

MHF[®] 7S

Excellent EMI performance with fully-shielded design, ideal for 5G mmWave applications, VSWR 1.5 max at 15 GHz in small 2.0 x 2.0 mm footprint

Product Specifications:

Mated Height (mm max.)		1.4
Rece. SMT Size (mm)		2.0 x 2.0
Applicable Frequency		DC ~ 15 GHz
Characteristic Impedance		50 ohm
VSWR (L=100 mm)	DC~3 GHz	1.30 max.
	3~6 GHz	1.35 max.
	6~9 GHz	1.40 max.
	9~12 GHz	1.45 max.
	12~15 GHz	1.50 max.

Applicable Cable Size:

O.D. 1.13 mm / AWG 32

Applicable Standards (Reference Only):

5G mmWave(~15GHz), 5G sub-6, Wi-Fi 6E, WiGig, LTE/LTE-Advanced, LPWA, Bluetooth, GPS
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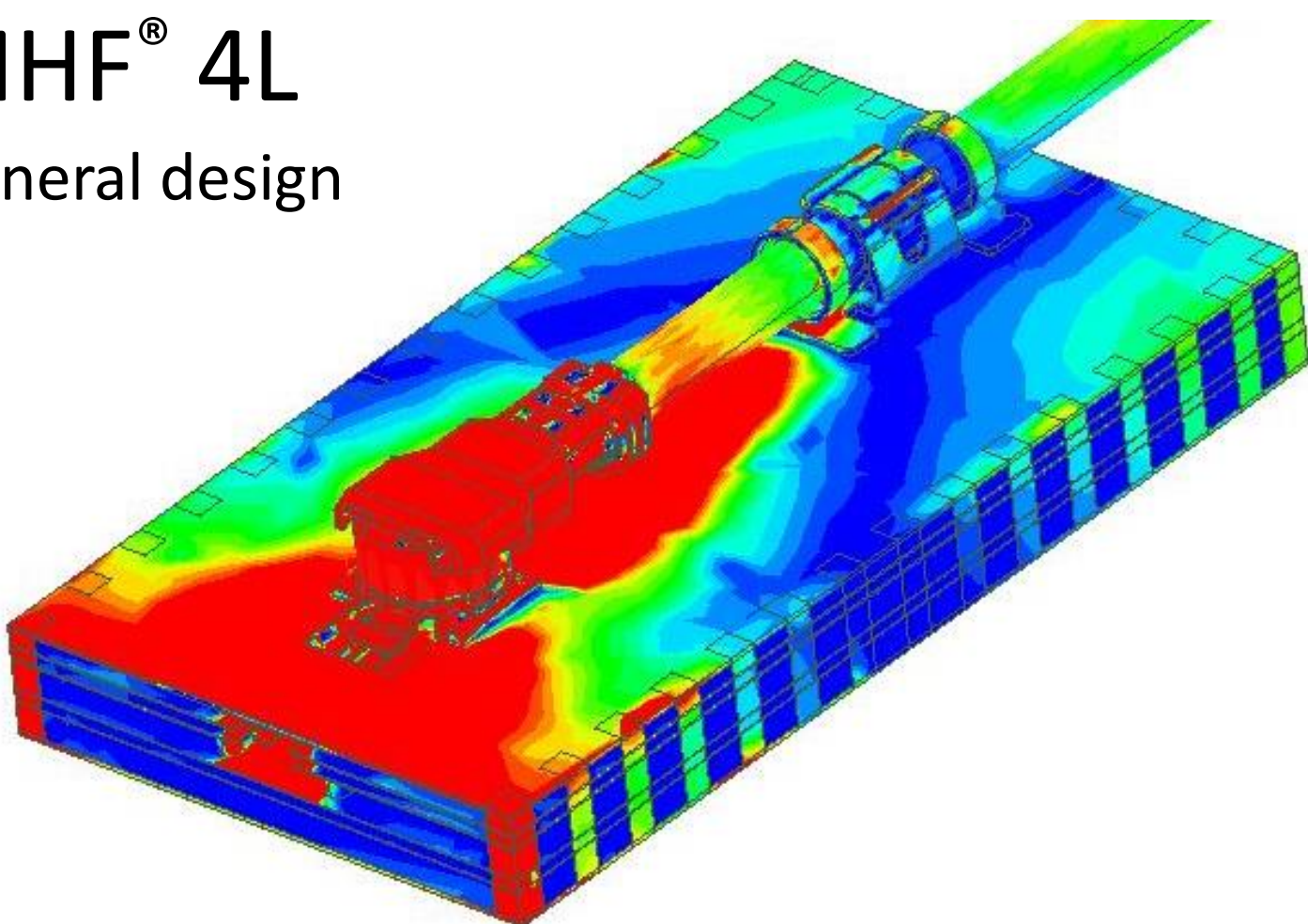


* Please inquire for pin counts not listed or outside of the pin count range.

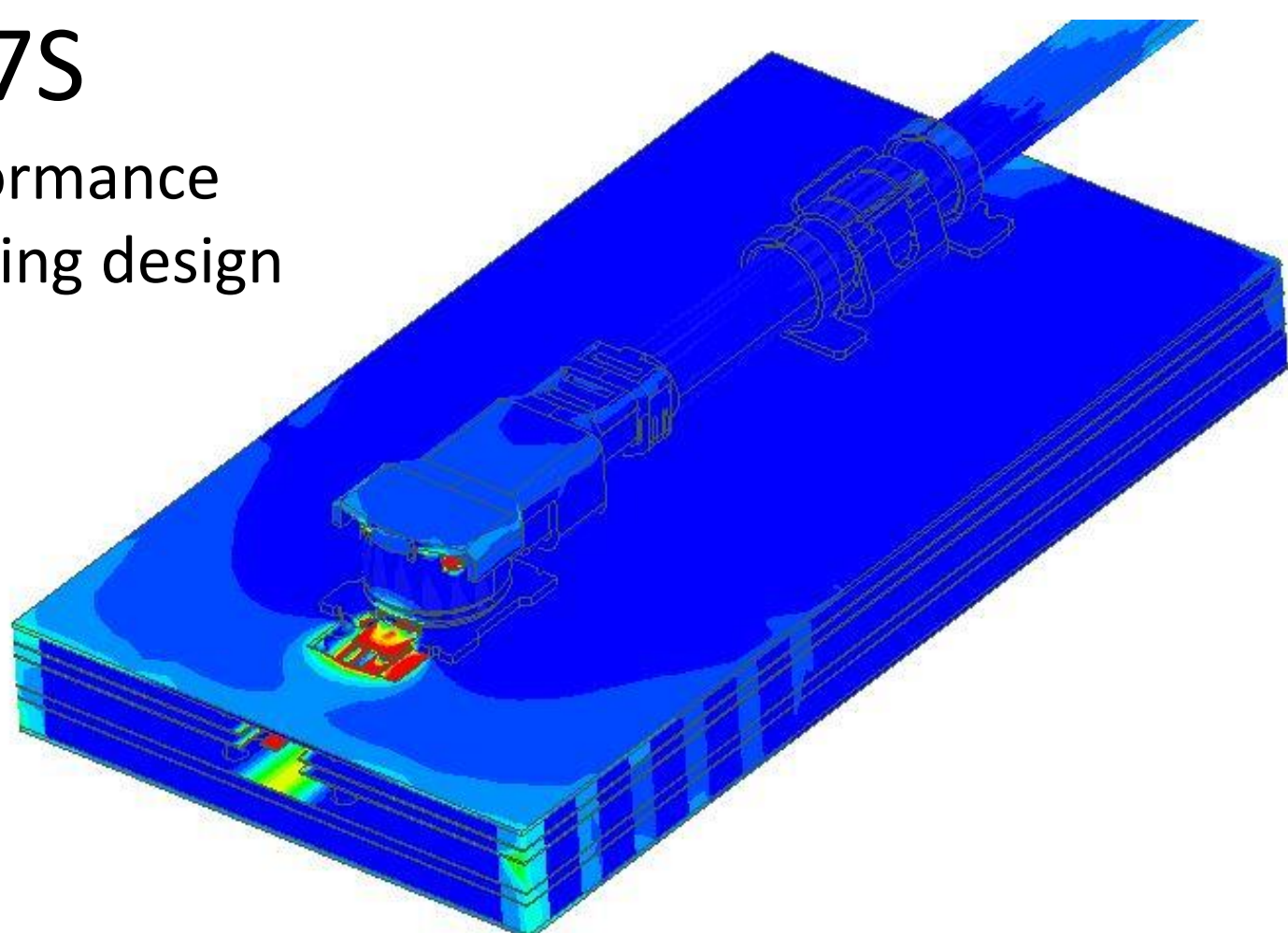
► **Unique shielded design (ZenShield[®]) reduces unwanted EMI found in 5G mmWave applications**

Electric field strength distribution (simulation)

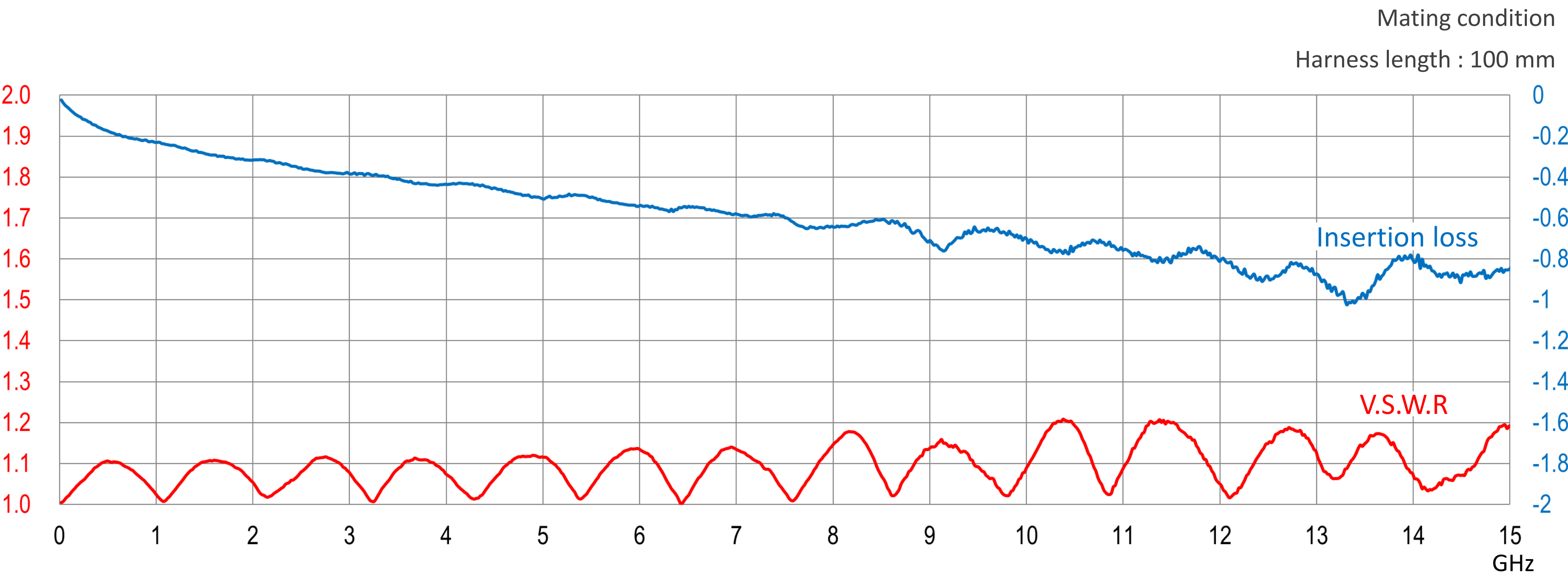
MHF[®] 4L
General design



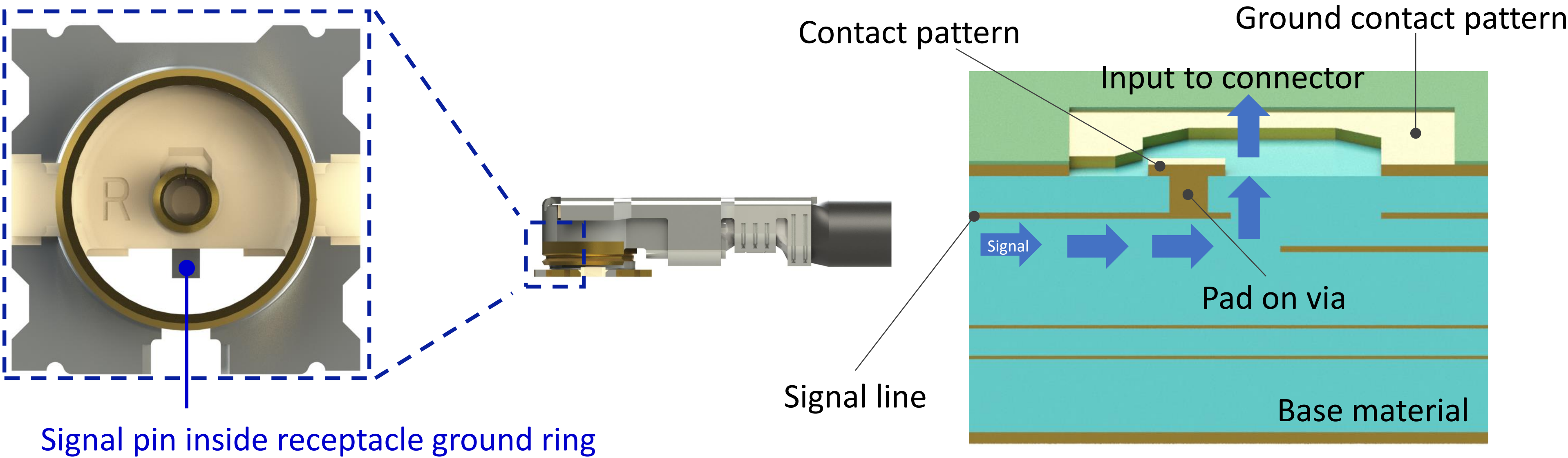
MHF[®] 7S
High-performance
EMI shielding design



► **Small form factor with max VSWR 1.50**



► **Industry-first stripline terminated signal pin inside receptacle ground contact**

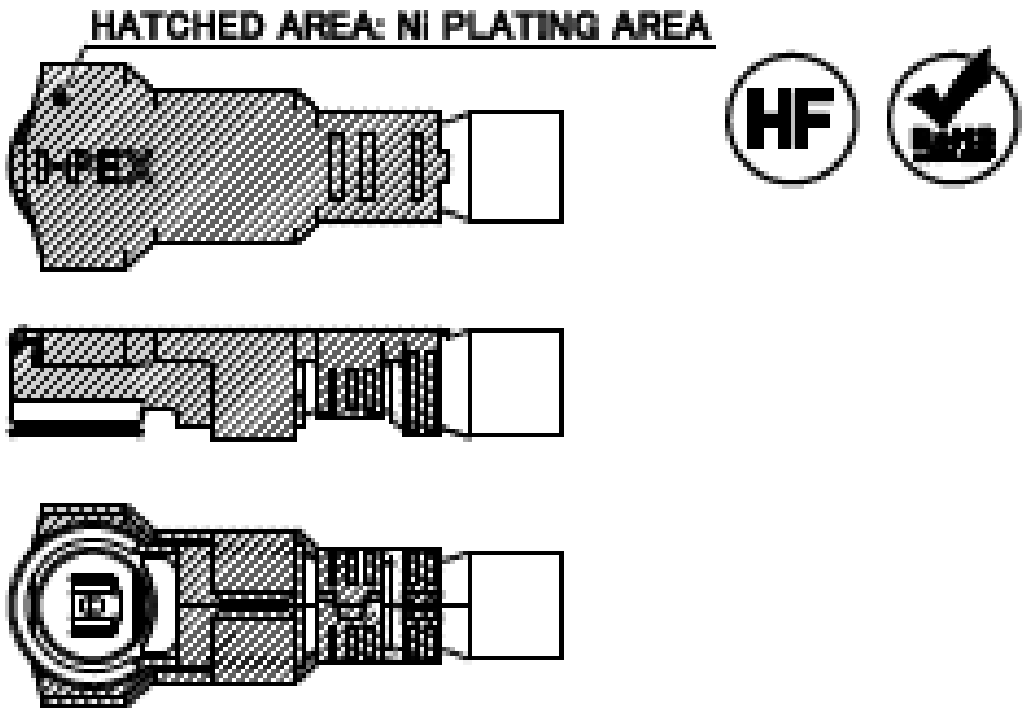
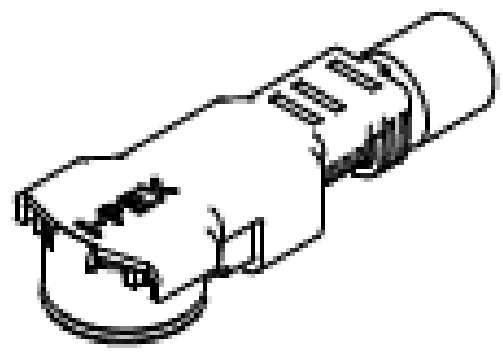
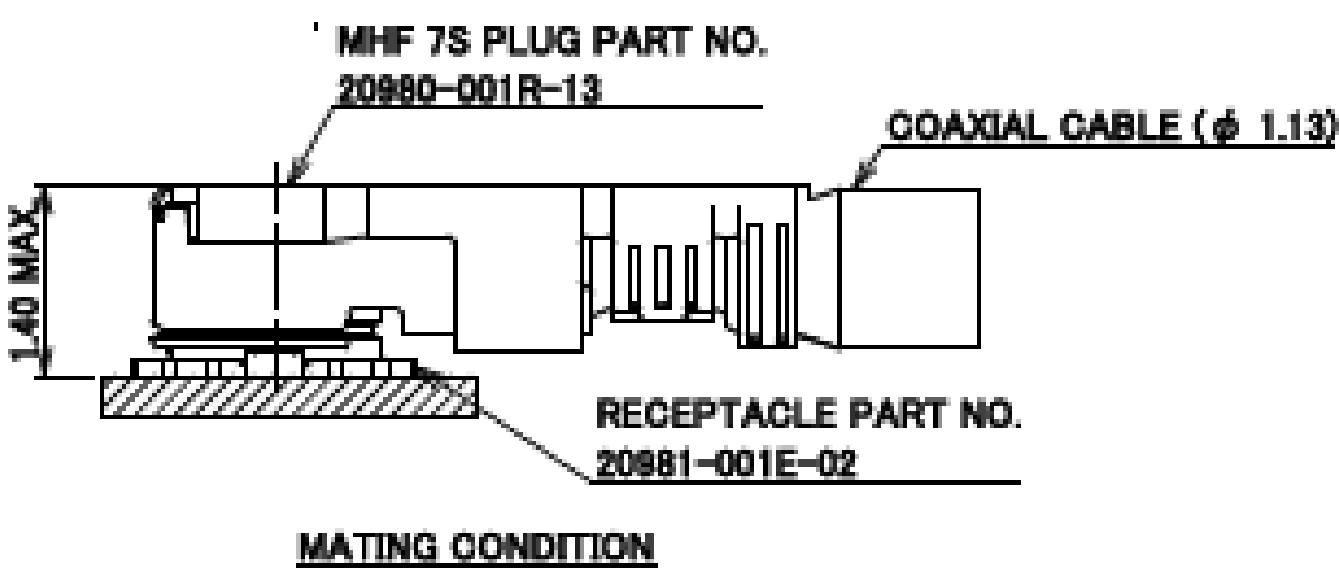
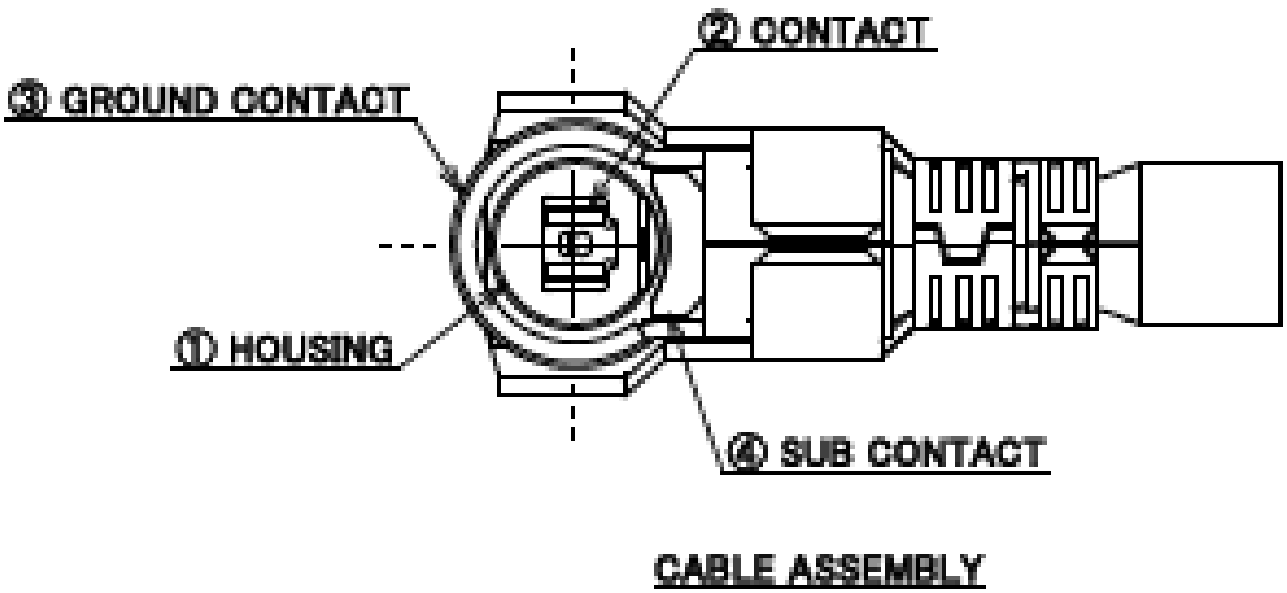
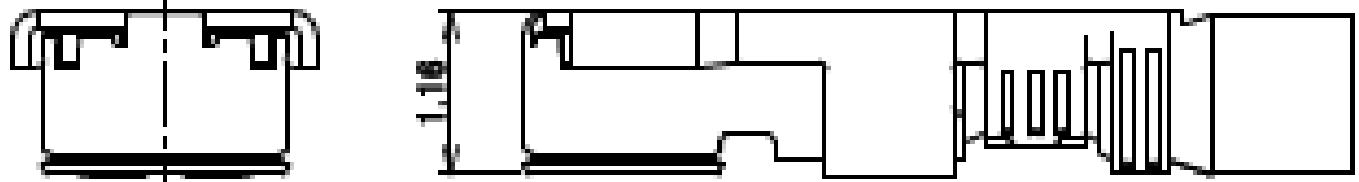
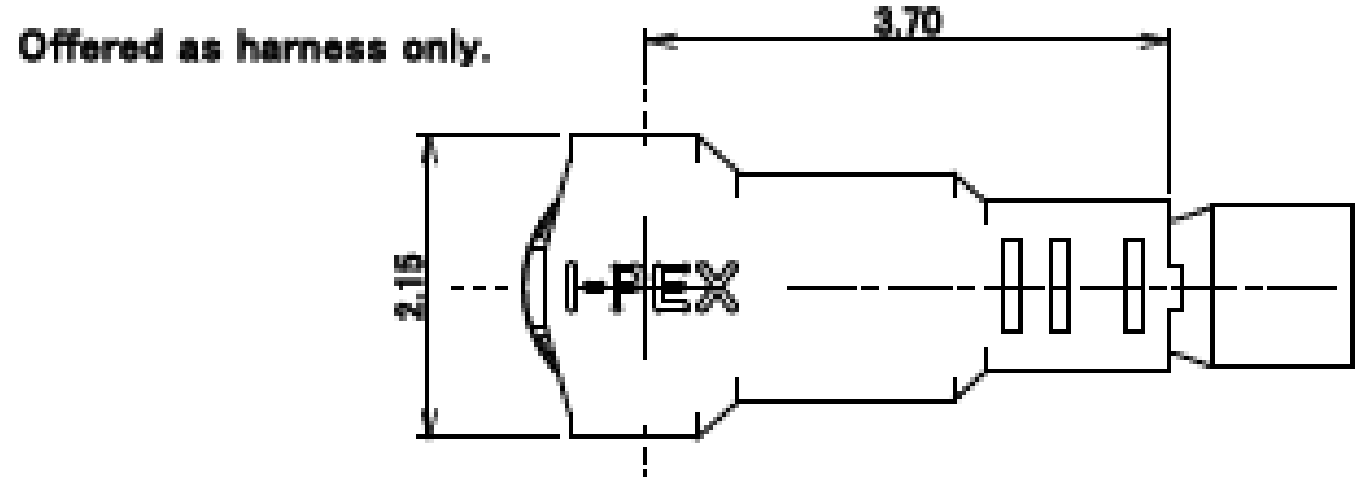


Component Parts Details

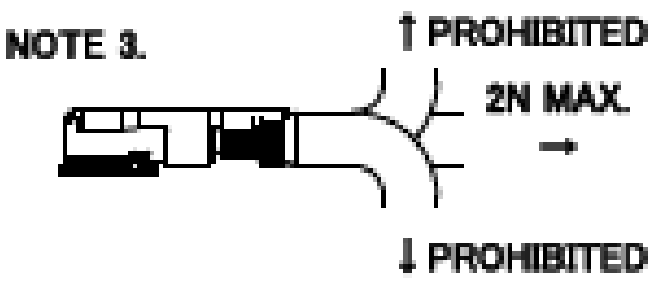
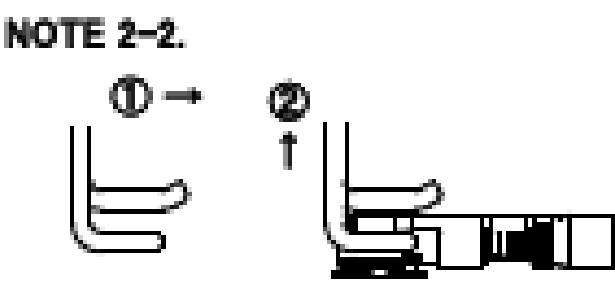
MHF® 7S plug

Recommended P/N	20980-001R-13
PART NO.	20980-001R-13

Offered as harness only.



- NOTES
1. APPLICABLE CONNECTOR: 20881-001E-02
 2. MATING AND UNMATING INSTRUCTION
 - 2-1. MATING
MATE THE CONNECTOR VERTICALLY AS MUCH AS POSSIBLE. ADJUSTING THE MATING AXIS OF PLUG AND RECEPTACLE. DO NOT SLANT MATE.
 - 2-2. UNMATING
USE THE MATING AND UNMATING TOOL (PART NO. 91186-0001) AS THE FOLLOWING DRAWING, AND PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
 3. PERMISSIBLE LOAD OF CABLE AT MATING.
 4. CHARACTERISTIC IMPEDANCE: 50 Ω (NOMINAL VALUE)



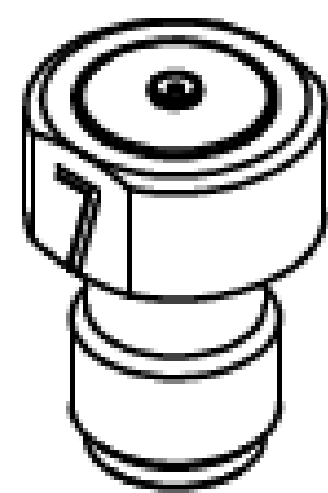
4	SUB CONTACT	PHOSPHOR BRONZE	ALL OVER: Ni 1.00 μm MIN. CONTACT PART: Au 0.1 μm MIN.
3	GROUND CONTACT	PHOSPHOR BRONZE	ALL OVER: Ni 0.7 μm MIN. CONTACT PART: Au 0.1 μm MIN. (Ni PLATING AREA) Ni ONLY
2	CONTACT	CORSON ALLOY	ALL OVER: Ni 1.00 μm MIN. CONTACT PART: Au 0.1 μm MIN.
1	HOUSING	LCP	UL94V-0, WHITE
NO.	DESCRIPTION	MATERIAL	FINISH, REMARKS

MHF® 7S plug

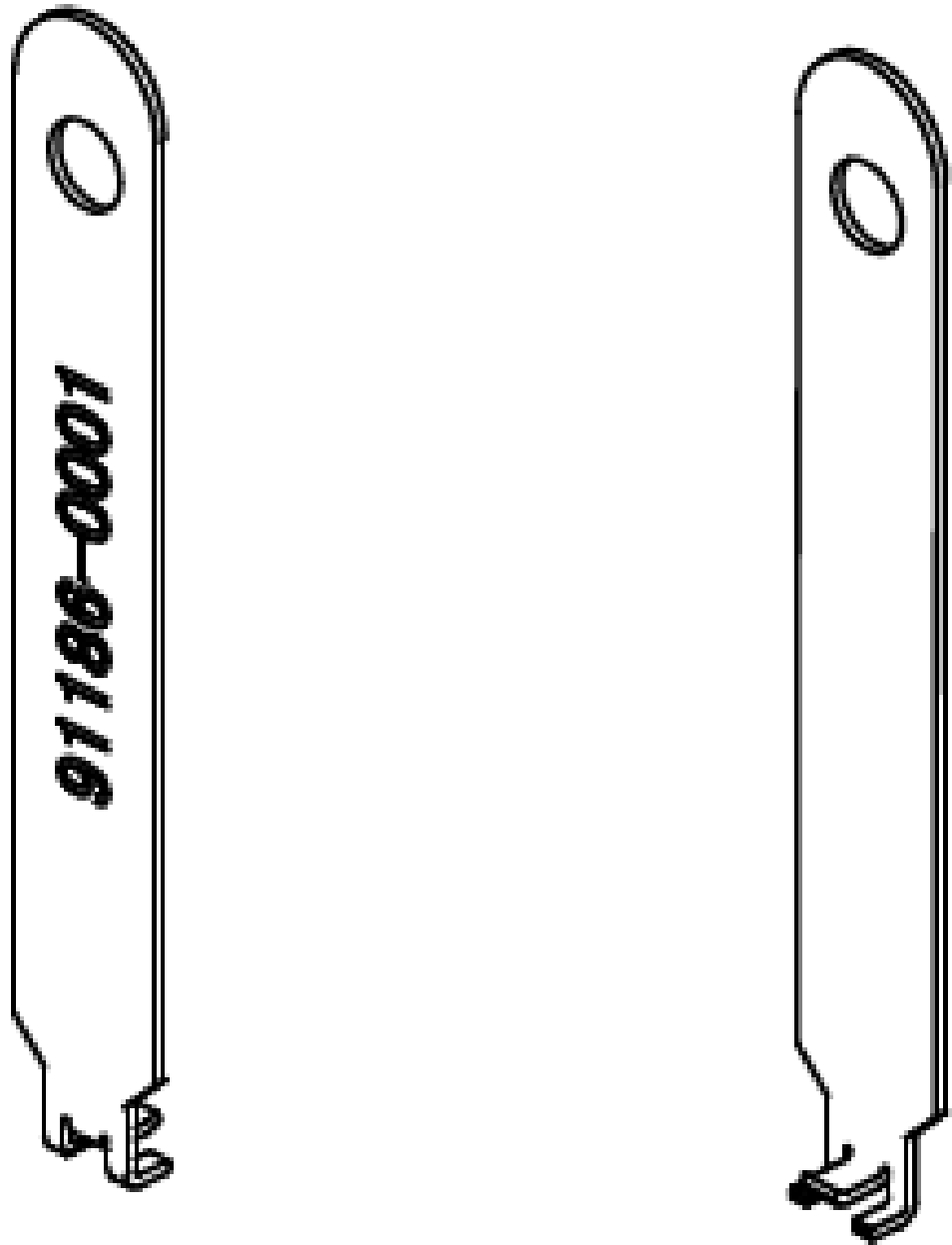
ITEMS	SPECIFICATION
APPLICABLE CONNECTOR PART No.	20981-001E-02
RATING VOLTAGE	60 V AC (R.M.S)/DC
RATING FREQUENCY	DC~15 GHz
OPERATING TEMPERATURE	233~363 K (-40°C~+90°C)
OPERATING HUMIDITY	90% MAX. (NON-CONDENSING)
CHARACTERISTIC IMPEDANCE	50 ohm (NOMINAL VALUE)
VSWR	1.30 MAX. AT 0.1 ~ 3 GHz, 1.35 MAX. AT 3 ~ 6 GHz, 1.40 MAX. AT 6 ~ 9 GHz, 1.45 MAX. AT 9 ~ 12 GHz, 1.50 MAX. AT 12 ~ 15 GHz
MAIN CONTACT RESISTANCE	INITIAL : 20 mohm MAX. / AFTER TEST : $\triangle$ R 20 mohm MAX.
GROUND CONTACT RESISTANCE	INITIAL : 20 mohm MAX. / AFTER TEST : $\triangle$ R 20 mohm MAX.
INSULATION RESISTANCE	INITIAL : 500 Mohm MIN. / AFTER TEST : 100 Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC200V 1min
DURABILITY	30 CYCLES
MATING FORCE (INITIAL / AFTER TEST)	INITIAL: 30N MAX. (VERTICAL DIRECTION) AFTER TEST: 30N MAX. (VERTICAL DIRECTION)
UNMATING FORCE (INITIAL / AFTER TEST)	INITIAL: 20N MAX., 5N MIN. (VERTICAL DIRECTION) AFTER TEST: 20N MAX., 3N MIN. (VERTICAL DIRECTION)
CRIMP STRENGTH	10N MIN.
PRODUCT SPECIFICATION	PRS-2676
TEST REPORT	TR-20043
INSTRUCTION MANUAL	HIM-19009
APPEARANCE CRITERIA No.	QLS-A***

Rev.4

Accessories for MHF® 7S plug



MHF 7 (S) PLUG SMA ADAPTER
PART NO. 91255-0001

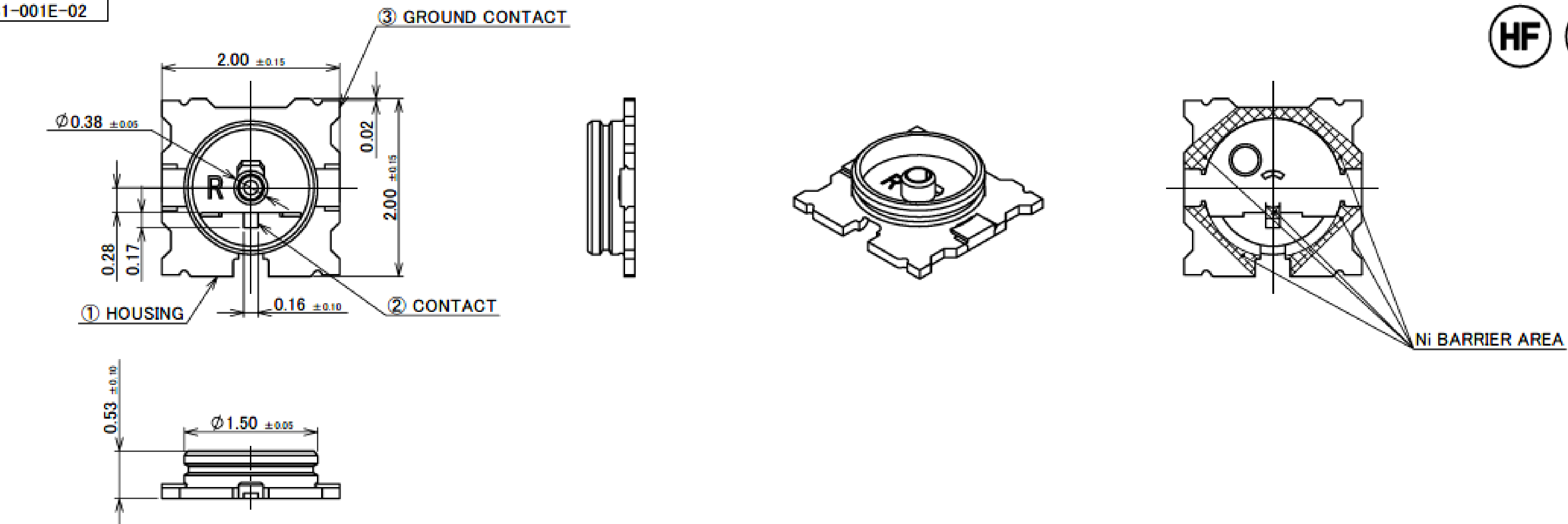


MHF 7S MATING AND UNMATING TOOL
PART NO. 91186-0001

Rev.4

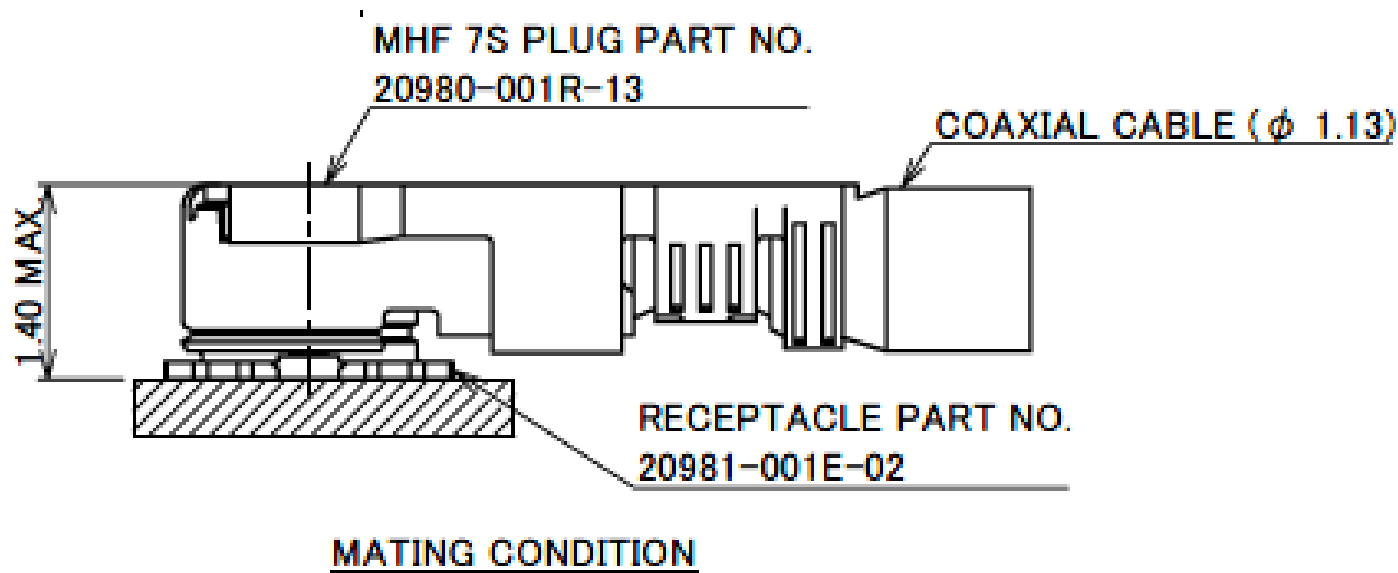
MHF® 7S Receptacle

Recommended P/N	20981-001E-02
PART NO.	
20981-001E-02	

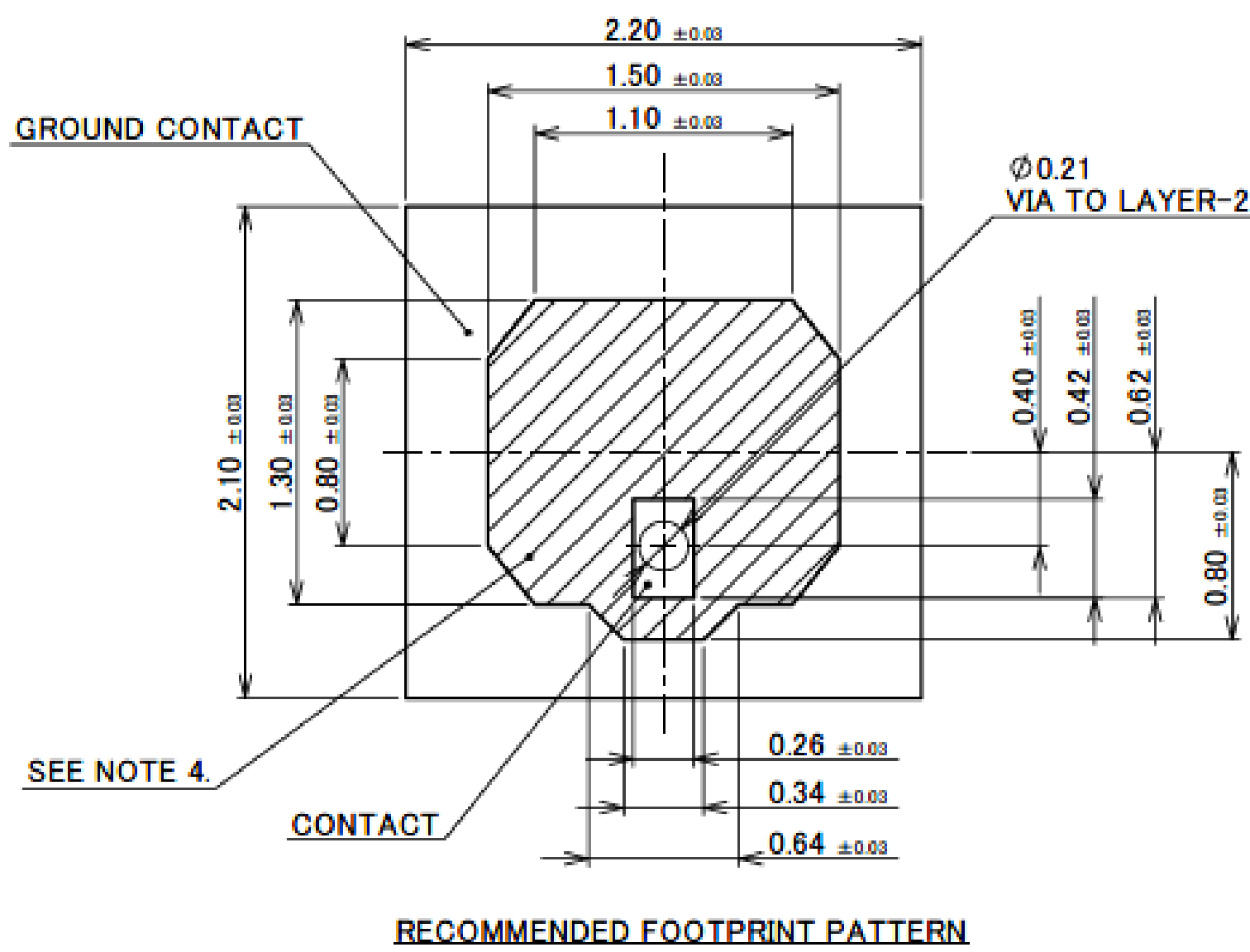


- NOTES
- 1. APPLICABLE CONNECTOR
20980-001R-13
 - 2. COPLANARITY: 0.08mm MAX.
 - 3. CHARACTERISTIC IMPEDANCE: 50Ω (NOMINAL VALUE)

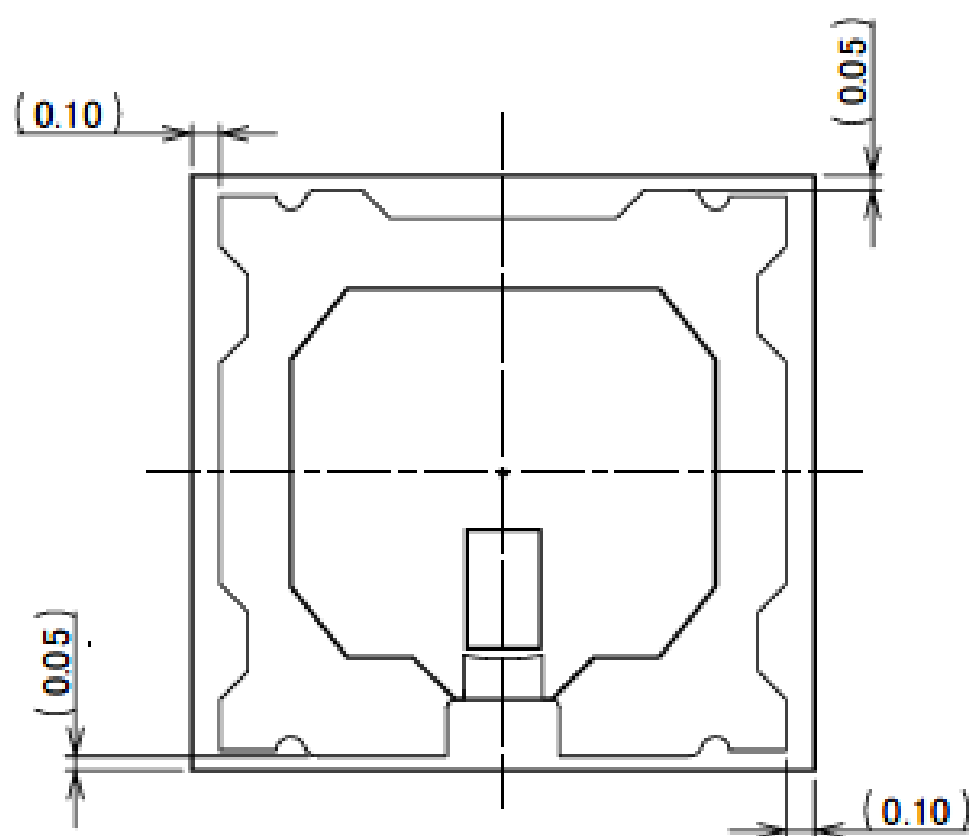
3	GROUND CONTACT	PHOSPHOR BRONZE	ALL OVER: Ni 1.00 μm MIN. CONTACT PART: 0.05 μm MIN. SOLDERING PART Au AREA: 0.02 μm MIN.
2	CONTACT	CORSON ALLOY	ALL OVER: Ni 1.00 μm MIN. CONTACT PART: 0.1 μm MIN. SOLDERING PART Au AREA: 0.02 μm MIN.
1	HOUSING	LCP	UL94V-0, WHITE
NO.	DESCRIPTION	MATERIAL	FINISH, REMARKS



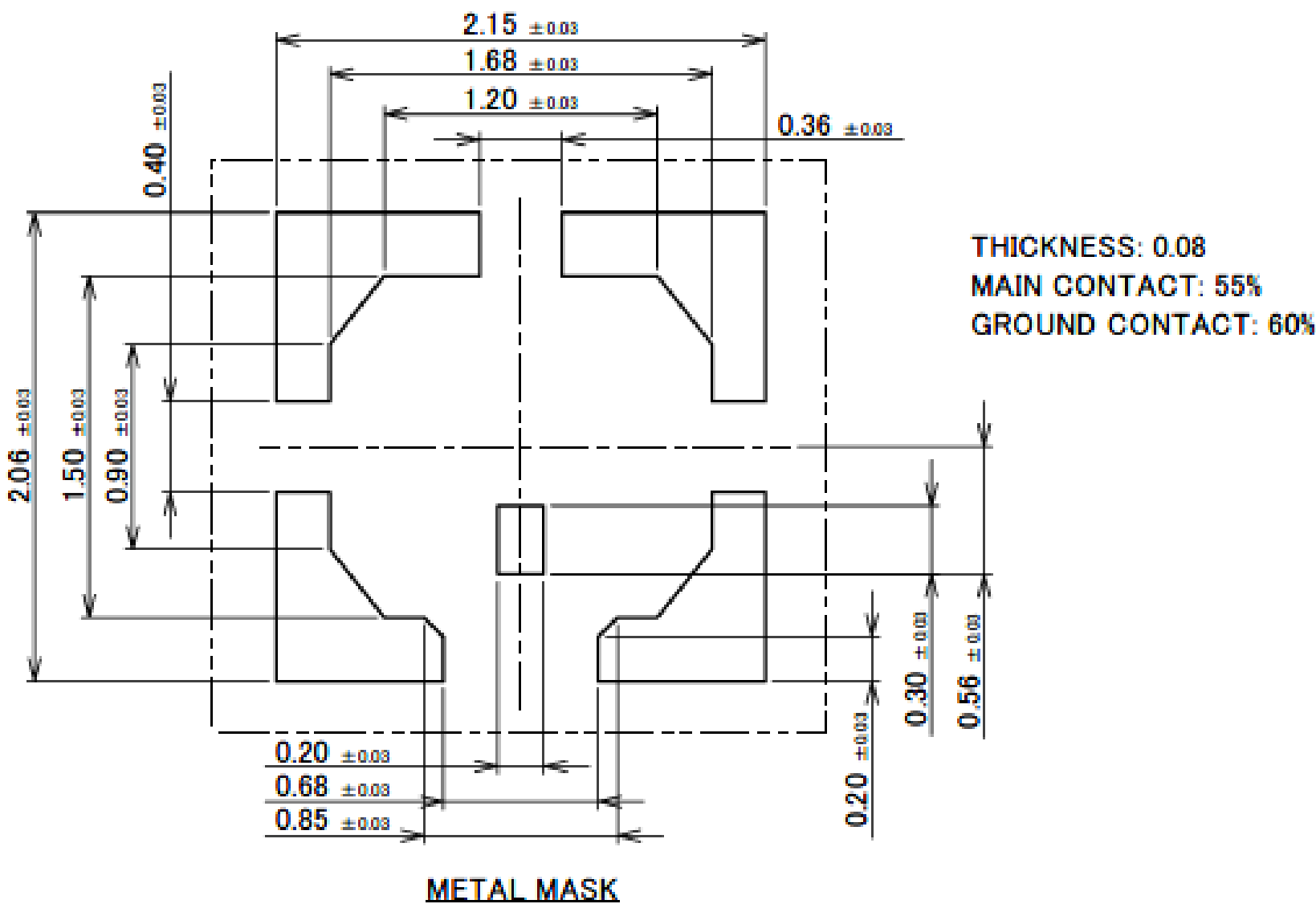
Rev.4



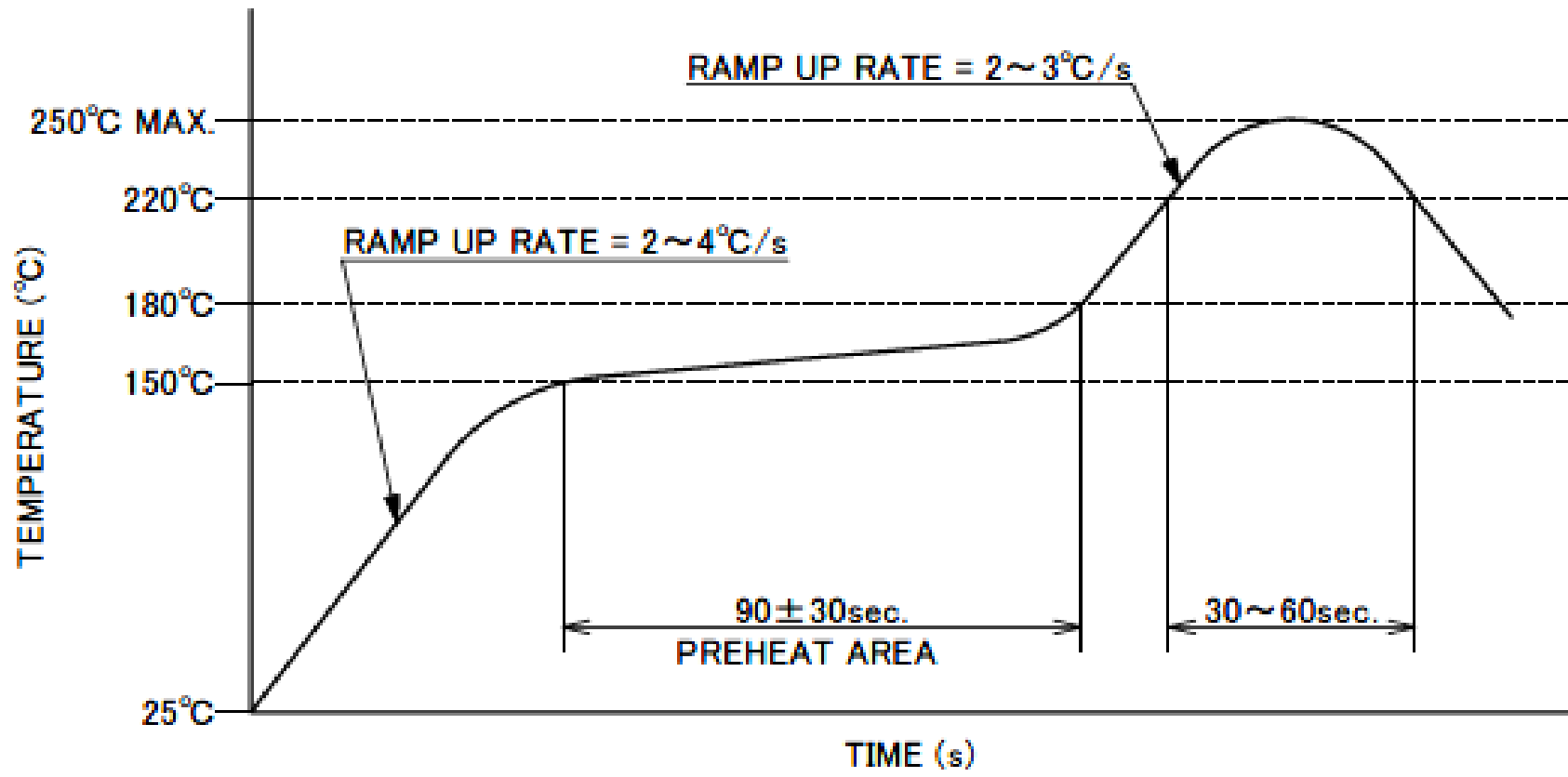
RECOMMENDED FOOTPRINT PATTERN



CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN



METAL MASK



REFLOW TEMPERATURE PROFILE
SENJU METAL INDUSTRY CO., LTD. : M705-SHF(Sn96.5 Ag3.0 Cu0.5)

- NOTES
- 4. NO GROUND, SIGNAL, AND RESIST IN THIS AREA.

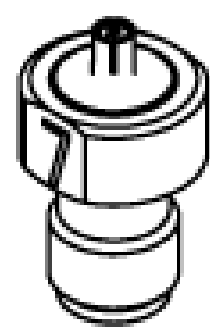
Rev.4

MHF® 7S Receptacle

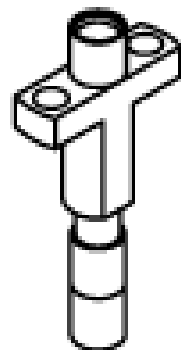
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CRIMP STRENGTH	10N MIN.
PRODUCT SPECIFICATION	PRS-2676
TEST REPORT	TR-20043
PACKING STANDARD	PST-19094
INSTRUCTION MANUAL	HIM-19009
APPEARANCE CRITERIA No.	QLS-A***

Rev.4

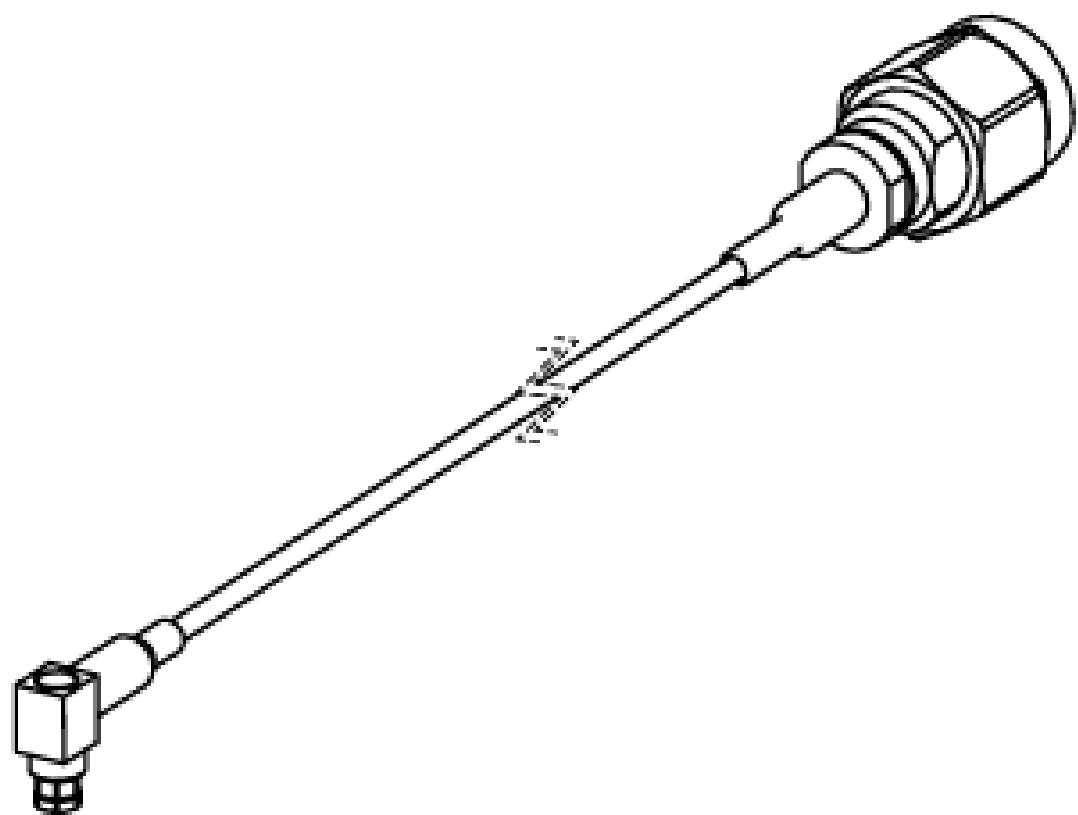
Accessories for MHF® 7S Receptacle



MHF 7 (S) RECEPTACLE SMA ADAPTER
PART NO. 91256-0001



MHF 7 (S) RECEPTACLE HIGH CYCLE N30 SMPM ADAPTER
PART NO. 91145-0001



MHF SERIES N30 SMPM TO SMA ADAPTER CABLE
PART NO. 91197-0300

* 91145-0001AND 91197-0300 SHOULD BE USED TOGETHER.

Rev.4

Board to
Board



High-Density



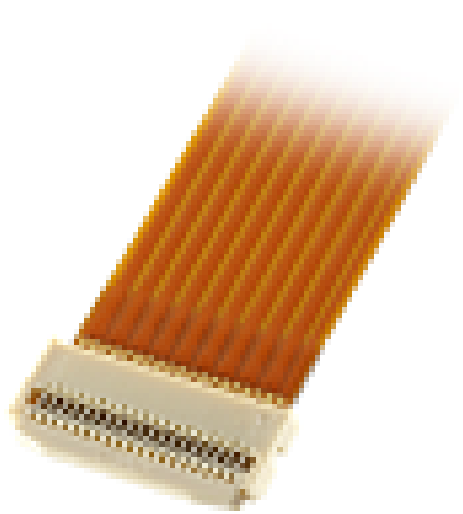
Autolocking
FPC/FFC



High-Density



FPC/FFC



Micro-Coaxial
/ Discrete Cable



High-Speed



RF



High-Frequency



Optical
Module



High-Speed



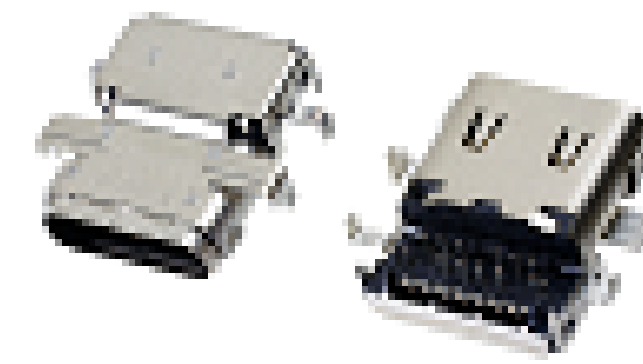
Power



High-Power



I/O
(Input/Output)



Quick charge



Effector



Custom
Connectors
Available

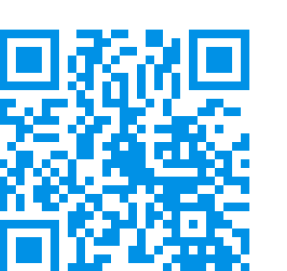
Inquiry



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