

# MICRO COAXIAL CONNECTOR

---

Applicable for

IEEE802.11a/b/g/n, UWB, WiMAX, Bluetooth, iBurst,  
ZigBee and MIMO(Multiple Input and multiple output)

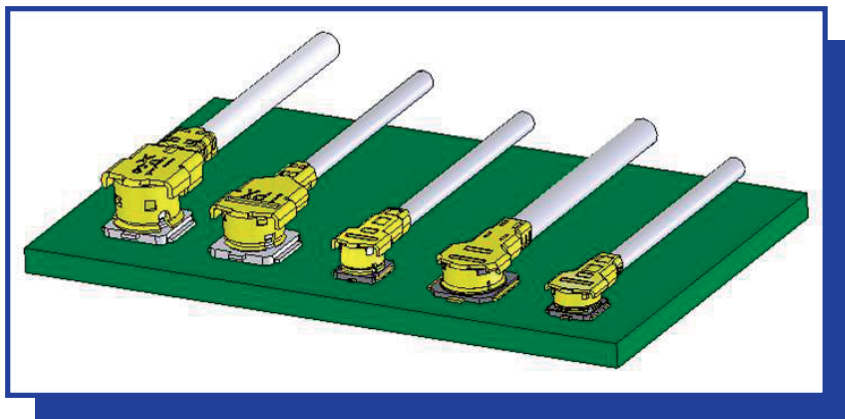
RoHS Compliance

Halogen - Free \*1

MHF SERIES

Easy Cable termination by "i-Fit<sup>®</sup>" Technology

# MHF SERIES MICRO COAXIAL CONNECTOR



## 【Major Application】

- Wireless LAN Antenna
  - Cellular Phone
  - Note Book Computer
  - Game Equipment
  - Digital Appliance
  - Access Point

## 【Key Features】

- SMT Receptacle and Mating Plug Cable Connector
- Small form factor and low profile : 1.2mm to 2.5mm MAX. Mating Height
- Applicable Cable :  
O.D.0.64mm / 0.81mm / 0.98mm / 1.13mm / 1.32mm / 1.37mm and 1.8mm Coaxial Cable
- High productivity : Easy Cable termination by “i-Fit<sup>®</sup>” without soldering
- Applicable Technology :  
IEEE802.11 a/b/g/n, UWB, WiMAX, iBurst, Zigbee, Bluetooth Wireless and MIMO

## 【Specifications】

- Frequency Range : DC up to 6GHz ( V.S.W.R. : 1.3MAX at 0.1~3GHz, 1.4MAX at 3~6GHz )
- Characteristic Impedance : 50 ohm ( Nominal )
- Temperature : -40°C to +90°C
- Rated Voltage : AC 60V
- Contact Resistance : 20m ohm MAX. ( Signal ) and 10m ohm MAX. ( Ground )
- Withstand Voltage : AC 200V
- Insulation Resistance : 500M ohm MIN. / DC 100V

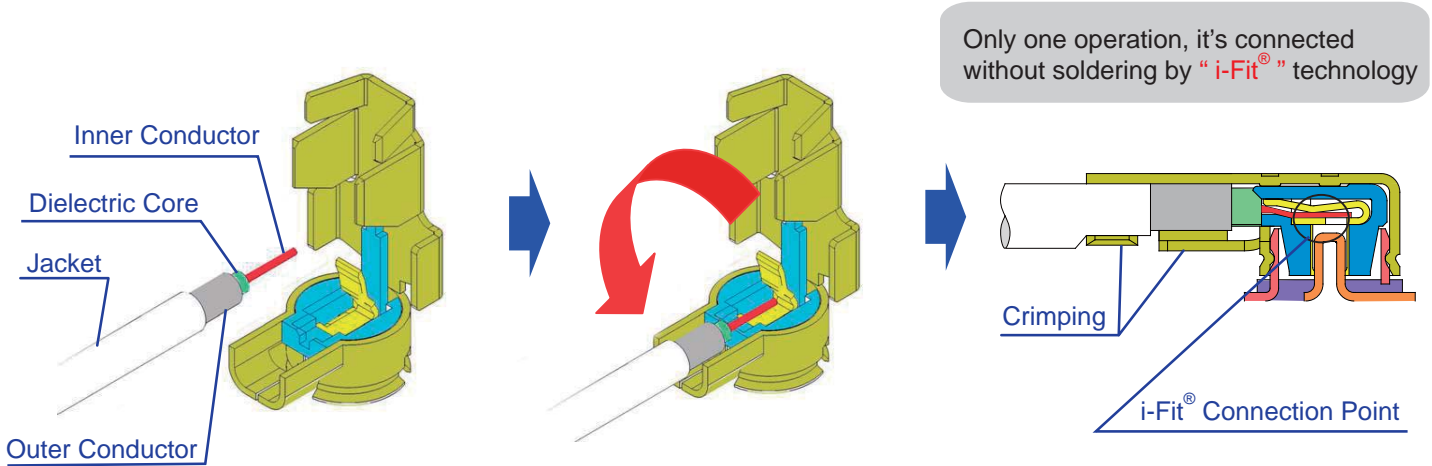
## 【Product Overview】

MHF type Plating (Center/ Ground)	MHF Receptacle			MHF III Receptacle		MHF-A Receptacle		MHF 4 Receptacle			
	MHF Plug	MHF II Plug		MHF III Plug		MHF-A13 Plug		MHF 4 Plug	MHF 4 SMT Plug		
Mating Height	2.5mm (MAX.)	2.1mm (MAX.)		1.6mm (MAX.)		1.45mm (MAX.)		1.2mm (MAX.)	1.2mm (MAX.)		
Gold/ Gold	20279-001E-01 (3pads) 20441-001E-01 (4pads)	20278-1*2R-**	20351-1*2R-37	20311-011R-08	20369-001E	20367-001R	20429-001E	20428-001R	20407-001E	20448-001R-081	20462-001E
Gold/ Silver	20314-001E-01 (3pads)	20308-1*2R-13 20308-1*2R-32	N/A	20312-011R-08 20312-011R-10	N/A	N/A	N/A	N/A	N/A	N/A	N/A

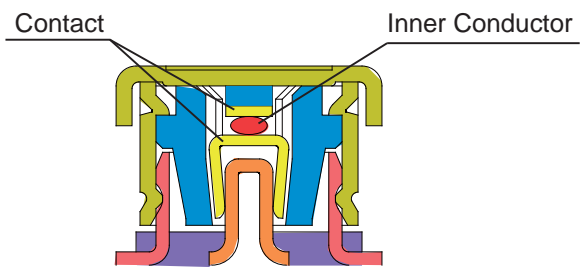
◆All Center contact are Gold Plated

Easy and Speedy Cable Connection of Center Conductor ( i-Fit<sup>®</sup> ) and Outer Conductor at **Only one operation** by our special assembling tool

< i-Fit<sup>®</sup> Connection mechanism >

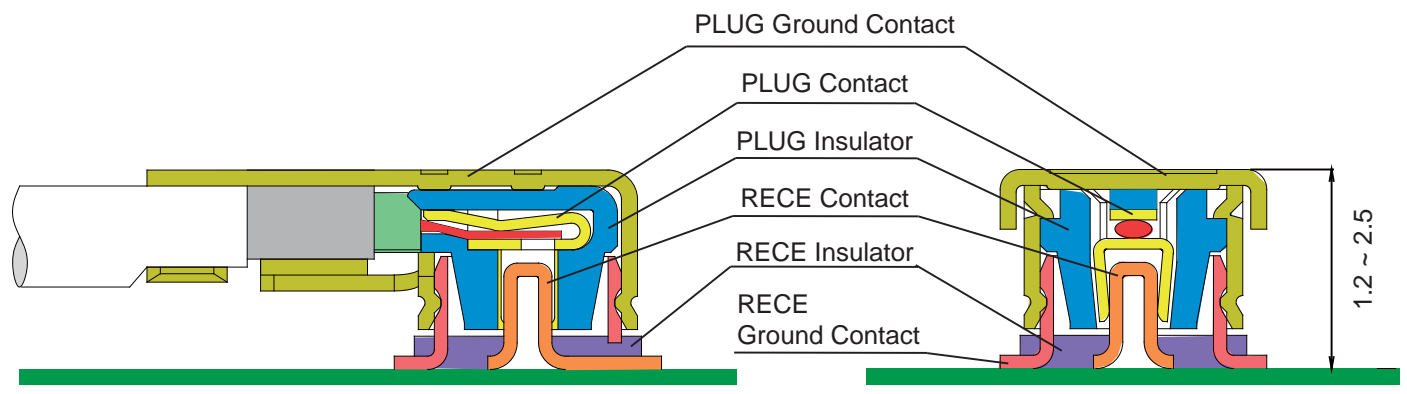


i-Fit<sup>®</sup> PATENT NO.  
U.S.A. PAT.6,790,082  
JAPAN PAT.4148339



i-Fit<sup>®</sup> Cross-section

< Product Mechanism >



# MHF Receptacle

## 3pads type

### 【Part Number】

Ground Contact : **Au Plating**

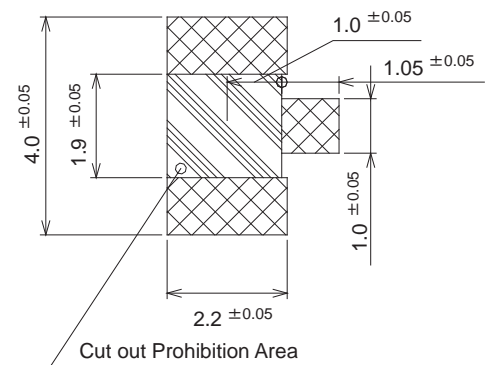
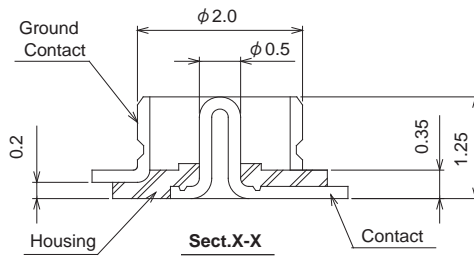
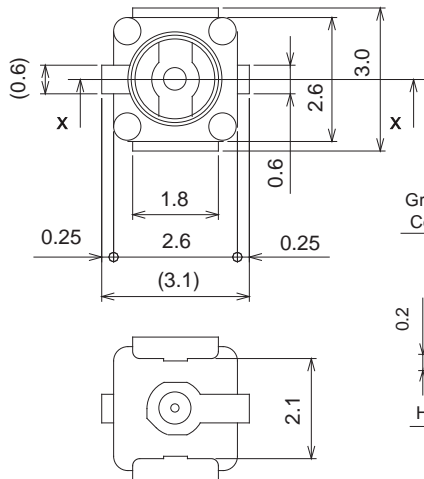
**20279-001 E- 01**

Packing : Emboss Tape  
1reel : 2,500pcs

Ground Contact : **Ag Plating**

**20314-001 E- 01**

Packing : Emboss Tape  
1reel : 2,500pcs



RECOMMENDED FOOTPRINT PATTERN

## 4pads type

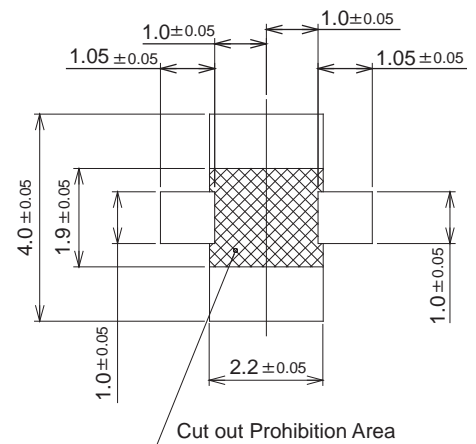
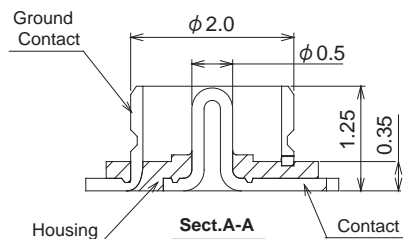
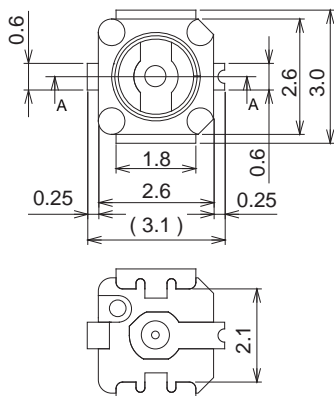
### 【Part Number】

Ground Contact : **Au Plating**

**20441-001 E- 01**

※

※ Packing : Emboss Tape  
1reel : 5,000pcs



RECOMMENDED FOOTPRINT PATTERN

### 【Material and Finish】

Parts	Material	Plating / Color (3pads)	Plating / Color (4pads)
HOUSING	LCP UL94V-0	NATURAL	BLACK
CONTACT	COPPER ALLOY	Au	Au
GROUND CONTACT	COPPER ALLOY	Au or Ag	Au

# MHF Plug Cable Assembly

Mating Height : 2.5mm MAX

Applicable for Four kinds of Cable Size

## 【Part Number】

Ground Contact : **Au** Plating

Ground Contact : **Ag** Plating

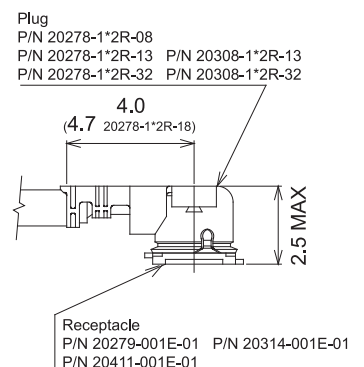
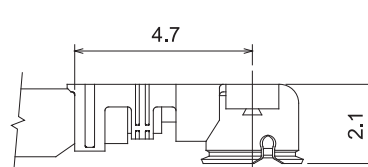
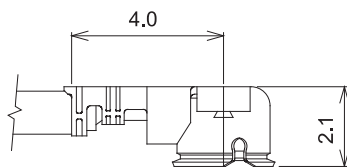
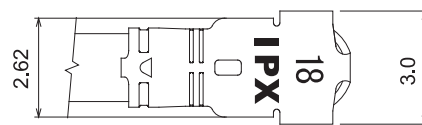
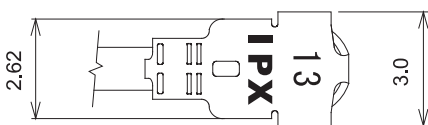
**20278-1 \* 2 R- \* \***  
 ① ② ③

**20308-1 \* 2 R- \* \***  
 ① ② ③

①	TOOL	<b>0</b>	for Hand Tool ( with Notch )
		<b>1</b>	for Semi-Auto ( without Notch )
②	Packing	<b>R</b>	Reel 1reel : 2,000pcs
③	Applicable Cable Size	-	P/N 20278 : 08, 13, 32, 18 P/N 20308 : 13, 32

## 【Applicable Cable Size】

Part No. (Au)	20278-1**R-08	20278-1**R-13	20278-1**R-32	20278-1**R-18
Part No. (Ag)	-	20308-1**R-13	20308-1**R-32	-
	for AWG#36	for AWG#32	for AWG#32	for AWG#30
Braided Shield of Outer Conductor	Single Braided Shield	Single Braided Shield	Double Braided Shield	Single Braided Shield



## 【Material and Finish】

MATED VIEW

Parts	Material	Plating / Color	Note
HOUSING	PBT UL94V-0	NATURAL or BLACK	Only Au 08, Au 18 is NATURAL
CONTACT	COPPER ALLOY	Au	
GROUND CONTACT	COPPER ALLOY	Au or Ag	

# MHF Plug Cable Assembly

Mating Height : 2.5mm MAX

Applicable Cable for **O.D.1.37mm** Cable

## 【Part Number】

Ground Contact : **Au** Plating

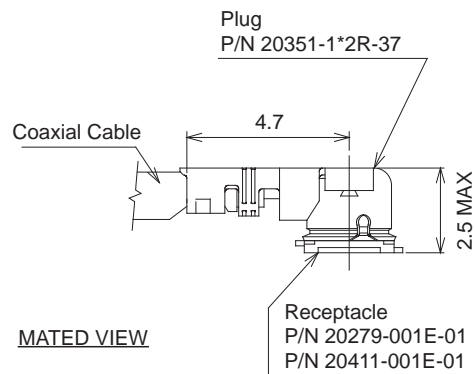
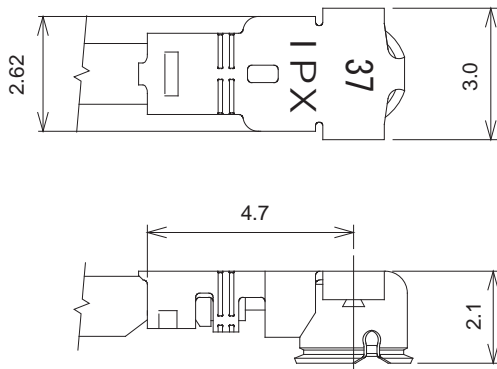
**20351-1 \* 2 R- 37**

① ②

①	TOOL	<b>0</b>	for Hand Tool ( with Notch )
		<b>1</b>	for Semi-Auto ( without Notch )
②	Packing	<b>R</b>	Reel 1reel : 2,000pcs

## 【Applicable Cable Size】

Part No. (Au)	20351-1**R-37-*
Part No. (Ag)	-
	for AWG#30
Applicable Cable Nominal Dimension	
Braided Shield of Outer Conductor	Single Braided Shield



## 【Material and Finish】

Parts	Material	Plating / Color
HOUSING	PBT UL94V-0	NATURAL
CONTACT	COPPEER ALLOY	Au
GROUND CONTACT	COPPEER ALLOY	Au

# MHF II Plug Cable Assembly

Mating Height : **2.1mm MAX**

## 【Part Number】

Ground Contact : **Au** Plating

**20311-011 R - 08**

①

Ground Contact : **Ag** Plating

**20312-011 R- \* \***

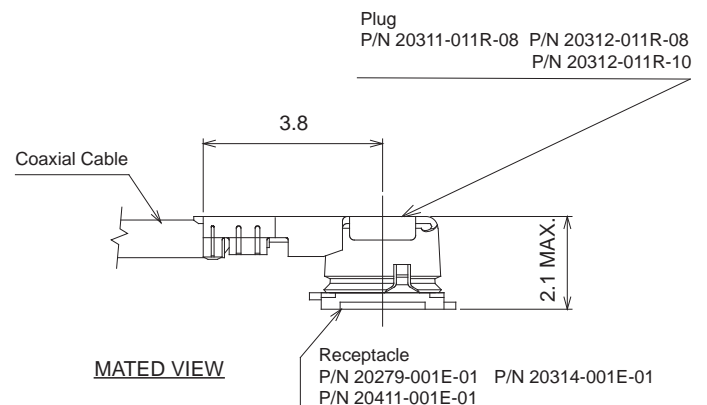
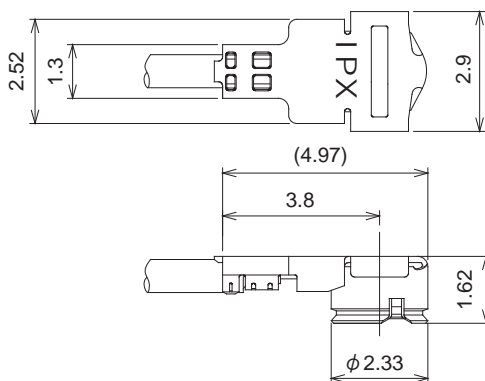
①

②

①	Packing	<b>R</b>	Reel 1reel : 2,000pcs
②	Applicable Cable Size	-	08, 10

## 【Applicable Cable Size】

Part No. (Au)	20311-011R-08	-
Part No. (Ag)	20312-011R-08	20312-011R-10
	for AWG#36	for AWG#33
Applicable Cable Nominal Dimension 		
Braided Shield of Outer Conductor	Single Braided Shield	Single Braided Shield



## 【Material and Finish】

Parts	Material	Plating / Color
HOUSING	LCP UL94V-0	NATURAL
CONTACT	COPPER ALLOY	Au
GROUND CONTACT	COPPER ALLOY	Au or Ag

# MHF III Receptacle

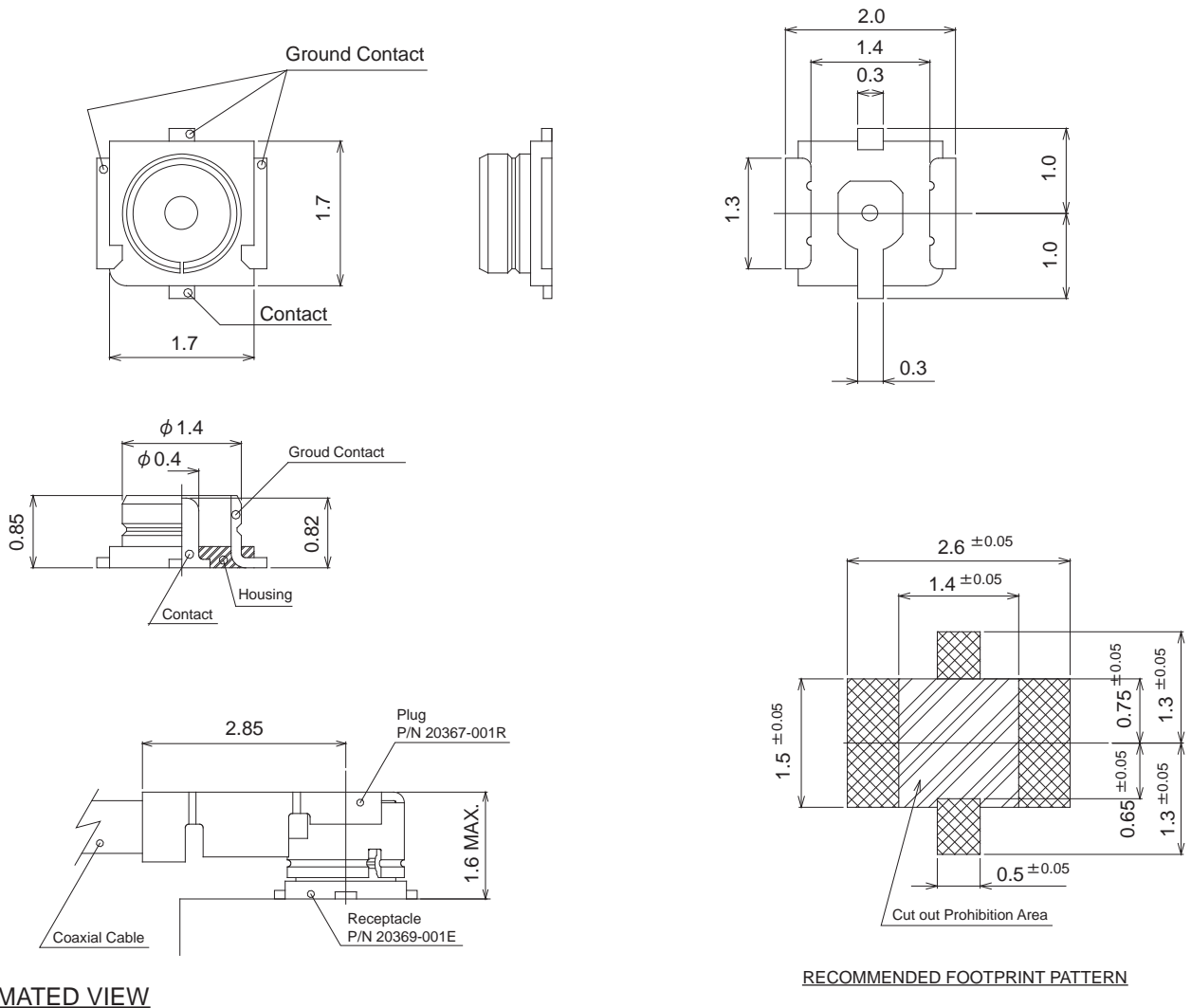
Mating Height : **1.6mm MAX**

## 【Part Number】

Ground Contact : **Au Plating**

# 20369-001 E

Packing : Emboss Tape  
1reel : 5,000pcs



MATED VIEW

RECOMMENDED FOOTPRINT PATTERN

## 【Material and Finish】

Parts	Material	Plating / Color
HOUSING	LCP UL94V-0	BLACK
CONTACT	COPPER ALLOY	Au
GROUND CONTACT	COPPER ALLOY	Au

# MHF III Plug Cable Assembly

Applicable Cable for **O.D.0.81mm** Cable

## 【Part Number】

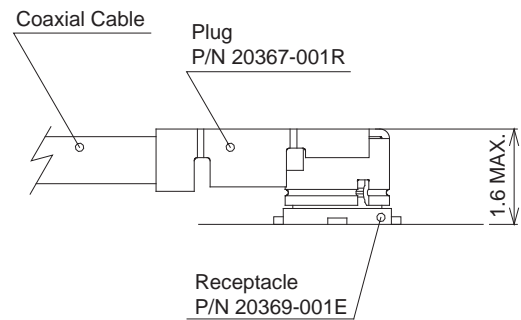
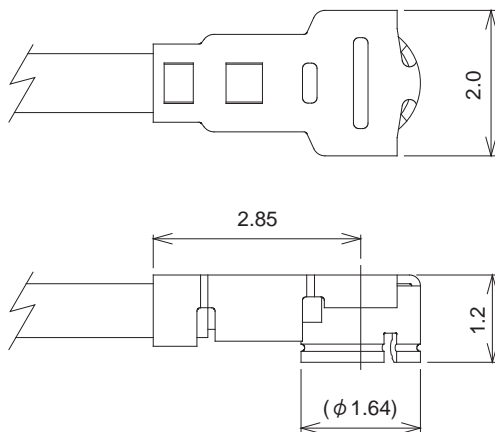
Ground Contact : **Au** Plating

### 20367 - 001 R

Packing : Reel  
1 reel : 2,000pcs

## 【Applicable Cable Size】

Part No. (Au)	20367-001R
Part No. (Ag)	-
	for AWG#36
Applicable Cable Nominal Dimension	
Braided Shield of Outer Conductor	Single Braided Shield



MATED VIEW

## 【Material and Finish】

Parts	Material	Plating / Color
HOUSING	LCP UL94V-0	NATURAL
CONTACT	COPPER ALLOY	Au
GROUND CONTACT	COPPER ALLOY	Au

# MHF-A Receptacle

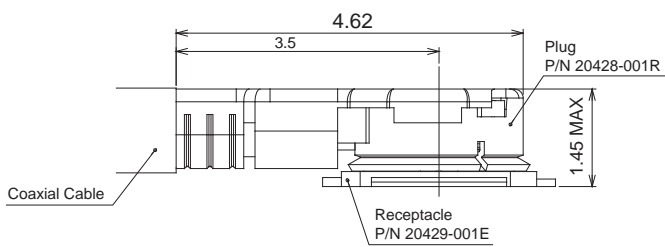
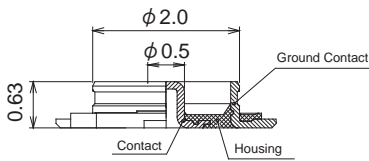
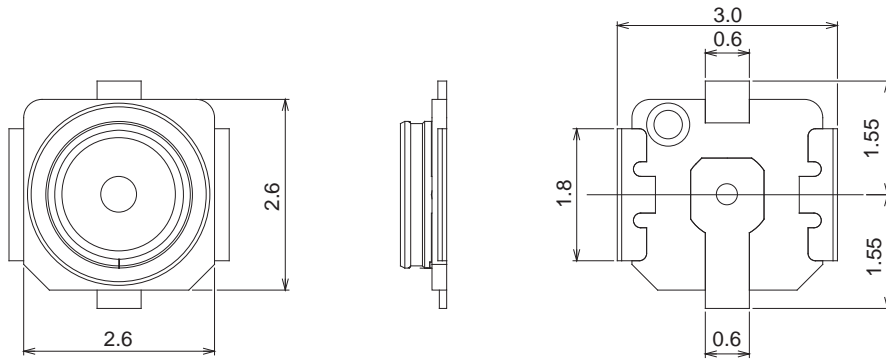
Mating Height : **1.45mm MAX**

## 【Part Number】

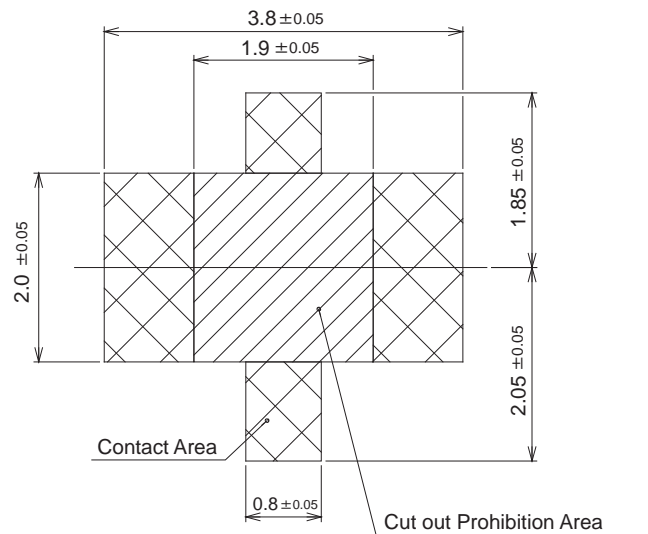
Ground Contact : **Au Plating**

# 20429-001 E

Packing : Emboss Tape  
1reel : 5,000pcs



**MATED VIEW**



**RECOMMENDED FOOTPRINT PATTERN**

## 【Material and Finish】

Parts	Material	Plating / Color
HOUSING	LCP UL94V-0	BLACK
CONTACT	COPPER ALLOY	Au
GROUND CONTACT	COPPER ALLOY	Au

# MHF-A13 Plug Cable Assembly

Applicable Cable for **O.D.1.13mm** Cable

## 【Part Number】

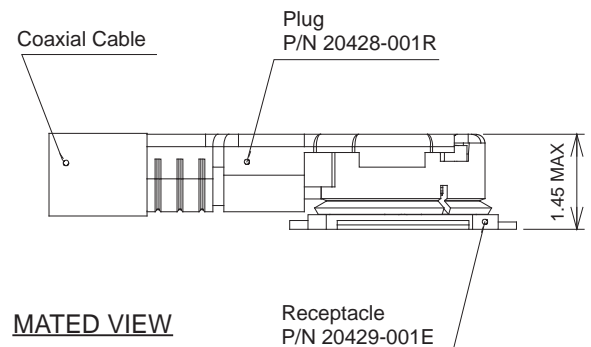
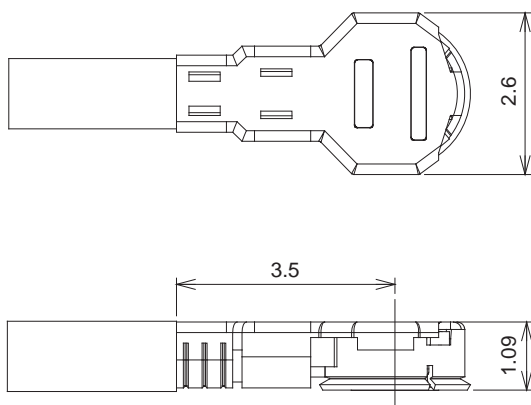
Ground Contact : **Au** Plating

### 20428 - 001 R

Packing : Reel  
1 reel : 2,000pcs

## 【Applicable Cable Size】

Part No. (Au)	20428-001R
Part No. (Ag)	-
	for AWG#32
Applicable Cable Nominal Dimension 	
Braided Shield of Outer Conductor	Single Braided Shield



## 【Material and Finish】

Parts	Material	Plating / Color
HOUSING	PBT UL94V-0	BLACK
CONTACT	COPPER ALLOY	Au
GROUND CONTACT	COPPER ALLOY	Au

# MHF 4 Receptacle

Mating Height : **1.2mm MAX**

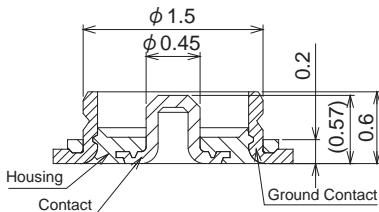
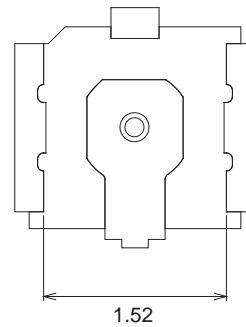
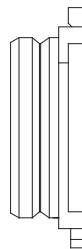
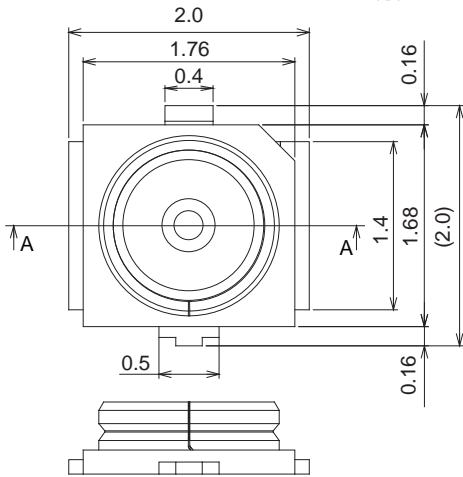
## 【Part Number】

Ground Contact : **Au Plating**

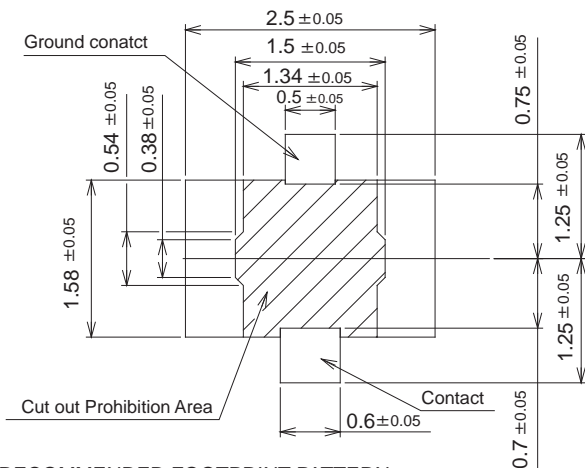
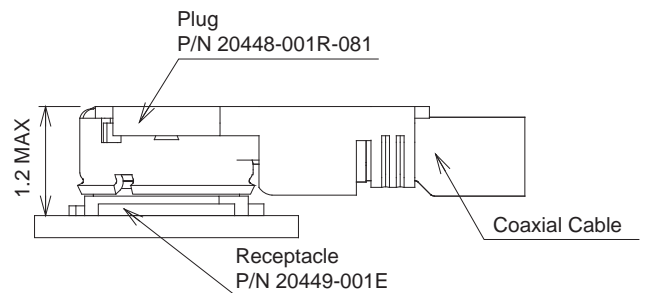
### 20449-001 E

※

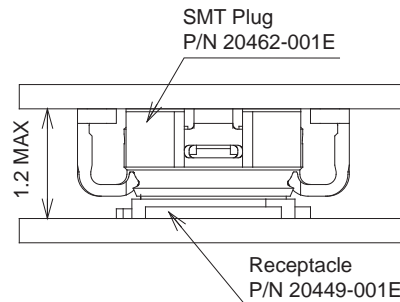
※ Packing : Emboss Tape  
1reel : 5,000pcs



Sect. A-A



RECOMMENDED FOOTPRINT PATTERN



MATED VIEW

## 【Material and Finish】

Parts	Material	Plating / Color
HOUSING	LCP UL94V-0	BLACK
CONTACT	COPPER ALLOY	Au
GROUND CONTACT	COPPER ALLOY	Au

# MHF 4 Plug Cable Assembly

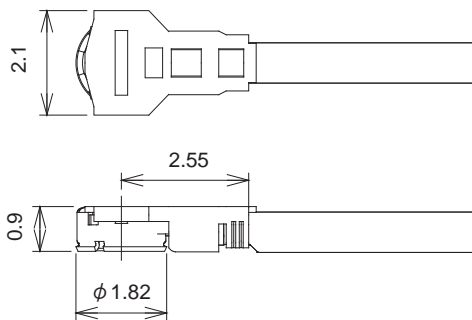
Applicable Cable for **O.D.0.81mm** Cable

## 【Part Number】

Ground Contact : **Au** Plating

**20448 - 001 R -081**

Packing : Reel  
1 reel : 2,000pcs



## 【Applicable Cable Size】

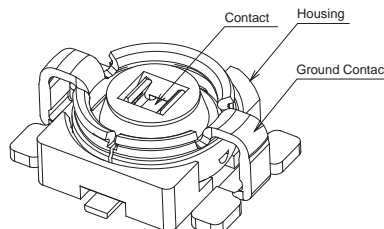
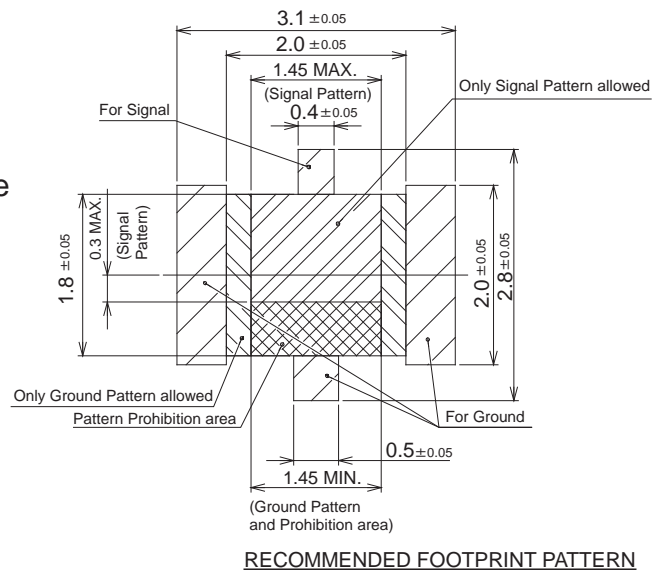
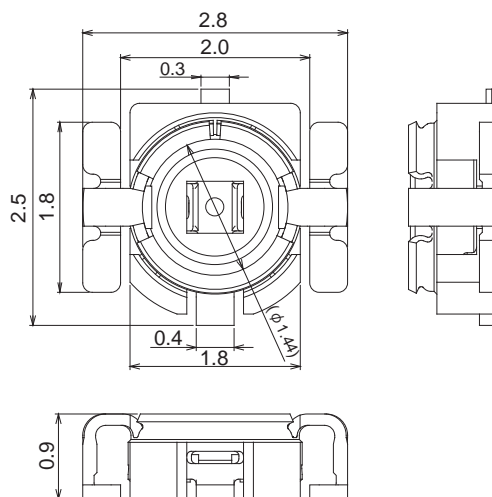
Part No. (Au)	20448-001R-081
Part No. (Ag)	-
for AWG#36	
Braided Shield of Outer Conductor	Single Braided Shield

# MHF 4 SMT Plug

## 【Part Number】

Ground Contact : **Au** Plating

**20462 - 001 E** ※ Packing : Emboss Tape  
1 reel : 5,000pcs



## 【Material and Finish】

Parts	Material (Plug)	Material (SMT Plug)	Plating / Color
HOUSING	PBT UL94V-0	LCP UL94V-0	BLACK
CONTACT	COPPER ALLOY	COPPER ALLOY	Au
GROUND CONTACT	COPPER ALLOY	COPPER ALLOY	Au

### Permissible load of cable at mating

<p>MHF MHF II</p>	<p>Coaxial cable</p> <p>4N MAX.</p> <p>2N MAX.</p> <p>2N MAX.</p> <p>Plug</p> <p>Receptacle</p>
<p>MHF III MHF-A13 MHF 4</p>	<p>2N MAX.</p> <p>NG</p> <p>NG</p>

\* 1..... [ Halogen-Free ]

For the definition of Halogen-free, I-PEX applies and judges as "halogen-free" in accordance with IEC 61249-2-21

- Br 900ppm Max.
- Cl 900ppm Max.
- TTL concentration [Br+Cl]1500ppm Max.

- MEMO -



## MHF SERIES CONNECTORS

**I-PEX** DAI-ICHI SEIKO CO.,LTD.  
I-PEX Business Company

### Head Office

6-27-19 HARAMACHIDA, MACHIDA-City,  
TOKYO,JAPAN 194-0013  
TEL 042-729-1670 FAX 042-729-1671

### Osaka

5F Chiyoda Budg, Nishi-Kan  
2-5-4 UMEDA, KITA-KU, OSAKA-City,  
OSAKA, JAPAN 530-0001  
TEL 06-6346-2022 FAX 06-6346-2023

### TAIWAN

15F-6, No.700, Jung Jeng Rd., Jung He City,  
Taipei 235 Taiwan.  
TEL 886-2-8227-9288 FAX 886-2-8227-9108

### Singapore

80 Robinson Road #22-02  
Singapore 068898  
TEL 65-6333-0662 FAX 65-6333-0663

### Shanghai

10F, Room 1002-1003, Tong Quan Tower,  
NO.678, Gubei Road, Chang Ning District,  
Shanghai 200336, China  
TEL 86-21-5208-1611 FAX 86-21-5208-1612

### KOREA

C-1302, Didital empire Bldg. 980-3, Youngtong dong  
Youngtong Gu Suwon si,Kyunggido, 443-470 Korea  
TEL 82-31-206-1492 FAX 82-31-206-1494

### Hong Kong

Suite 602, 6/F, Wharf T&T Centre, NO.7 Canton Road,  
Tsim Sha Tsui, Kowloon, Hong Kong  
TEL 852-2735-8077 FAX 852-2735-8099

### USA

2305 Donley Drive, Suite110, Austin, Texas 78758 USA  
TEL 1-512-339-IPEX(4739) FAX 1-512-339-4745

### France

Tour Sebastopol -3 quai Kléber, 67000  
Strasbourg FRANCE  
TEL 33-3-8823-1752 FAX 33-3-8823-7000