

Miniature RF Coaxial Connector

MHF[®] Series

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

RoHS Compliance

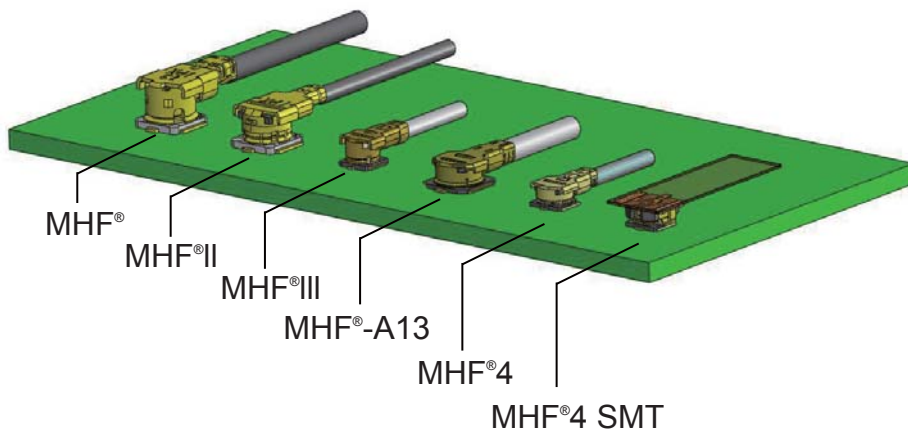
Halogen - Free^{*1}



Easy Cable termination by “i-Fit[®]” Technology

MHF[®] Series

RF Micro coaxial connector



【Major Application】

Wireless LAN Antenna

- ▶ Mobile Phone
- ▶ Smart Phone
- ▶ Note Book PC
- ▶ Gaming Device
- ▶ Access Point

【Key Features】

- ▶ SMT Receptacle and Cable plug Connector
- ▶ Super low profile : 1.2mm to 2.5mm MAX. Mating profile
- ▶ Applicable Cable :
φ0.64mm / 0.81mm / 0.95mm / 1.13mm / 1.32mm / 1.37mm and 1.80mm Coaxial Cable
- ▶ High productivity and stable performance
- ▶ Solderless and easy cable termination by “i-Fit[®]” technology
- ▶ Applicable Technology :
IEEE802.11 a/b/g/n, WiMAX, Zigbee, Bluetooth, MIMO, etc.

【Specifications】

- ▶ Frequency Range : DC to 6GHz (V.S.W.R. : 1.3MAX at 0.1~3GHz, 1.5MAX 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

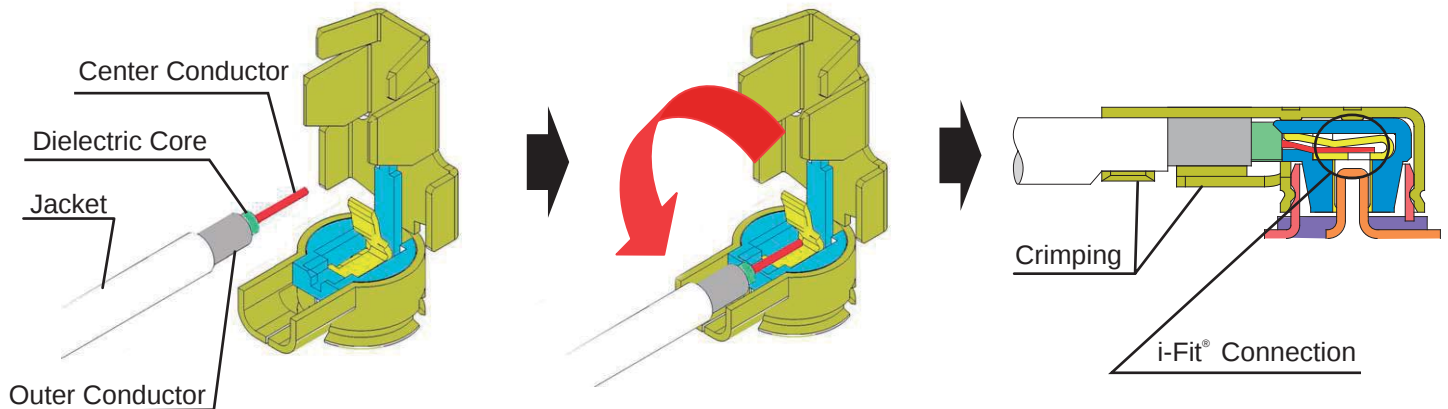
* 1..... [Halogen-Free]

Definition of Halogen-free : IEC 61249-2-21

- ▶ Bromine < 900ppm
- ▶ Chlorine < 900ppm
- ▶ Bromine + Chlorine < 1,500ppm

【i-Fit® Termination mechanism】

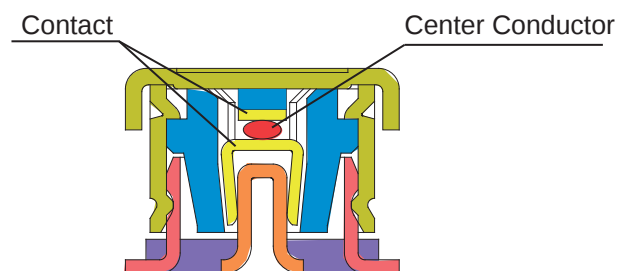
i-Fit® : One action, instant termination without soldering process.
Stable electric performance by special assembling machine.



i-Fit® PATENT NO.

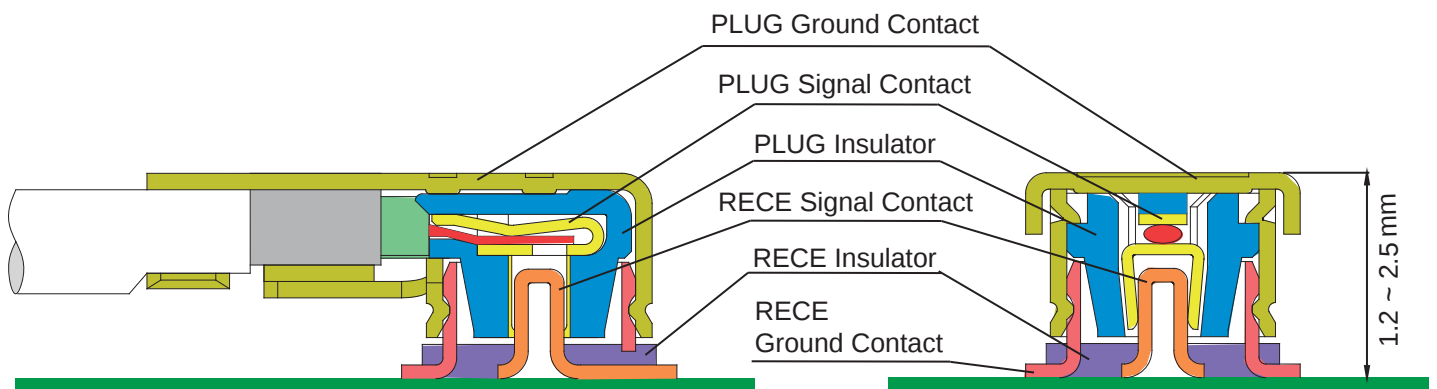
U.S.A. PAT.6,790,082

JAPAN PAT.4148339



i-Fit® Cross-section

【Product Mechanism】



MHF® Series Product overview

◆Plating◆ Signal : Gold / Ground : Gold

Mating profile	Product name	PLUG P/N	RECE P/N	Applicable Cable Gauge
2.5mm (MAX.)	MHF®	20278-1*2R-**	20279-001E-** (3pad)	AWG36 (φ0.81mm) AWG32 (φ1.32mm) AWG32 (φ1.13mm) AWG30 (φ1.80mm)
		20351-1*2R-37		AWG30 (φ1.37mm)
2.1mm (MAX.)	MHF® II	20311-011R-**	20441-001E-01 (4pad)	AWG33 (φ0.95mm) AWG36 (φ0.81mm)
1.6mm (MAX.)	MHF® III	20367-001R	20369-001E	AWG36 (φ0.64 / 0.81mm)
1.45mm (MAX.)	MHF®-A13	20428-001R	20429-001E	AWG32 (φ1.13mm)
1.2mm (MAX.)	MHF® 4	20448-001R-081	20449-001E	AWG36 (φ0.81mm)
	MHF®4 SMT Plug	20462-001E		FPC

◆Plating◆ Signal : Gold / Ground : Silver

Mating profile	Product name	PLUG P/N	RECE P/N	Applicable Cable gauge
2.5mm (MAX.)	MHF®	20308-1*2R-**	20314-001E-01 (3pad)	AWG32 (φ1.32mm) AWG32 (φ1.13mm)
2.1mm (MAX.)	MHF® II	20312-011R-**		AWG33 (φ0.95mm) AWG36 (φ0.81mm)

MHF® Plug Cable Assembly

Mating Profile : **2.5mm MAX.**

Applicable for various cable gauge

【Part Number】

Ground Contact : **Au** Plating

20278-1 * 2 R- * *
 ① ② ③

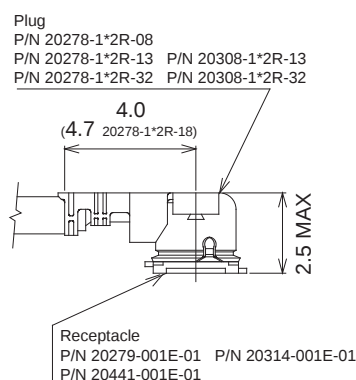
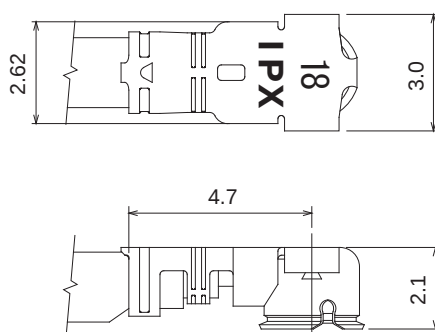
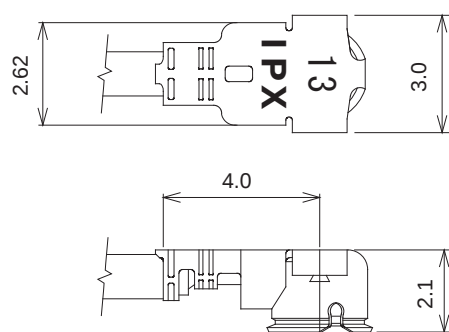
Ground Contact : **Ag** Plating

20308-1 * 2 R- * *
 ① ② ③

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

【Applicable Cable gauge】

Part No. (Au)	20278-1*2R-08	20278-1*2R-13	20278-1*2R-32	20278-1*2R-18
Part No. (Ag)	-	20308-1*2R-13	20308-1*2R-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[®] Receptacle

3pad type

【Part Number】

Ground Contact : **Au** Plating

20279-001 E- * *

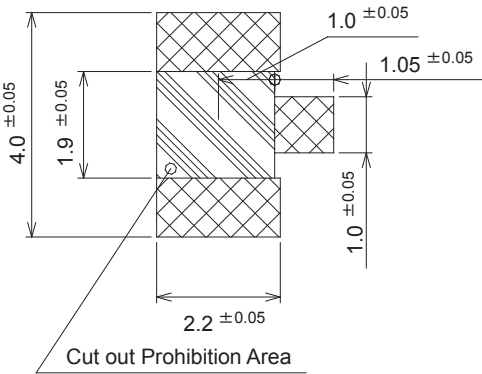
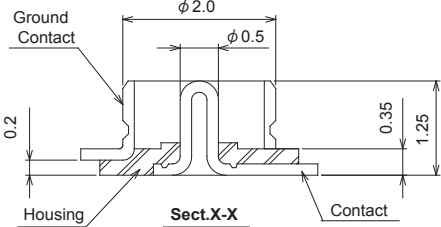
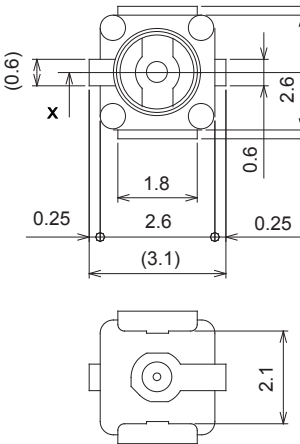
① ②

Ground Contact : **Ag** Plating

20314-001 E- 01

①

①	Packing : Emboss Tape		
②	1reel	01	2,500pcs
		03	5,000pcs



RECOMMENDED FOOTPRINT PATTERN

4pad type

【Part Number】

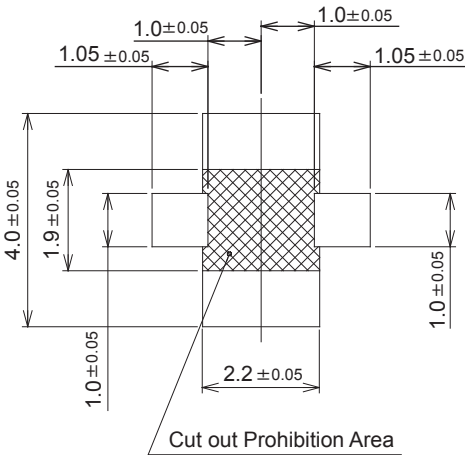
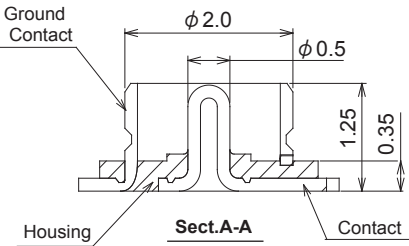
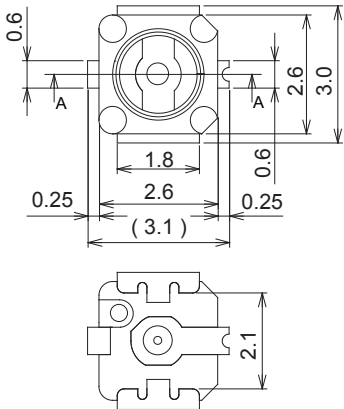
Ground Contact : **Au** Plating

20441-001 E- 01

※

※ Packing : Emboss Tape

1reel : 5,000pcs



RECOMMENDED FOOTPRINT PATTERN

【Material and Finish】

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

MHF® Plug Cable Assembly

Mating Profile : **2.5mm MAX.**

Applicable for AWG30 (ϕ 1.37mm) Cable

【Part Number】

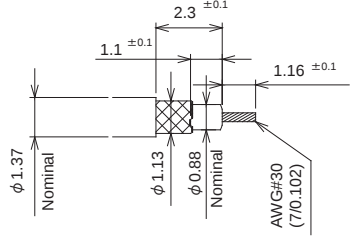
Ground Contact : **Au** Plating

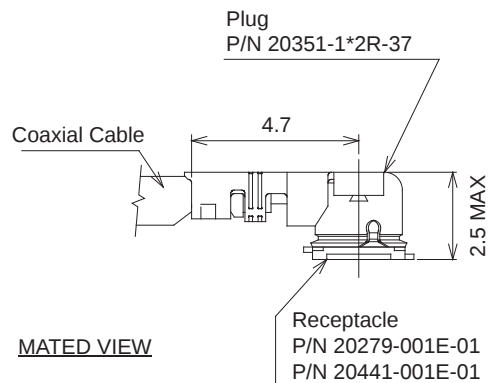
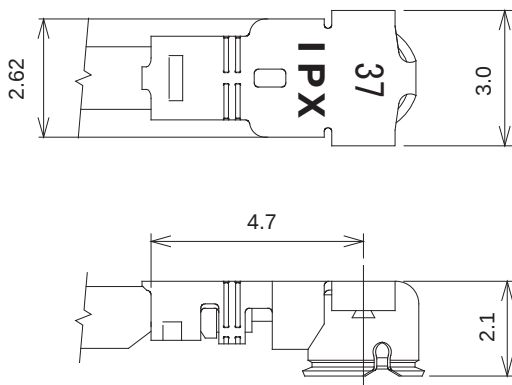
20351-1 * 2 R- 37

① ②

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

【Applicable Cable Size】

Part No. (Au)	20351-1*2R-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[®] Receptacle

3pad type

【Part Number】

Ground Contact : **Au** Plating

20279-001 E- * *

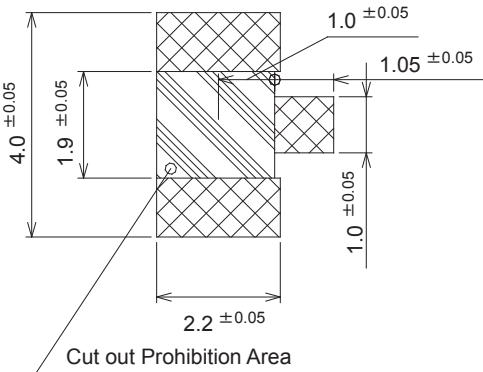
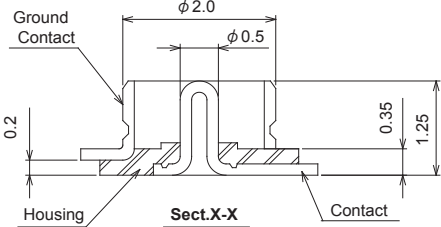
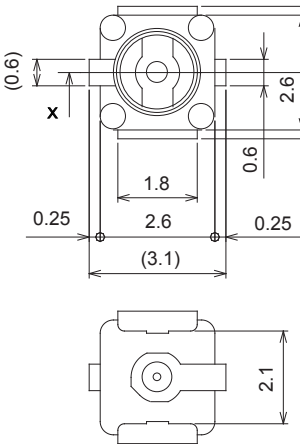
① ②

Ground Contact : **Ag** Plating

20314-001 E- 01

①

①	Packing : Emboss Tape		
②	1reel	01	2,500pcs
		03	5,000pcs



RECOMMENDED FOOTPRINT PATTERN

4pad type

【Part Number】

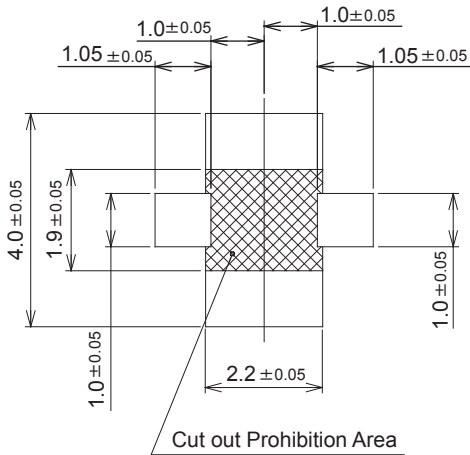
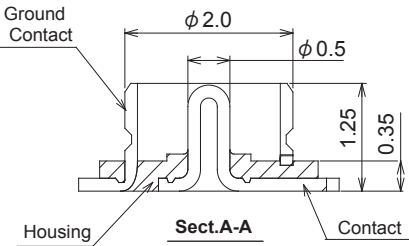
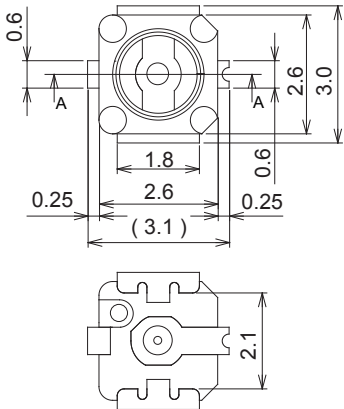
Ground Contact : **Au** Plating

20441-001 E- 01

※

※ Packing : Emboss Tape

1reel : 5,000pcs



RECOMMENDED FOOTPRINT PATTERN

【Material and Finish】

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

MHF® II Plug Cable Assembly

Mating Profile : 2.1mm MAX.

Applicable for AWG36(φ 0.81mm), AWG33(φ 0.95mm) Cable

【Part Number】

Ground Contact : Au Plating

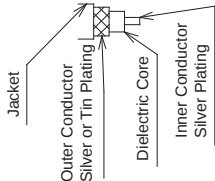
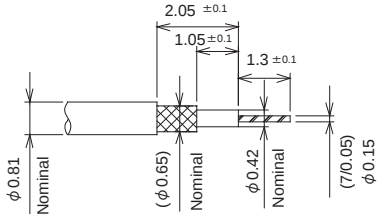
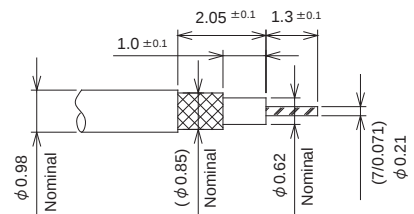
20311-011 R- * *
① ②

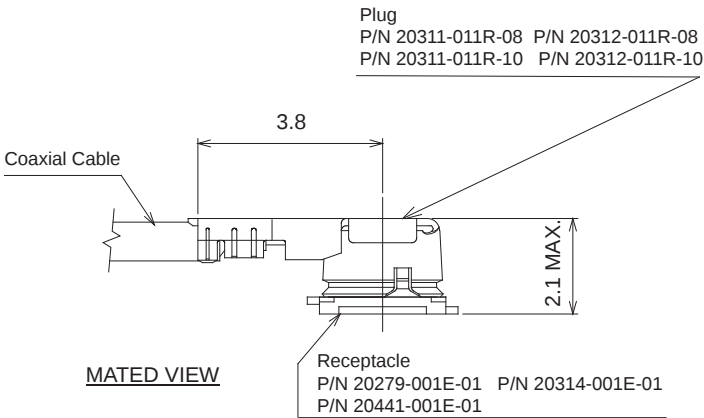
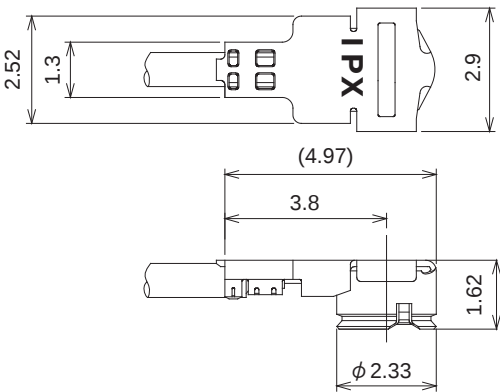
Ground Contact : Ag Plating

20312-011 R- * *
① ②

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

【Applicable Cable gauge】

Part No. (Au)	20311-011R-08	20311-001R-10
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[®] Receptacle

3pad type

【Part Number】

Ground Contact : **Au** Plating

20279-001 E- * *

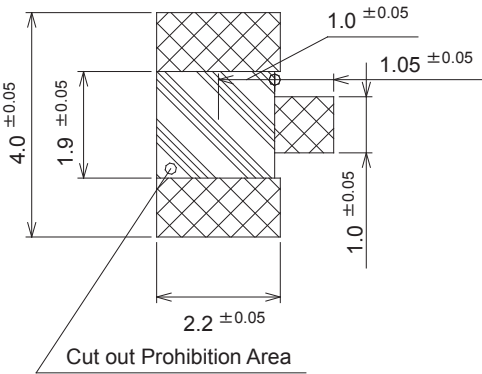
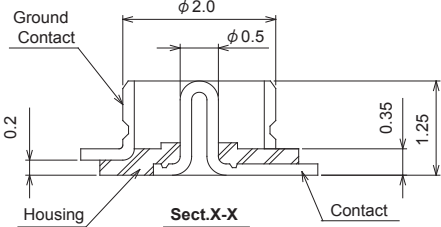
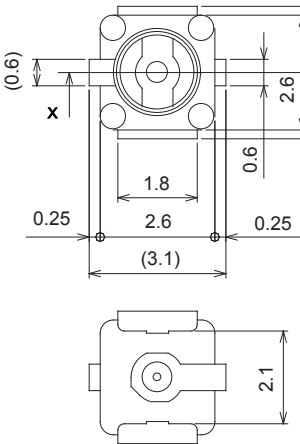
① ②

Ground Contact : **Ag** Plating

20314-001 E- 01

①

①	Packing : Emboss Tape		
②	1reel	01	2,500pcs
		03	5,000pcs



RECOMMENDED FOOTPRINT PATTERN

4pad type

【Part Number】

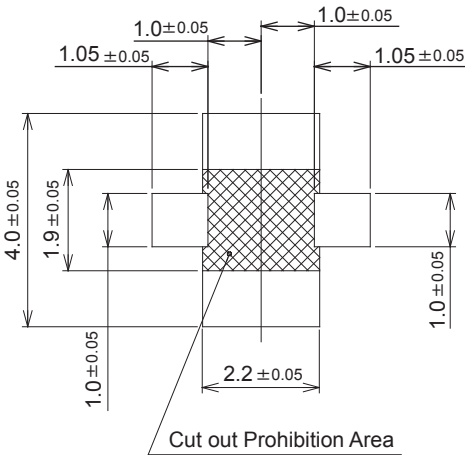
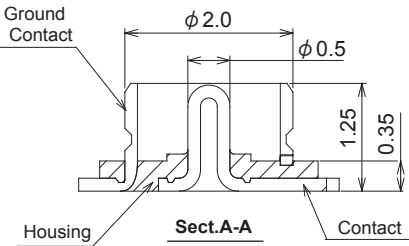
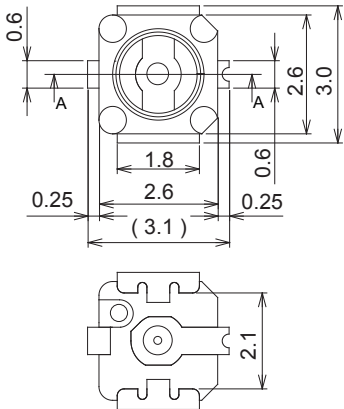
Ground Contact : **Au** Plating

20441-001 E- 01

※

※ Packing : Emboss Tape

1reel : 5,000pcs



RECOMMENDED FOOTPRINT PATTERN

【Material and Finish】

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

MHF[®] III Plug Cable Assembly

Mating profile : **1.6mm MAX.**

Applicable for AWG36 (ϕ 0.81mm / ϕ 0.64mm) Cable

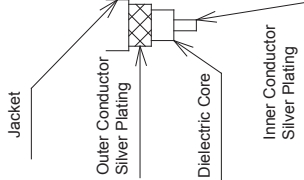
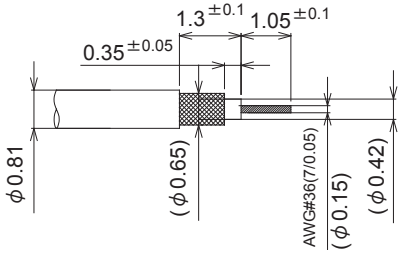
【Part Number】

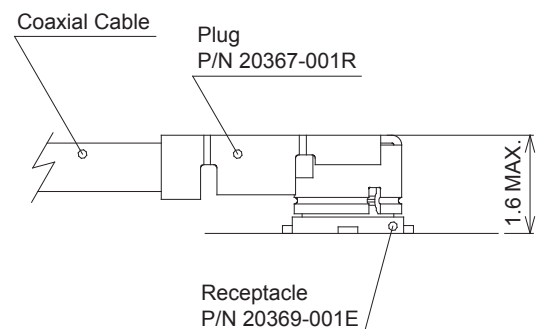
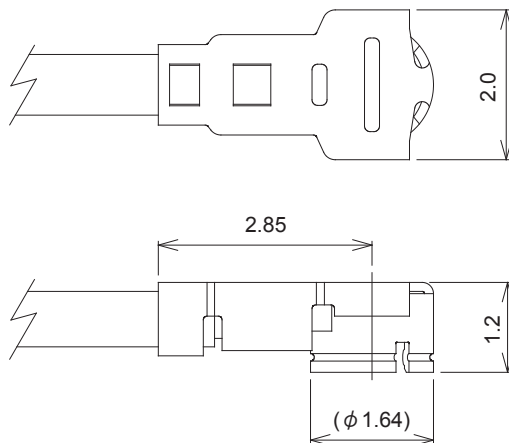
Ground Contact : **Au** Plating

20367 - 001 R

Packing : Reel
1 reel : 2,000pcs

【Applicable Cable gauge】

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[®] III Receptacle

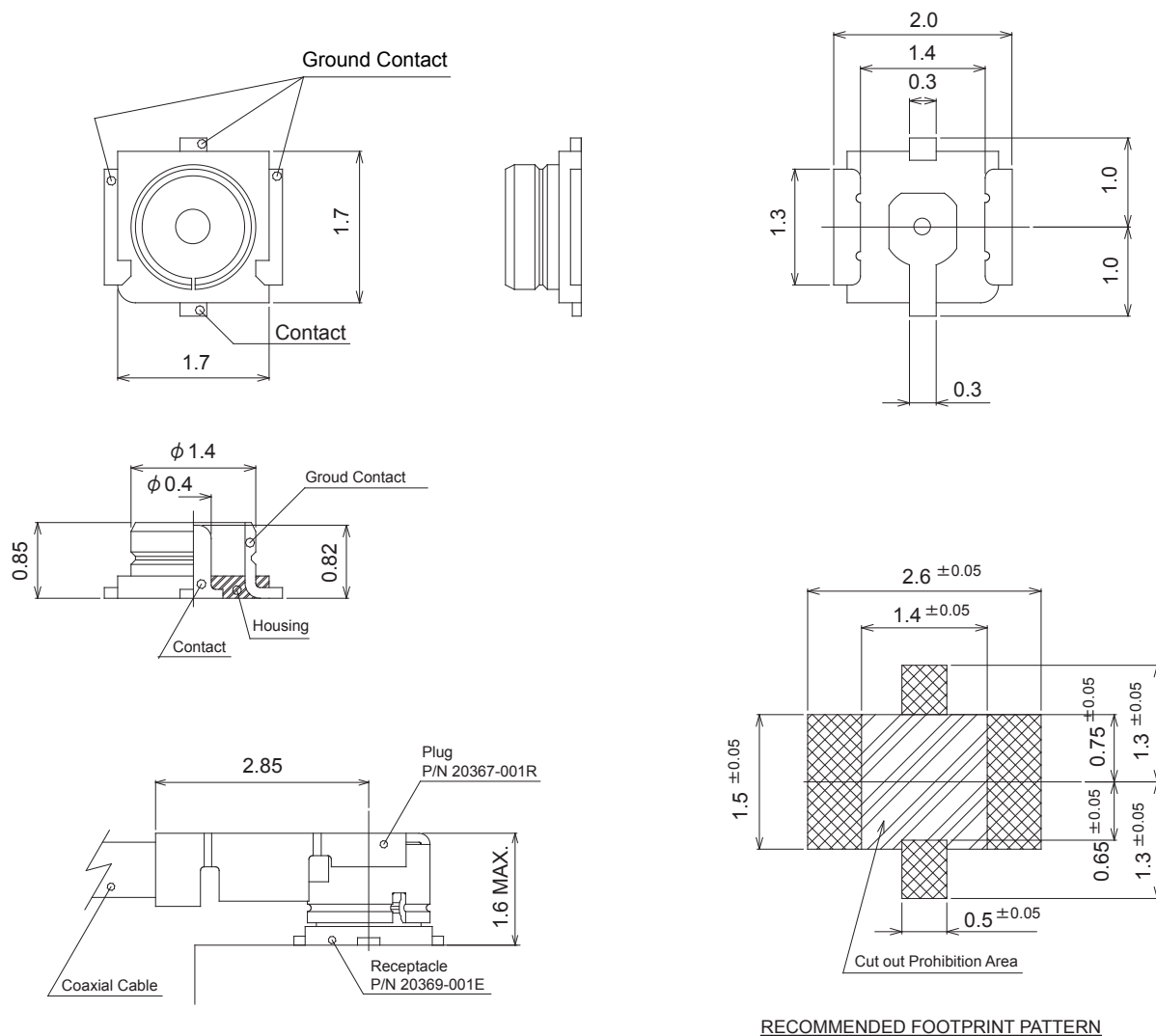
【Part Number】

Ground Contact : **Au Plating**

20369-001 E

Packing : Emboss Tape

1 reel : 5,000 pcs



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

Mating profile : **1.45mm MAX.**

Applicable for AWG32 (ϕ 1.13mm) Cable

【Part Number】

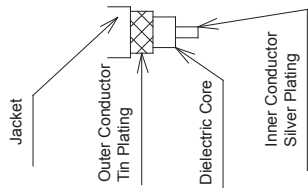
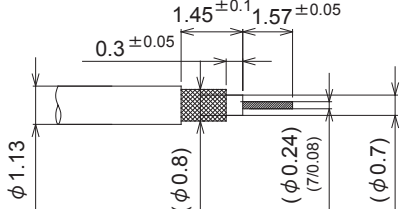
Ground Contact : **Au** Plating

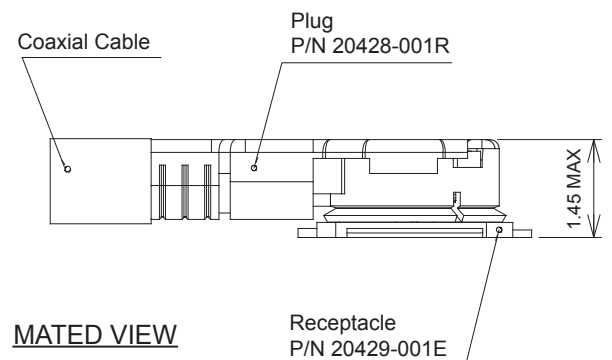
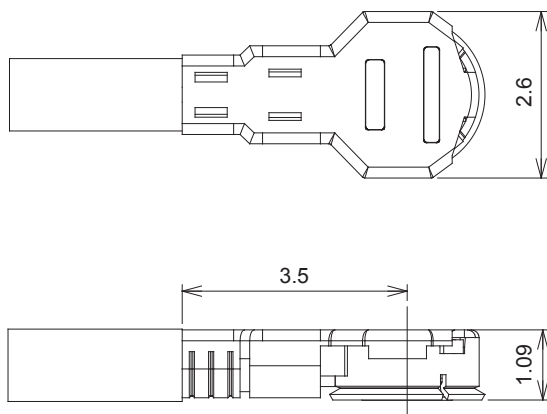
20428 - 001 R

Packing : Reel

1 reel : 2,000pcs

【Applicable Cable gauge】

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

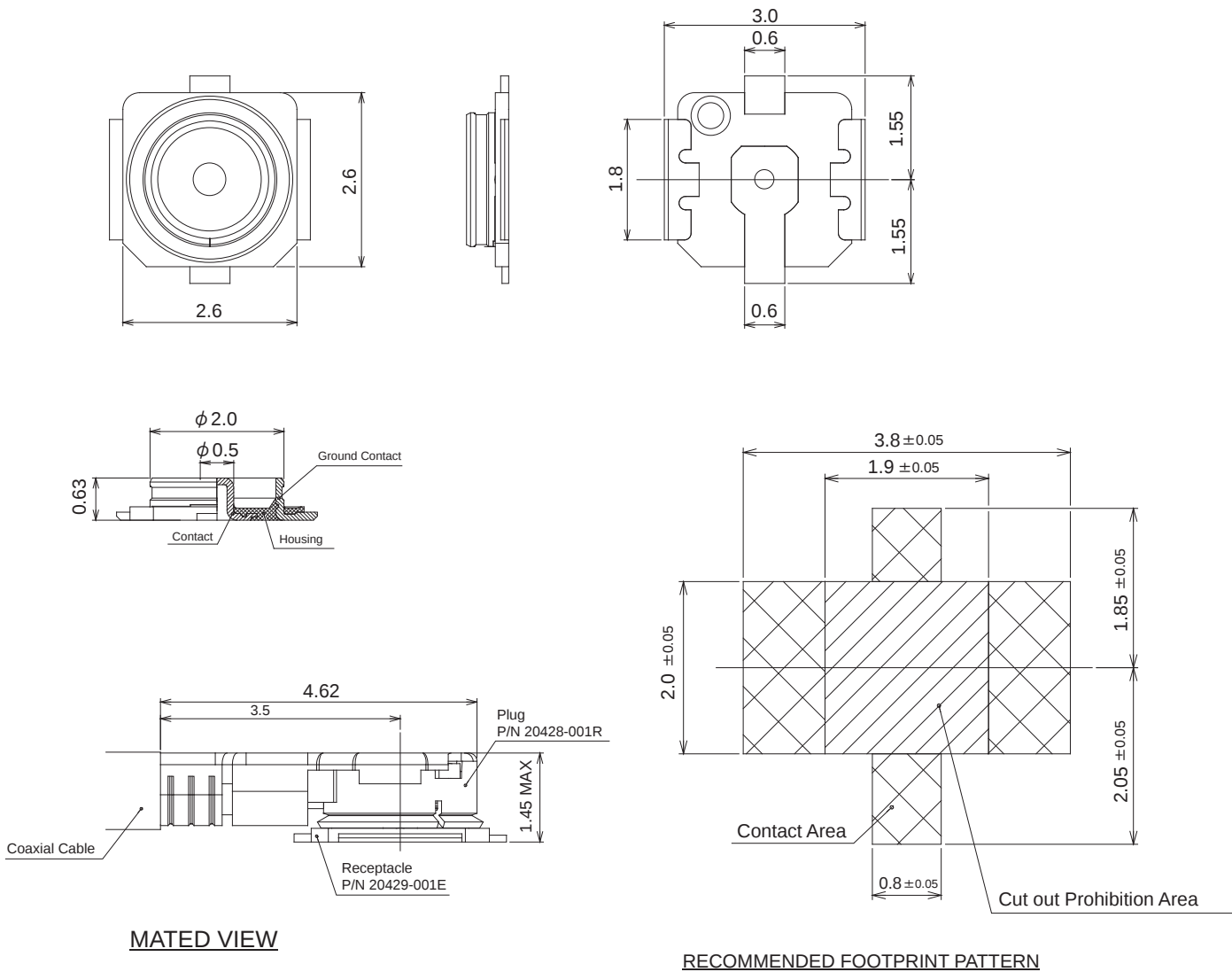
MHF[®]-A Receptacle

【Part Number】

Ground Contact : **Au** Plating

20429-001 E

Packing : Emboss Tape
1reel : 5,000pcs



【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

Mating profile : **1.2mm MAX.**

Applicable for AWG36 (ϕ 0.81mm) Cable

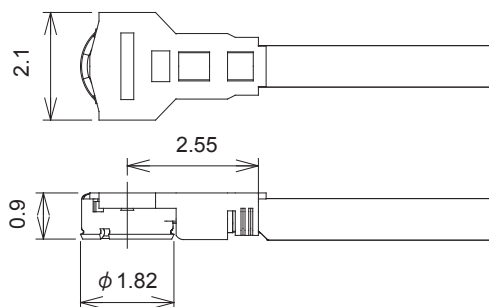
【Part Number】

Ground Contact : **Au Plating**

20448 - 001 R -081

Packing : Reel

1 reel : 2,000pcs



【Applicable Cable gauge】

Part No. (Au)	20448-001R-081
Part No. (Ag)	-
	for AWG#36
Technical drawing of the cable assembly cross-section. Dimensions include: 1.16 $\pm$ 0.09, 0.30 $\pm$ 0.1, 1.02 $\pm$ 0.1, 0.42, ϕ 0.65, and ϕ 0.81 Jacket. Components labeled include: AWG#36(7/0.05) Inner conductor, Dielectric core, Outer conductor, and Jacket. A detail view shows a 'Minimum' contact area.	
Braided Shield of Outer Conductor	Single Braided Shield

MHF[®] 4 SMT Plug

Mating profile : **1.2mm MAX. + FPC**

Applicable for FPC

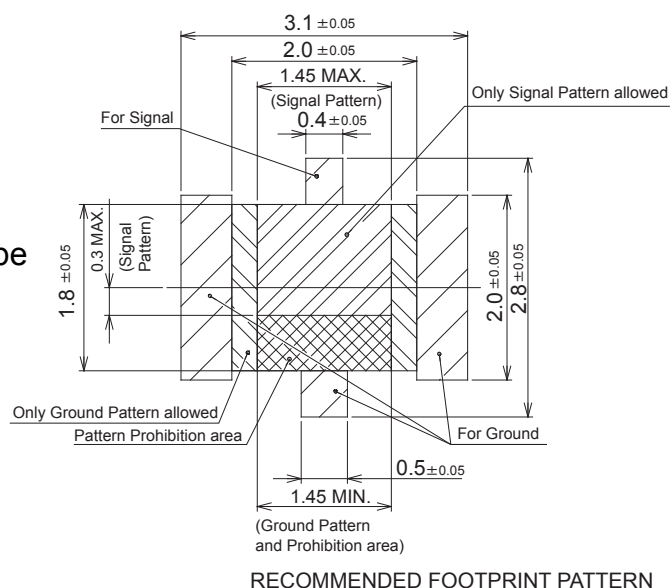
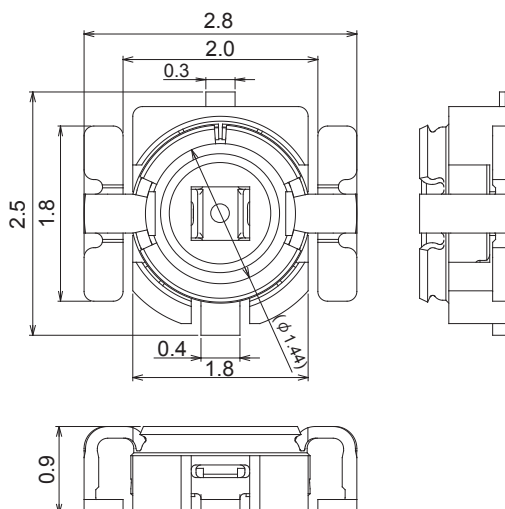
【Part Number】

Ground Contact : **Au Plating**

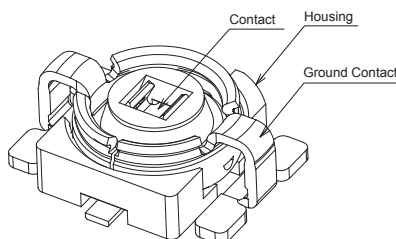
20462 - 001 E ※

※Packing : Emboss Tape

1 reel : 5,000pcs



RECOMMENDED FOOTPRINT PATTERN



【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

MHF® 4 Receptacle

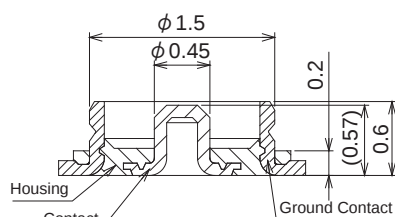
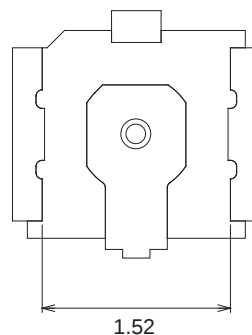
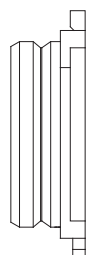
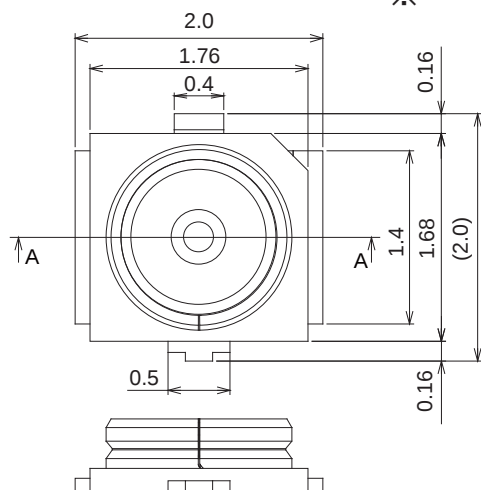
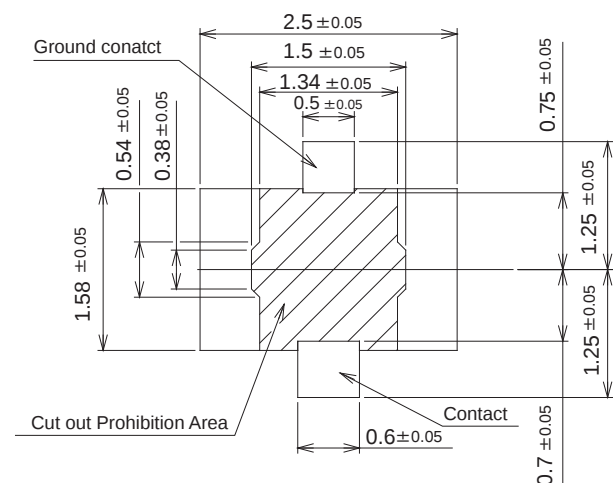
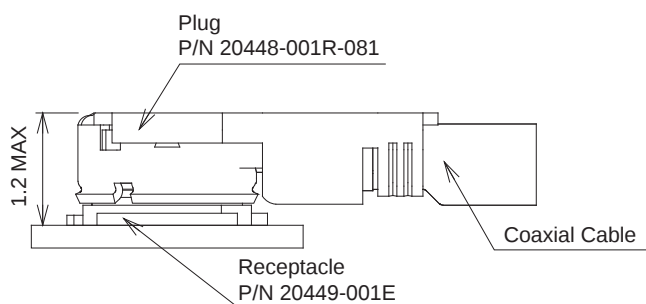
【Part Number】

Ground Contact : **Au** Plating

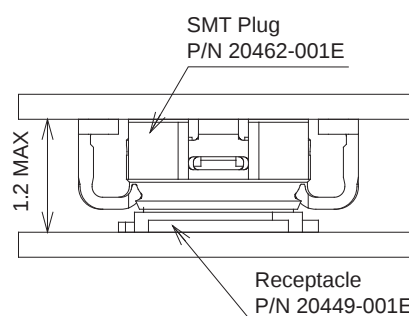
20449-001 E

※ Packing : Emboss Tape

1reel : 10,000pcs

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

Product design and specification is subject to change for improvement without notice in advance.
Please inquire to I-PEX representative for your confirmation.



[MEMO]



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