

Crimping Contact Directly Mounted on Board

MDF12, MDF27 Series



■ Features

1. Cable Direct Mounting Service Improved

The existing cable core soldered directly on the board is remade into the crimping contact, which can enhance the service efficiency and the reliability.

- Achieves pre-soldering fixation according to the board pre-fixed style, and enhances the service efficiency.
- Accepts a load to the cable at the contact, and prevents contact wire cutting.

2. Cable Lateral Unreeling Possible

The cable can be unreeled lateral to the board by using the angle type MDF27.

3. Current Capacity Secured Corresponding to Thick Cable

The cable size corresponds to AWG22 to 14, while AWG14 secures 15A current capacity.

In addition, since the contacts are provided corresponding to UL1007 and UL1015 jackets, the contact can be chosen according to applications.

■ Applications

Various kinds of electronic equipment power supplies, etc.

■Product Specifications

| | | | |
|--------|--------------------------|---|--|
| Rating | Current rating Note 1 | AWG 14 : 15A AWG 16 : 10A AWG 18 : 9A AWG 20 : 5A AWG 22 : 5A | Operating Temperature Range -35 to +85°C(Note 2) Operating Moisture Range 20 to 80% |
| | Voltage rating | 300V AC | Storage Temperature Range -10 to +60°C Storage Moisture Range 40 to 70% |

| Item | Specification | Condition |
|---------------------------------|---|--|
| 1. Contact Resistance | 15m ohms max. | 100mA |
| 2. Vibration | No damage, cracks, or parts looseness. | Frequency: 10 to 55 Hz, single amplitude of 0.75 mm, 2 hours in each of the 3 directions. |
| 3. Humidity (Steady state) | No damage, cracks, or parts looseness. | 96 hours at temperature of 40°C and humidity of 90% to 95% |
| 4. Temperature Cycle | No damage, cracks, or parts looseness. | (-55°C: 30 minutes-> 5 to 35°C: 10 minutes-> 85°C: 30 minutes-> 5 to 35°C: 10 minutes) 5cycles |
| 5. 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: 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.

■Material

| Product | Part | Material | Finish |
|---------------------------|----------|----------|------------|
| Crimping Contact for Plug | Terminal | Brass | Tin plated |

Note : The whisker method is implemented for the tin plating.

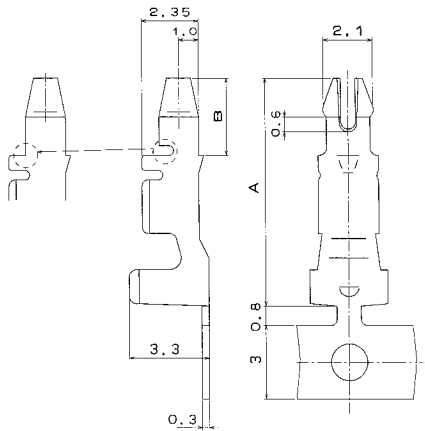
■Ordering Information

●Contact

MDF 12 A - 1822 PCF
1
2
3
4
5

| | |
|---|---|
| 1 Series Name: MDF | 4 Applicable Cable Size 1822: AWG18 to 22 1416: AWG14 to 16 |
| 2 Series No. 12: Vertical type 27: Horizontal type | 5 Packaging Type PCF : Plug contact / reel PC : Plug contact / bag |
| 3 Cable Type Blank : UL1007 A : UL1015 | |

■MDF12 Series

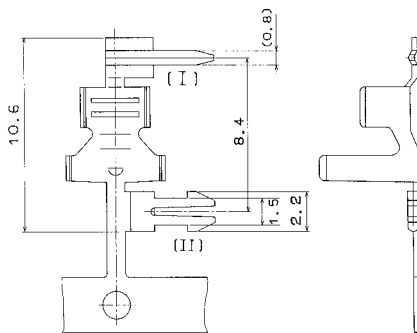


Note: AWG14-16

| Part Number | CL No. | Applicable Cable | | Packaging Type | A Size | B Size |
|----------------|------------|------------------------|-----------------|----------------|--------|--------|
| | | AWG | Jacket Diameter | | | |
| MDF12 -1822PCF | 547-0196-9 | AWG 18 to AWG 22 | 1.5mm to | 5,000 | 9.4 | 3.2 |
| MDF12 -1822PC | 547-0221-4 | | 2.2mm | 100 | | |
| MDF12A-1822PCF | 547-0208-6 | 2.1mm to | 3,500 | | | |
| MDF12A-1822PC | 547-0222-7 | 2.9mm | 100 | | | |
| MDF12 -1416PCF | 547-0209-9 | AWG 14 to AWG 16 | 2.4mm to | 2,500 | 11.2 | 3.6 |
| MDF12 -1416PC | 547-0223-0 | | 2.7mm | 100 | | |
| MDF12A-1416PCF | 547-0210-8 | 2.6mm to | 2,500 | | | |
| MDF12A-1416PC | 547-0224-2 | 3.6mm | 100 | | | |

- Applicable Board Hole Diameter : $\phi 1.8^{+0.1}$
- Applicable Board Thickness : 1.6

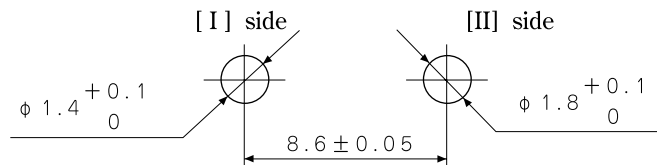
■MDF27 Series



| Part Number | CL No. | Applicable Cable | | Packaging Type |
|----------------|------------|------------------------|-----------------|----------------|
| | | AWG | Jacket Diameter | |
| MDF27 -1822PCF | 547-0286-0 | AWG 18 to AWG 22 | 1.5mm to | 5000 |
| MDF27 -1822PC | ———— | | 2.2mm | 100 |
| MDF27A-1822PCF | 547-0288-5 | AWG 14 to AWG 16 | 2.1mm to | 3500 |
| MDF27A-1822PC | ———— | | 2.9mm | 100 |
| MDF27 -1416PCF | 547-0294-8 | AWG 14 to AWG 16 | 2.4mm to | 2500 |
| MDF27 -1416PC | ———— | | 2.7mm | 100 |
| MDF27A-1416PCF | 547-0296-3 | AWG 14 to AWG 16 | 2.6mm to | 2500 |
| MDF27A-1416PC | ———— | | 3.6mm | 100 |

- Applicable Board Thickness : 1.6

●PCB mounting pattern



- Applicable Cable (Tin Plating Annealed Copper Wire)

| Conductor Size (Wire Construction) |
|------------------------------------|
| AWG 14 (41 cores./0.25mm) |
| AWG 16 (41 cores./0.254mm) |
| AWG 18 (34 cores./0.18mm) |
| AWG 20 (21 cores./0.18mm) |
| AWG 22 (17 cores./0.16mm) |

- Strip Length
3.3 to 4.2mm

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

◆ Applicable Crimping Tool

| Type | Part Number | CL No. | Applicable Contact |
|----------------------|--------------------|------------|--------------------|
| Applicator | AP105-MDF12-1822P | 901-4514-0 | MDF12 -1822PCF |
| | AP105-MDF12A-1822P | 901-4515-2 | MDF12A-1822PCF |
| | AP105-MDF12-1416P | ————— | MDF12 -1416PCF |
| | AP105-MDF12A-1416P | 901-4533-4 | MDF12A-1416PCF |
| | AP105-MDF27-1822P | ————— | MDF27 -1822PCF |
| | AP105-MDF27A-1822P | ————— | MDF27A-1822PCF |
| | AP105-MDF27-1416P | ————— | MDF27 -1416PCF |
| | AP105-MDF27A-1416P | ————— | MDF27A-1416PCF |
| Pres Main Unit | CM-105 | 901-0005-4 | ————— |
| Manual Crimping Tool | MDF12 -TA1822HC | 550-0238-0 | MDF12 -1822PC |
| | MDF12A-TA1822HC | 550-0239-2 | MDF12A-1822PC |
| | MDF12 -TA1416HC | ————— | MDF12 -1416PC |
| | MDF12A-TA1416HC | 550-0237-7 | MDF12A-1416PC |
| | HT104/MDF27-1822P | ————— | MDF27 -1822PC |
| | MDF27A-TA1822HC | ————— | MDF27A-1822PC |
| | MDF27 -TA1416HC | ————— | MDF27 -1416PC |
| | MDF27A-TA1416HC | ————— | MDF27A-1416PC |

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. If products with no CL No. are ordered, consult HRS sales department.

◆ Precautions

| | |
|--|--|
| 1. Recommended Soldering Condition (DIP) | <p>Flow: 250℃ for 3 seconds</p> <p>Manual soldering: 290℃ for 3 seconds</p> <p>■ After the soldering process, if a load is applied to the cable where the connector and the cable contains heat, the jacket retaining area will be easily loosened. Be sure to carry out the post-soldering operation after the connector returns to the room temperature.</p> |
| 2. Cleaning Condition | <p>Refer to Nylon Connector Use Hand book.</p> <p>Don't use a solvent such as trichloroethane, which degrades the cable jacket. In addition, avoid heat cleaning by solvent.</p> |
| 3. Connection Condition | <p>Refer to Nylon Connector Use Hand book.</p> |