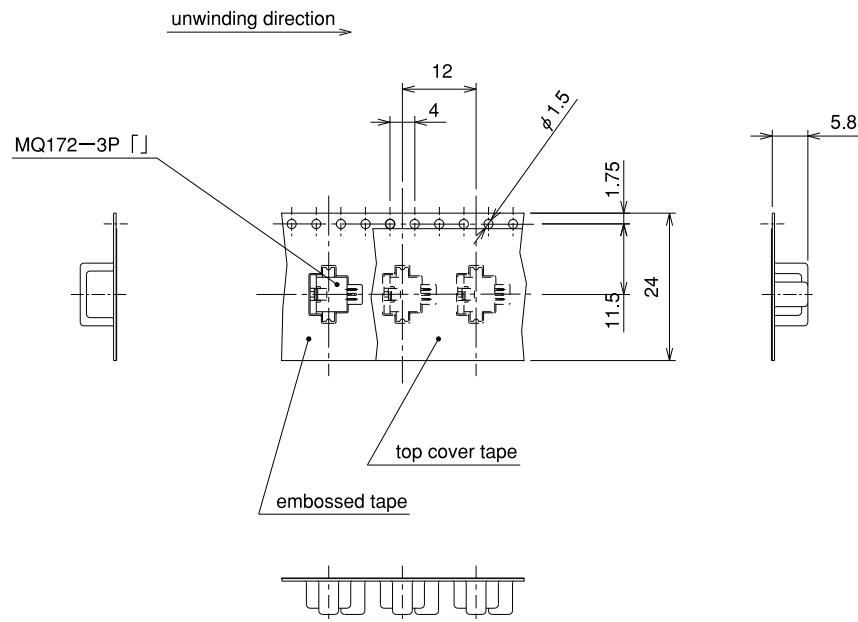


Note.) Mounting of this product to circuit boards is the SMT type.

To provide more adequate fixing, use of adhesive for board-installed area is recommended.

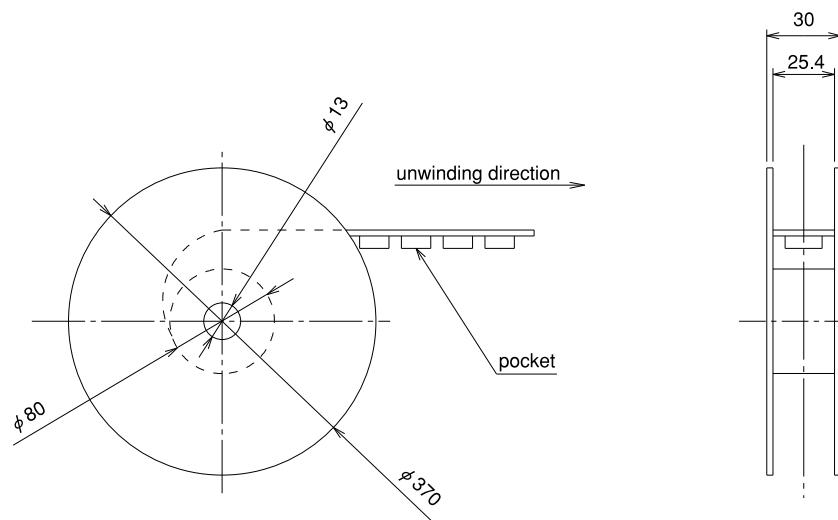
◆Embossed Tape Carrier Dimensions Diagram(JIS-C-0806 dependent)

●Carrier Dimensions Diagram

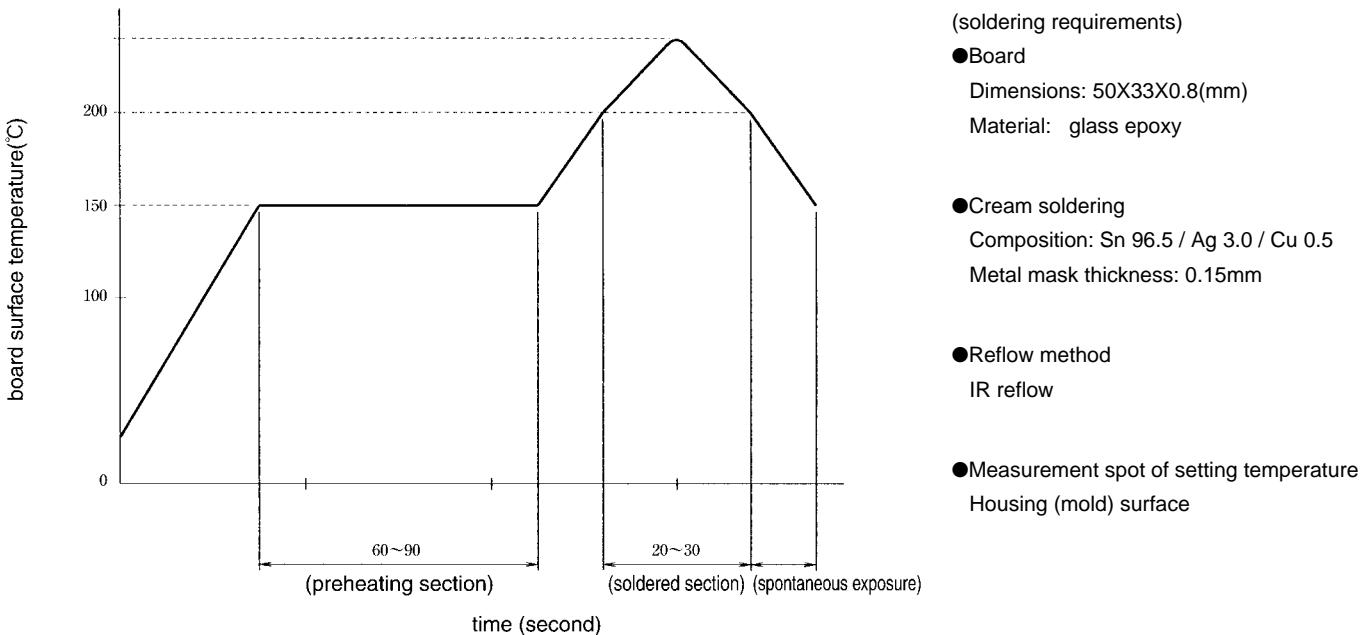


(Note.) The figure above provides the case of a 3 contact type, dimensions shown in such figure are the same as those of a 4 contact type.

●Reel Status Diagram



◆Recommended Temperature Profile



Алматы (7273)495-231
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
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