

# MHF<sup>®</sup> 7S

실드 성능이 우수하고, 5G mmWave에서의 EMI 대책에 적합한 커넥터  
실장 패턴 2.0 x 2.0 mm, 주파수 15 GHz 대응, VSWR 1.5 max @ 15 GHz

**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):c**

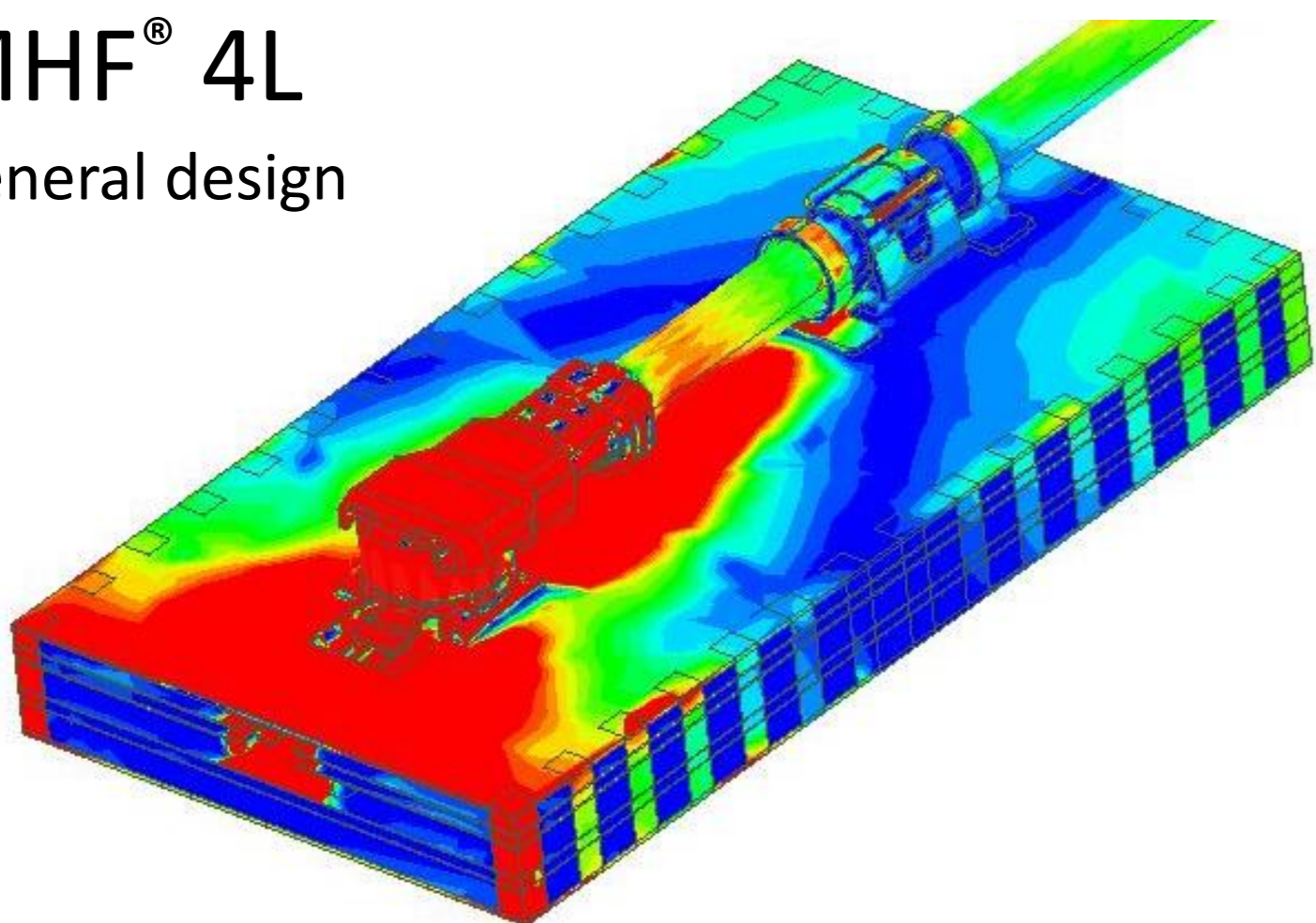
5G mmWave(~15GHz), 5G sub-6, Wi-Fi 6E, WiGig, LTE/LTE-Advanced, LPWA, Bluetooth, GPS



▶ 혁신적인 커넥터 디자인(ZenShield<sup>®</sup>)에 의해, 탁월한 실드 성능을 실현. 5G mmWave의 전송에 적합

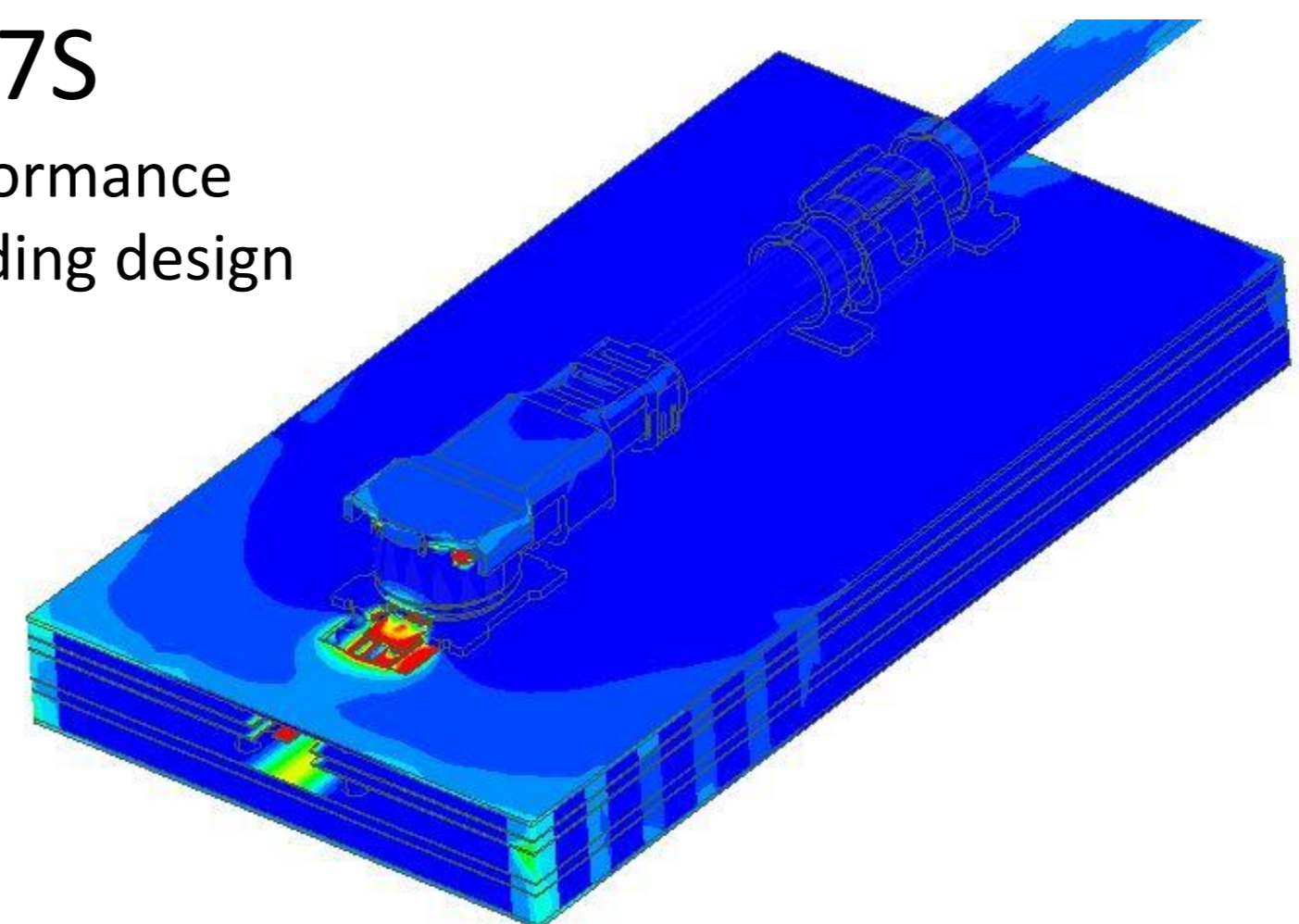
Electric field strength distribution (simulation)

MHF<sup>®</sup> 4L  
General design

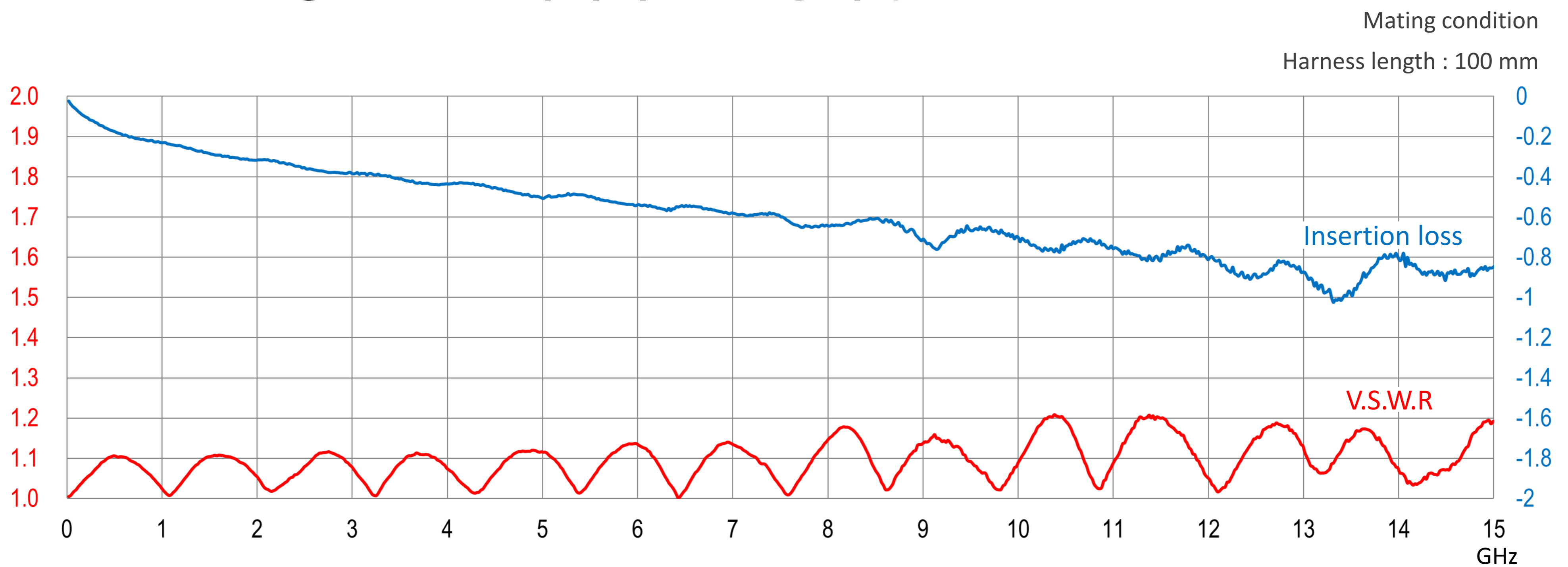


MHF<sup>®</sup> 7S

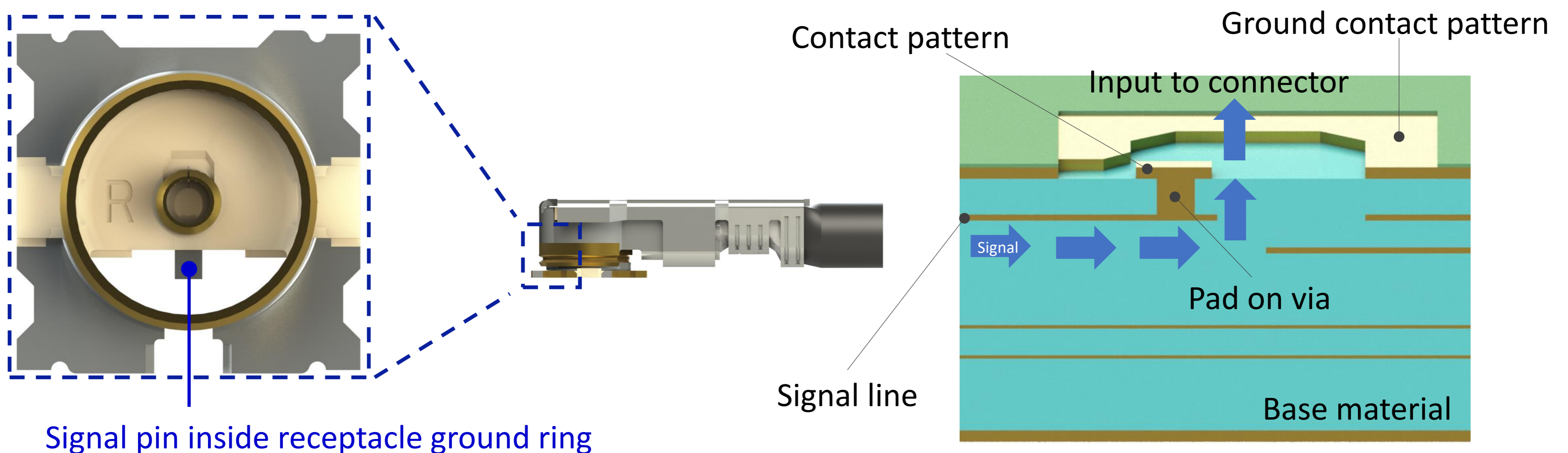
High-performance  
EMI shielding design



▶ VSWR 1.5 max @ 15 GHz의 우수한 전송특성



▶ 신호 핀을 그라운드 단자 안 쪽으로 배치한 스트립 라인 구조

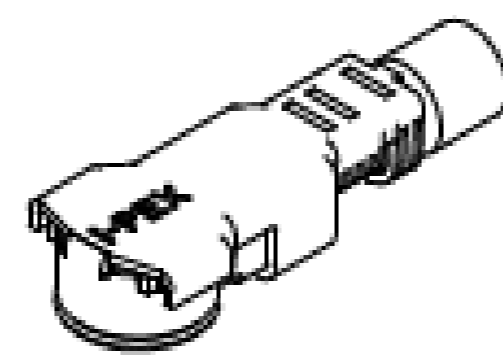
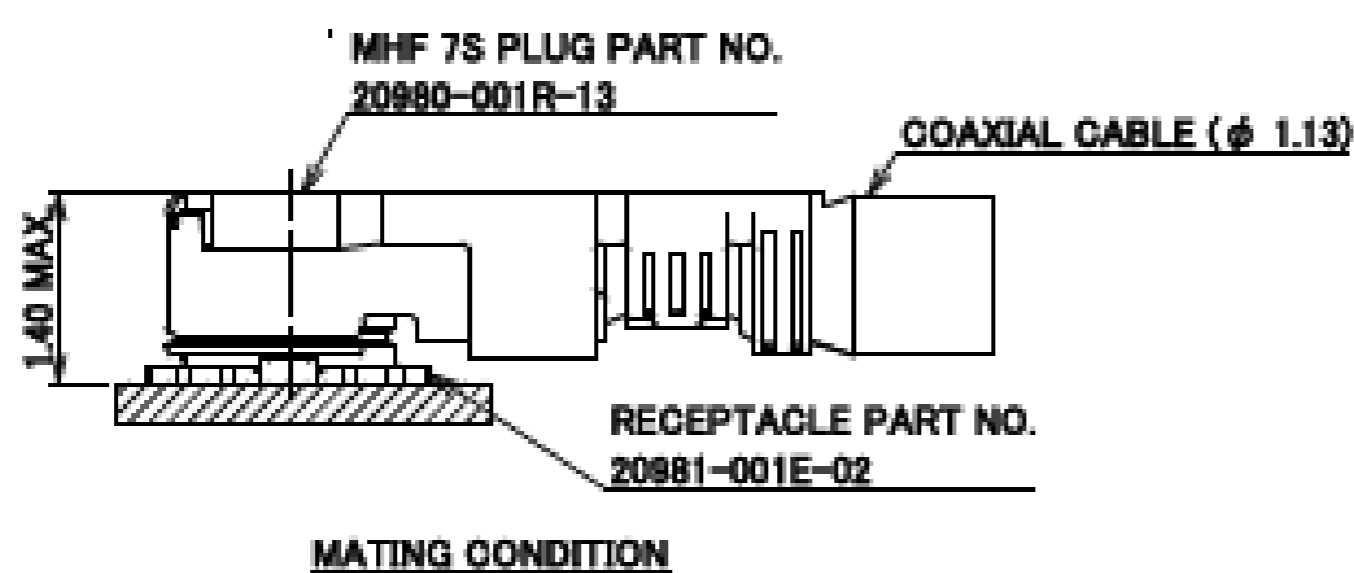
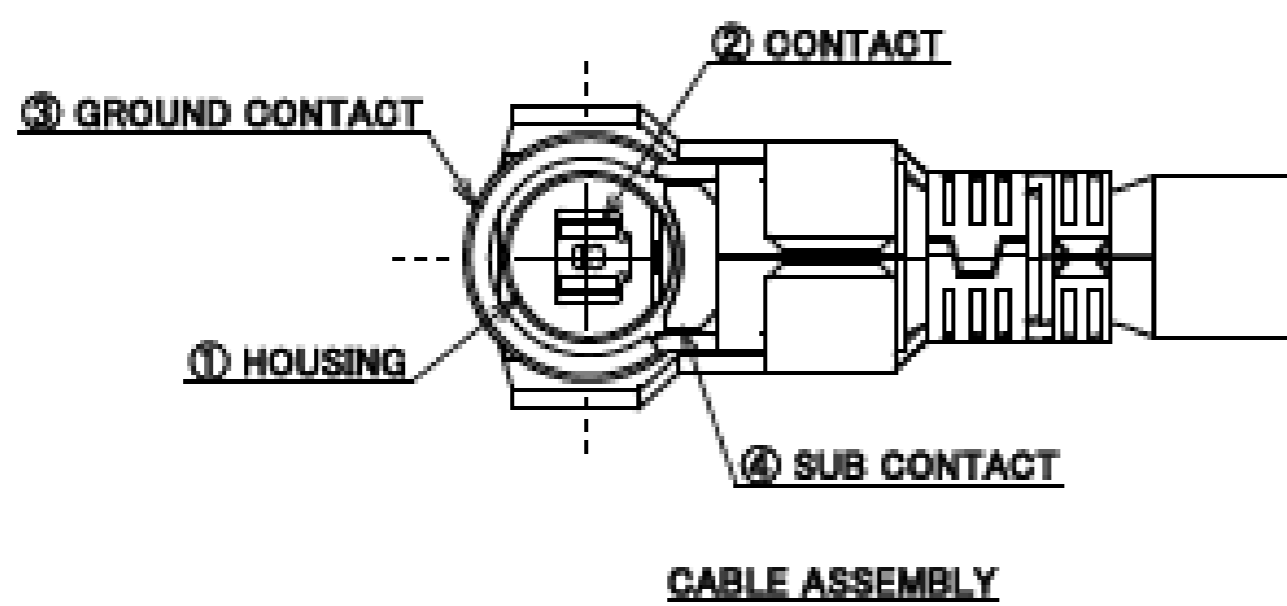
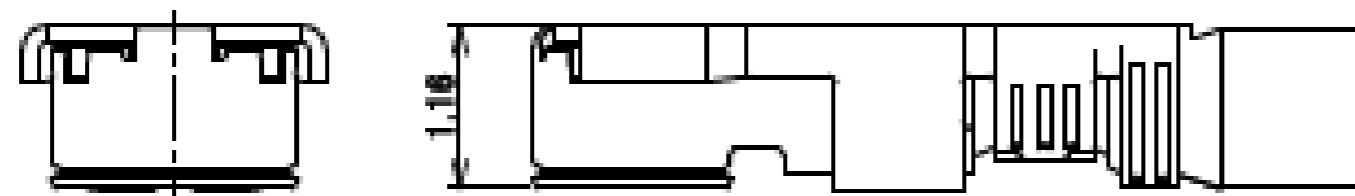
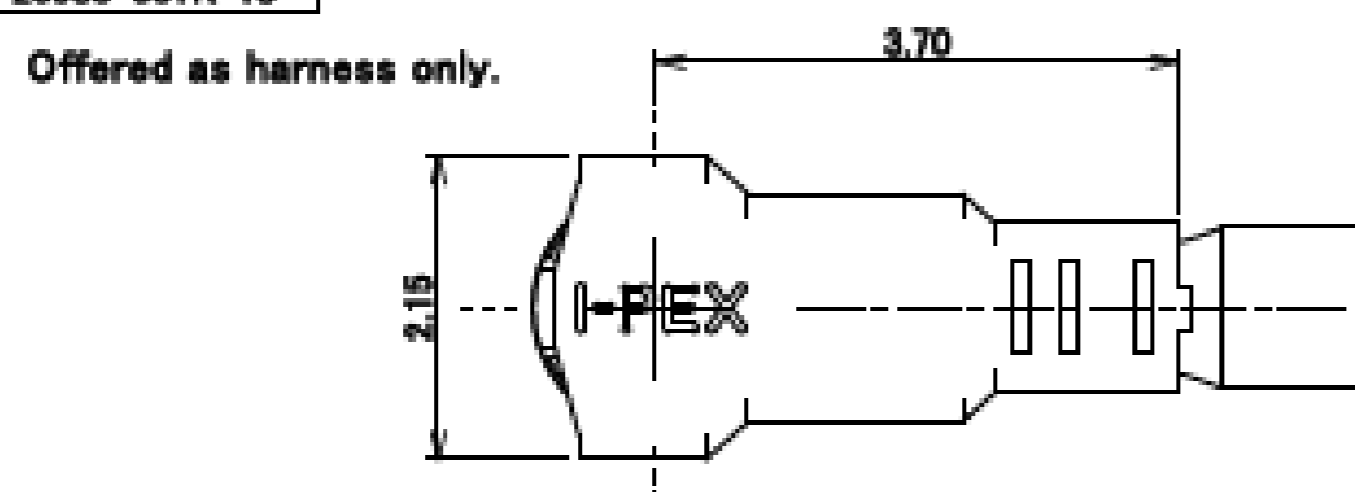


# Component Parts Details

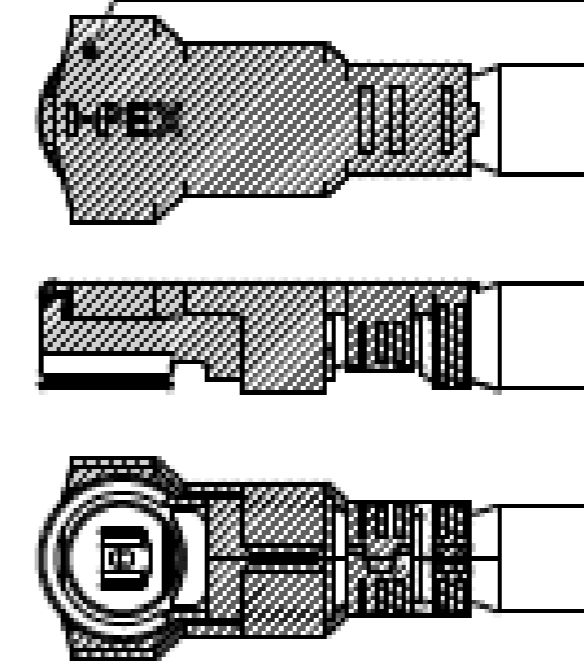
## MHF<sup>®</sup> 7S plug

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

Offered as harness only.

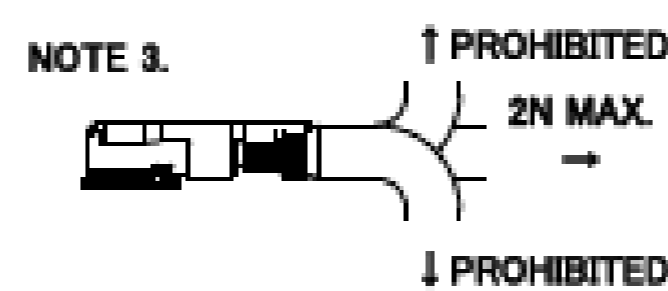
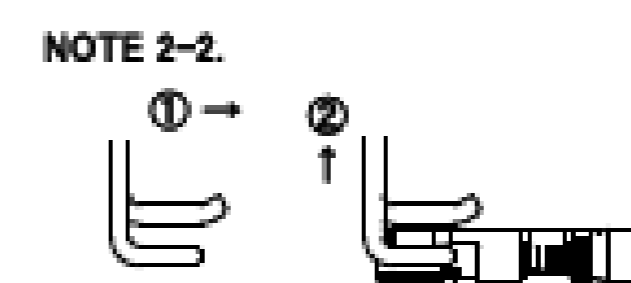


HATCHED AREA: NI PLATING AREA



### NOTES

1. APPLICABLE CONNECTOR: 20981-001E-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)



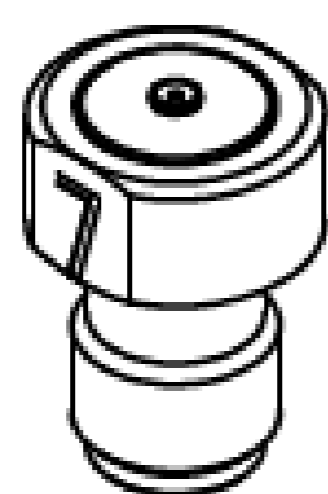
NO.	DESCRIPTION	MATERIAL	FINISH, REMARKS
4	SUB CONTACT	PHOSPHOR BRONZE	ALL OVER: Ni 1.00 μm MIN. CONTACT PART: Au 0.1 μm MIN.
3	GROUND CONTACT	PHOSPHOR BRONZE	ALL OVER: Ni 0.7 μm MIN. CONTACT PART: Au 0.1 μm MIN. (Ni PLATING AREA) Ni ONLY
2	CONTACT	CORSON ALLOY	ALL OVER: Ni 1.00 μm MIN. CONTACT PART: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

# MHF® 7S plug

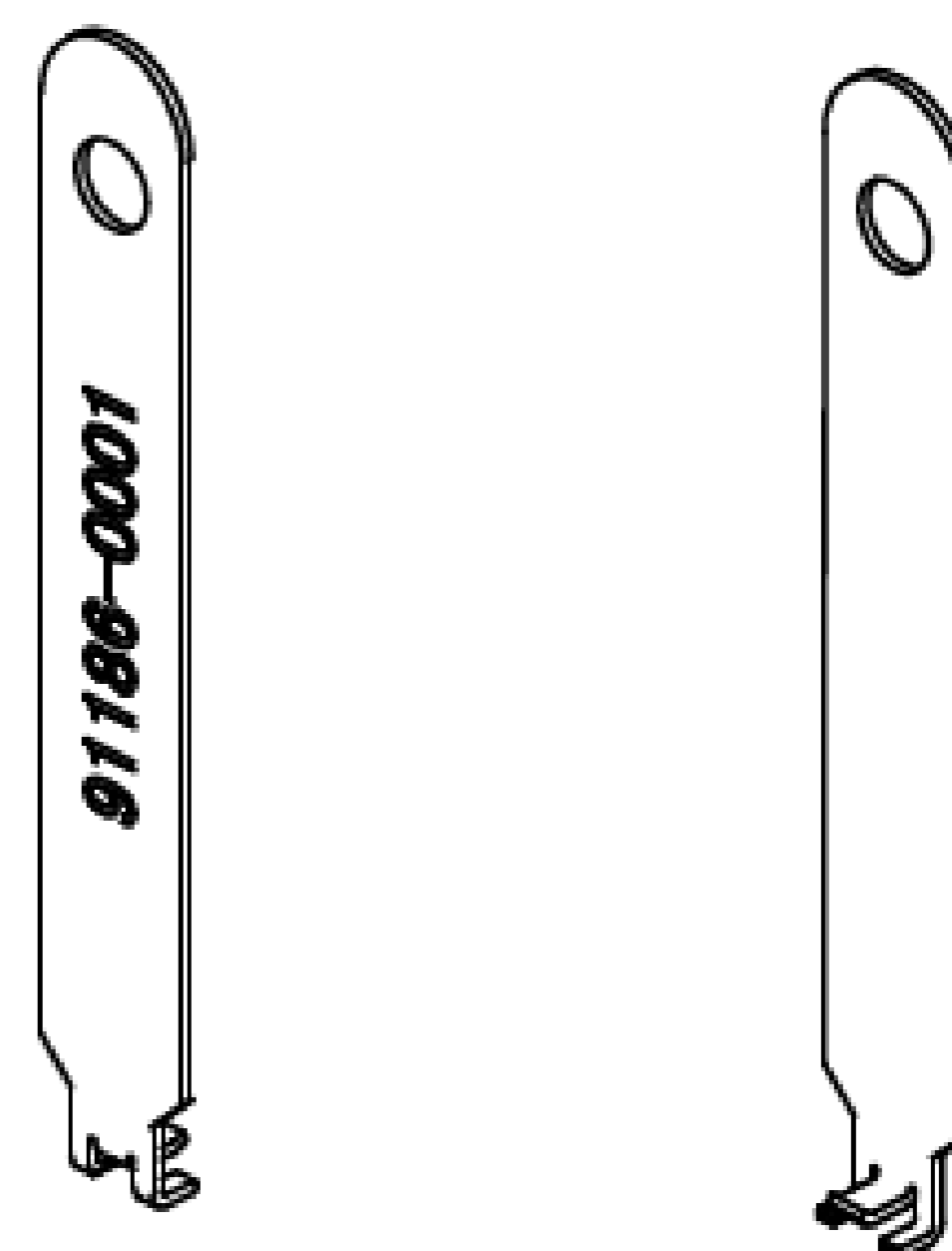
ITEMS	SPECIFICATION
APPLICABLE CONNECTOR PART No.	20981-001E-02
RATING VOLTAGE	60 V AC (R.M.S)/DC
RATING FREQUENCY	DC~15 GHz
OPERATING TEMPERATURE	233~363 K (-40°C~+90°C)
OPERATING HUMIDITY	90% MAX. (NON-CONDENSING)
CHARACTERISTIC IMPEDANCE	50 ohm (NOMINAL VALUE)
VSWR	1.30 MAX. AT 0.1 ~ 3 GHz, 1.35 MAX. 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 : $\Delta$ R 20 mohm MAX.
GROUND CONTACT RESISTANCE	INITIAL : 20 mohm MAX. / AFTER TEST : $\Delta$ 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**

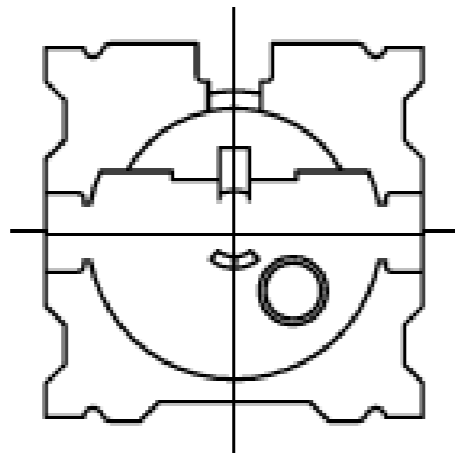
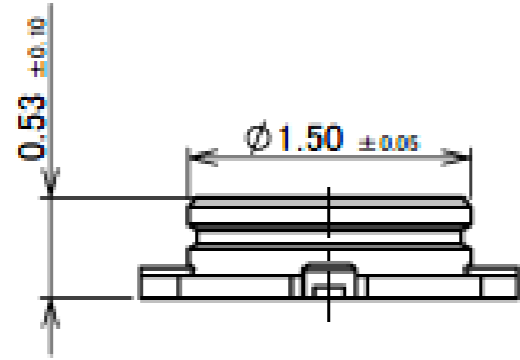
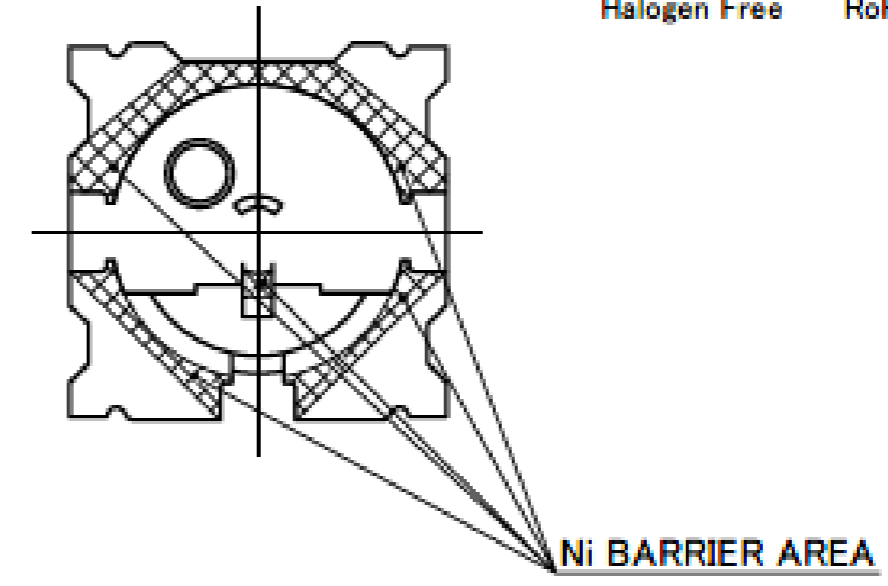
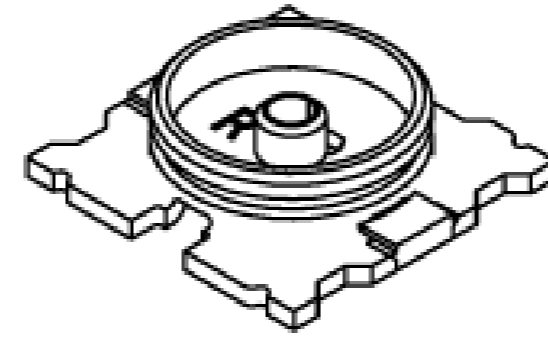
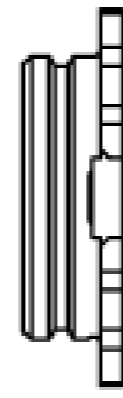
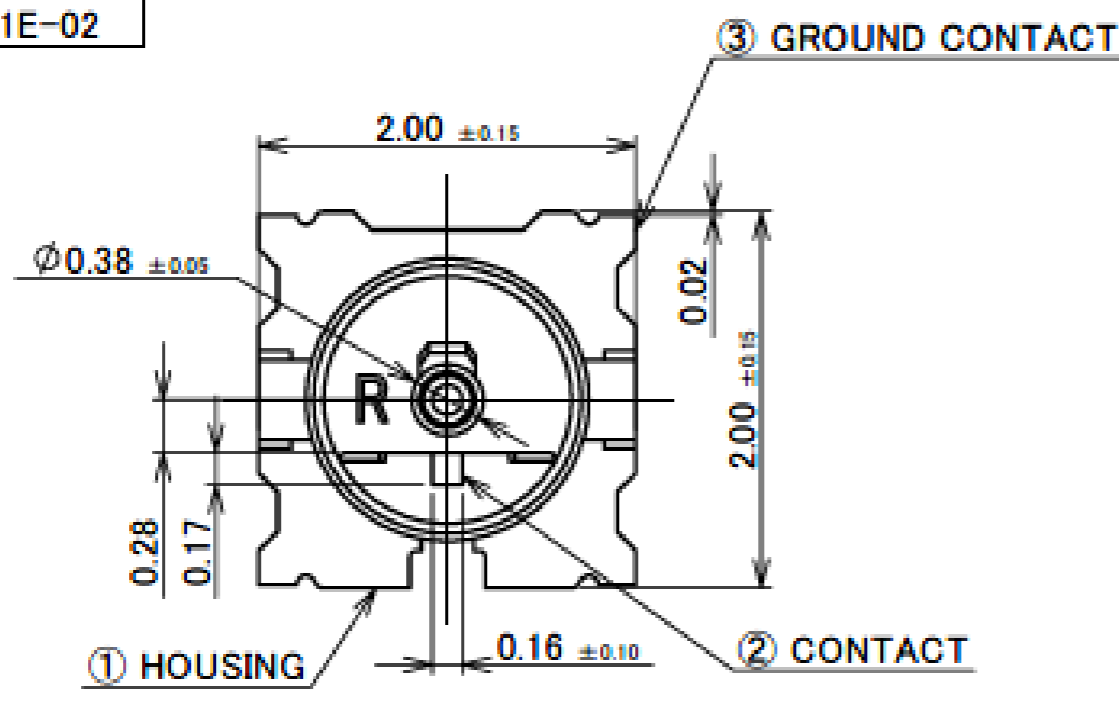


**MHF 7S MATING AND UNMATING TOOL**  
**PART NO. 91186-0001**

Rev.4

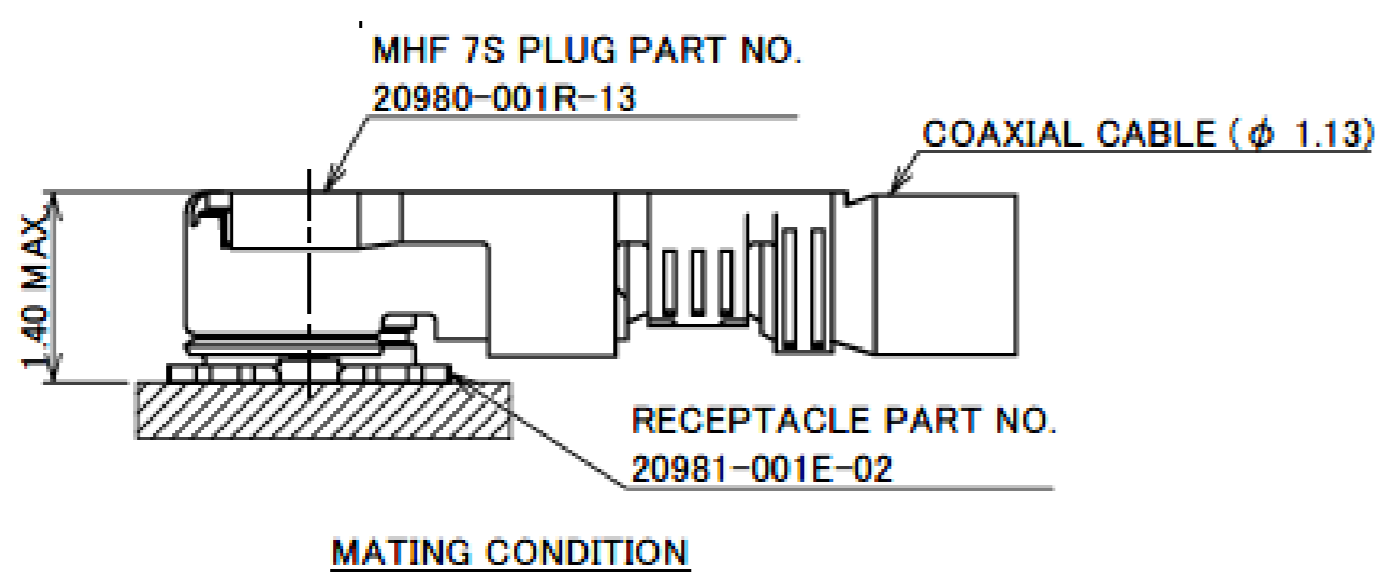
# MHF<sup>®</sup> 7S Receptacle

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

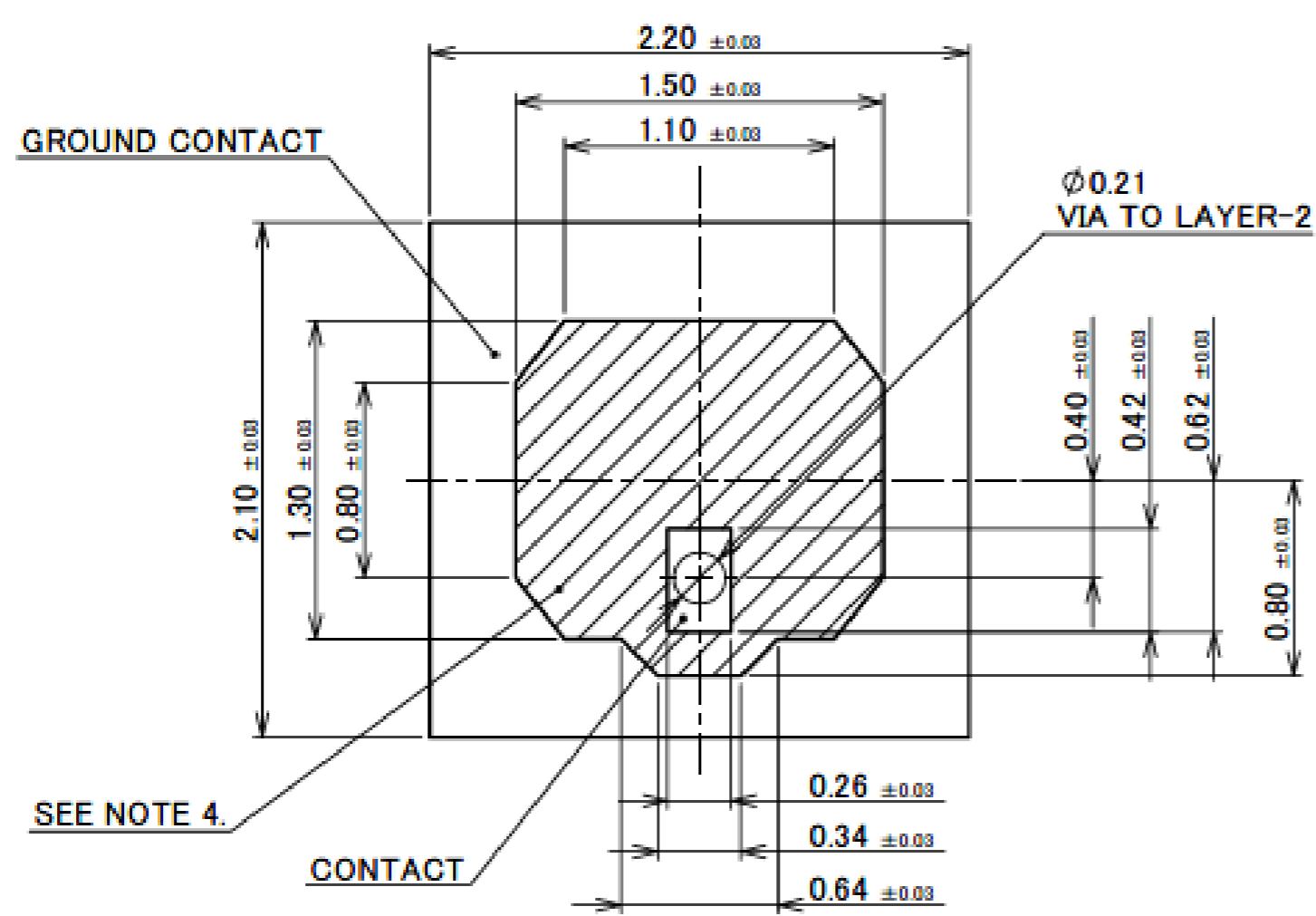


- NOTES
1. APPLICABLE CONNECTOR  
20980-001R-13
  2. COPLANARITY: 0.08mm MAX.
  3. CHARACTERISTIC IMPEDANCE: 50Ω (NOMINAL VALUE)

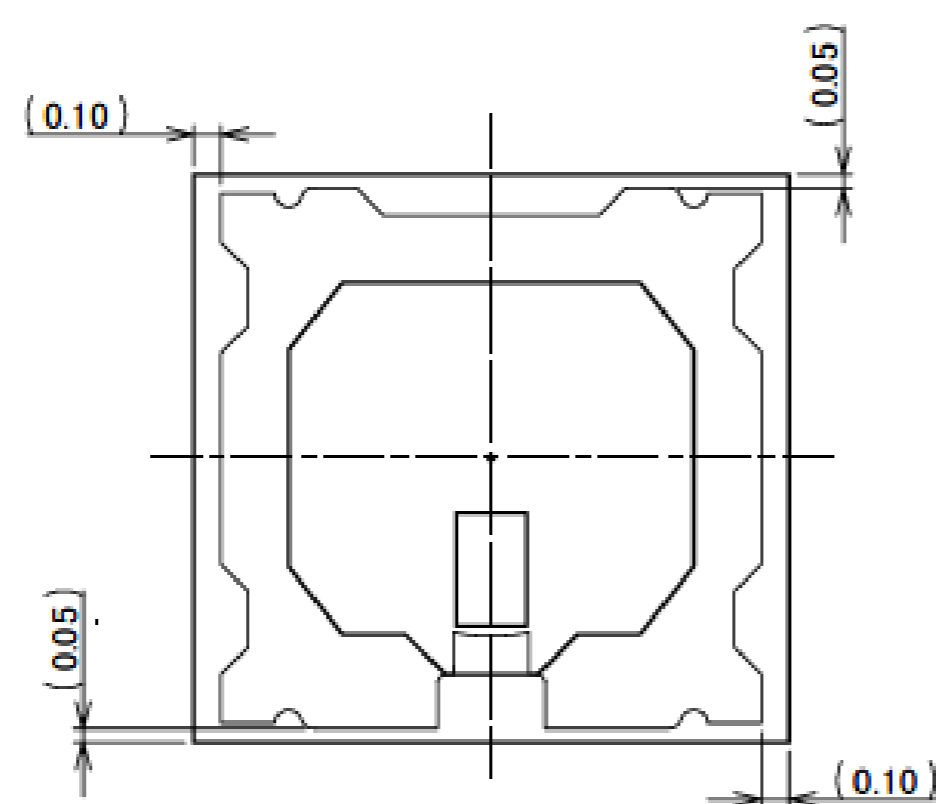
NO.	DESCRIPTION	MATERIAL	FINISH, REMARKS
3	GROUND CONTACT	PHOSPHOR BRONZE	ALL OVER: Ni 1.00 μm MIN. CONTACT PART: 0.05 μm MIN. SOLDERING PART Au AREA: 0.02 μm MIN.
2	CONTACT	CORSON ALLOY	ALL OVER: Ni 1.00 μm MIN. CONTACT PART: 0.1 μm MIN. SOLDERING PART Au AREA: 0.02 μm MIN.
1	HOUSING	LCP	UL94V-0, WHITE



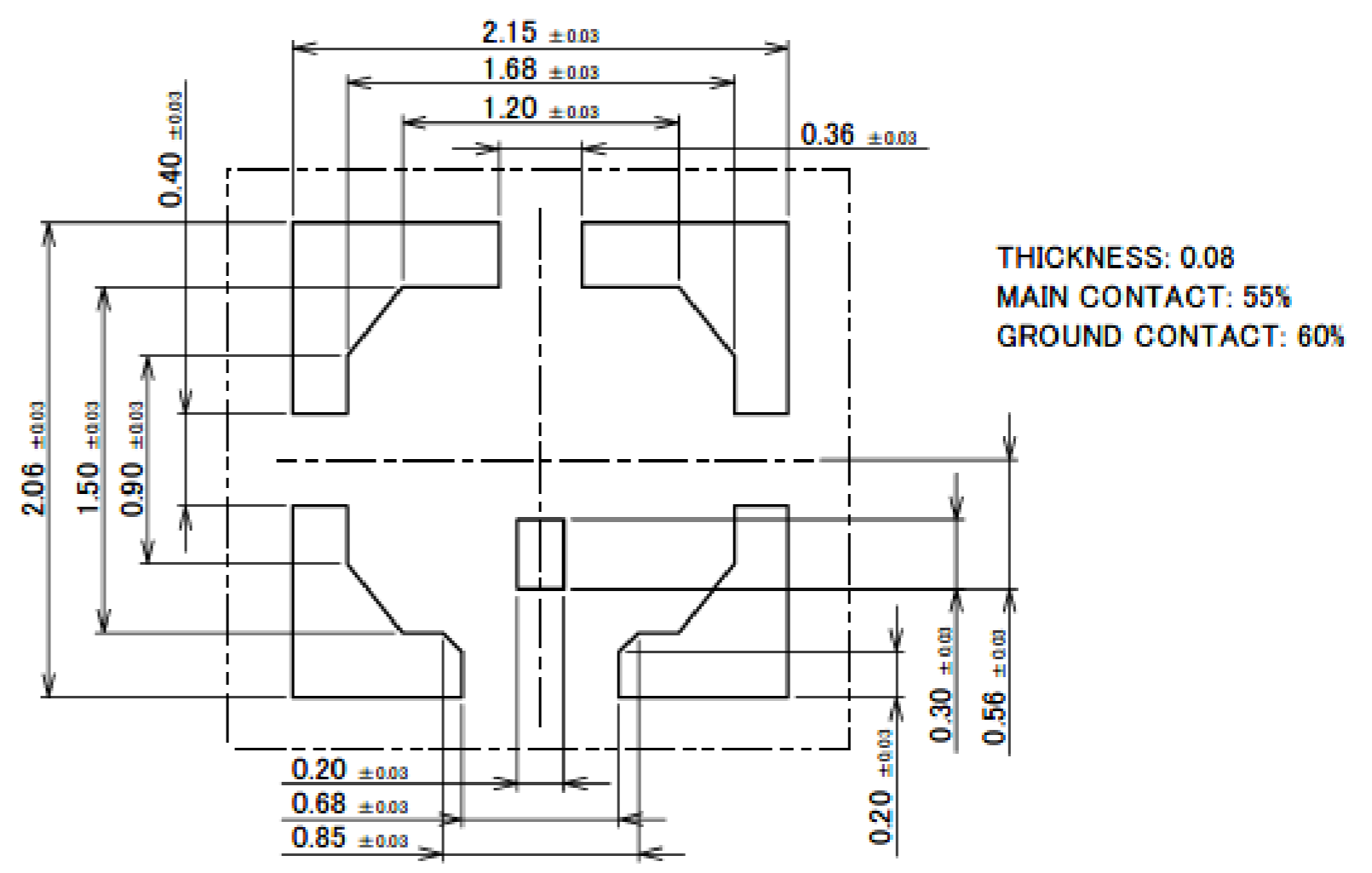
Rev.5



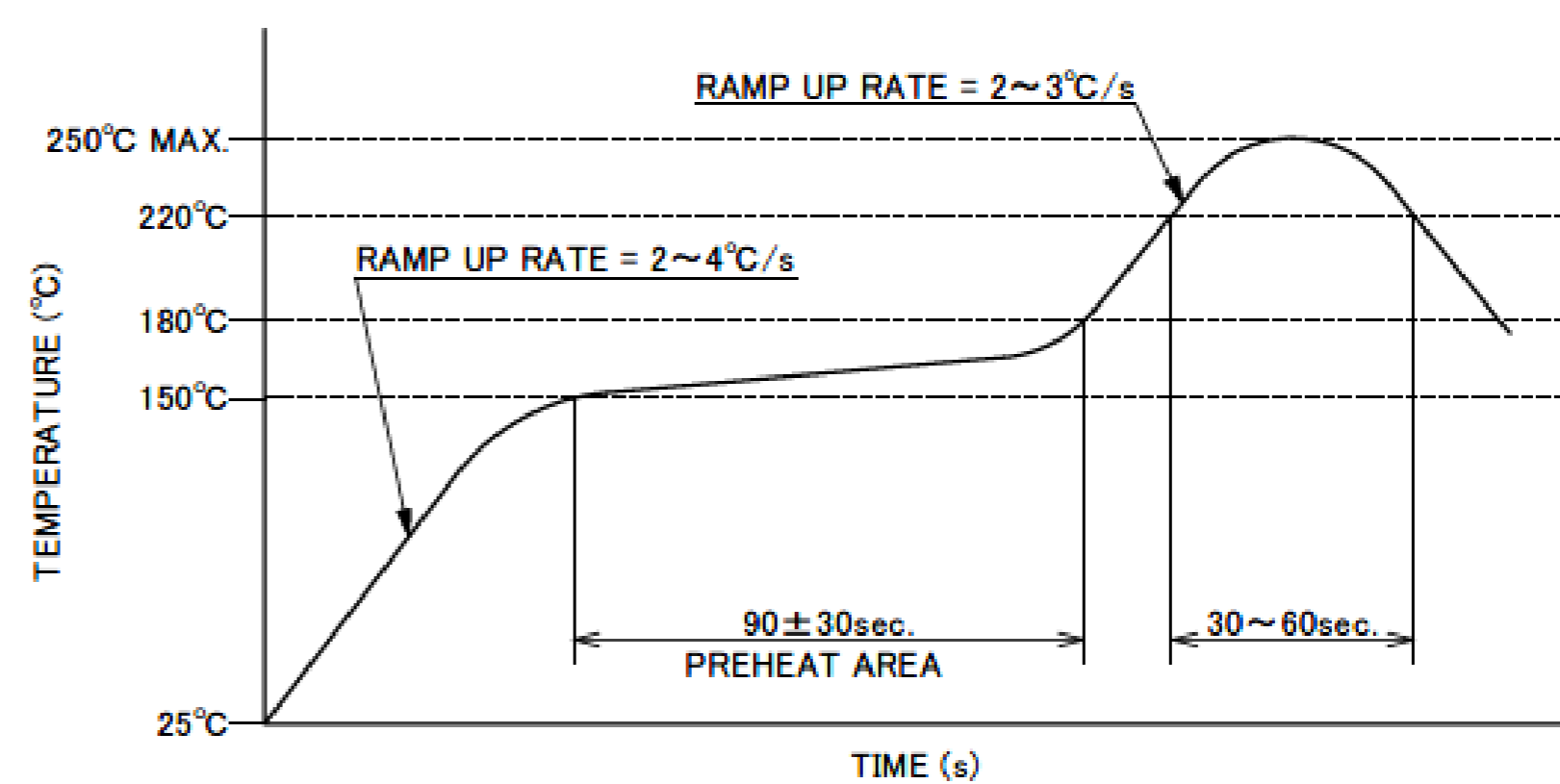
RECOMMENDED FOOTPRINT PATTERN



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.

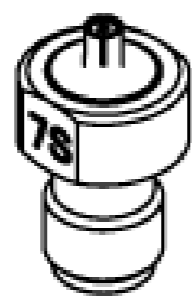
Rev.5

# MHF® 7S Receptacle

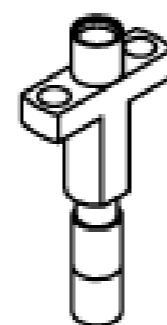
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CRIMP STRENGTH	10N MIN.
PRODUCT SPECIFICATION	PRS-2676
TEST REPORT	TR-20043
PACKING STANDARD	PST-19094
INSTRUCTION MANUAL	HIM-19009
APPEARANCE CRITERIA No.	QLS-A***

Rev.5

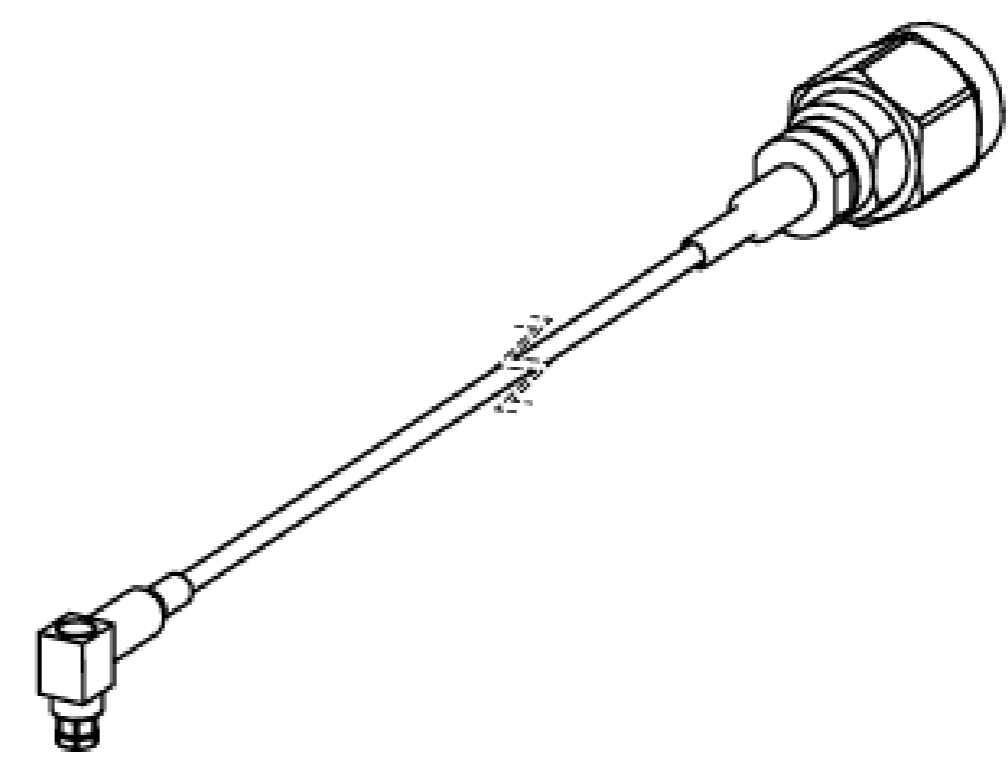
## Accessories for MHF® 7S Receptacle



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



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



MHF SERIES N30 SMPM TO SMA ADAPTER CABLE  
PART NO. 91197-300\*

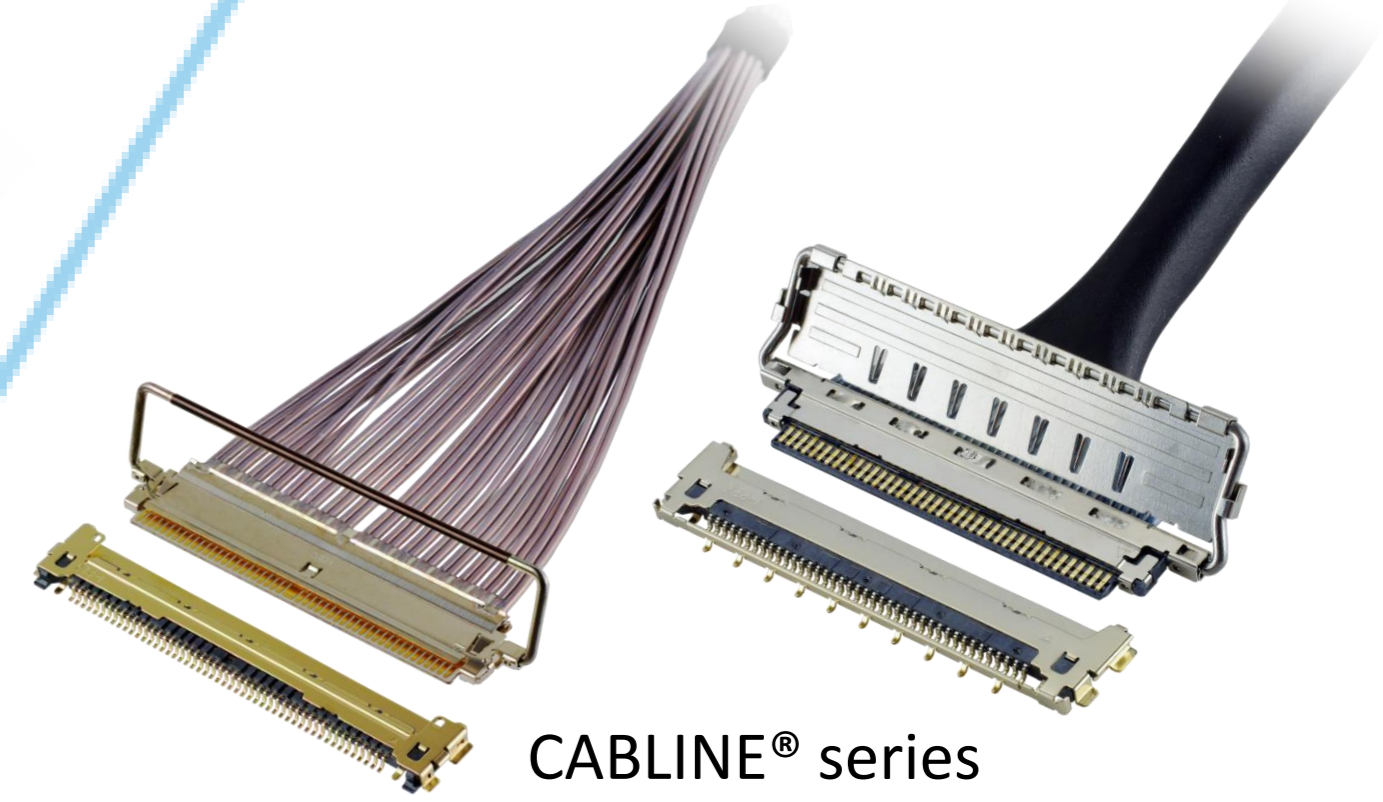
\* 91145-0001 AND 91197-300\* SHOULD BE USED TOGETHER.

Rev.5

# Custom Connectors Available

 RF Connectors

MHF® series



CABLINE® series



Micro-coaxial/Twinax Connectors

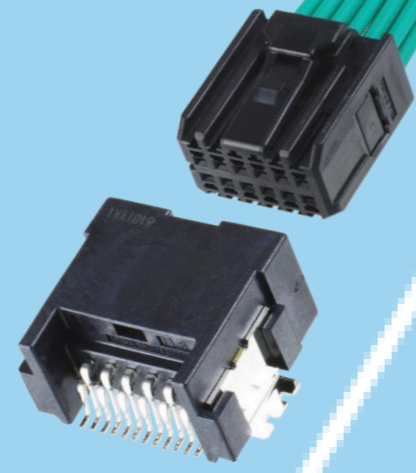


Wire-to-Board Connectors/Terminals

AP series



ISH® series



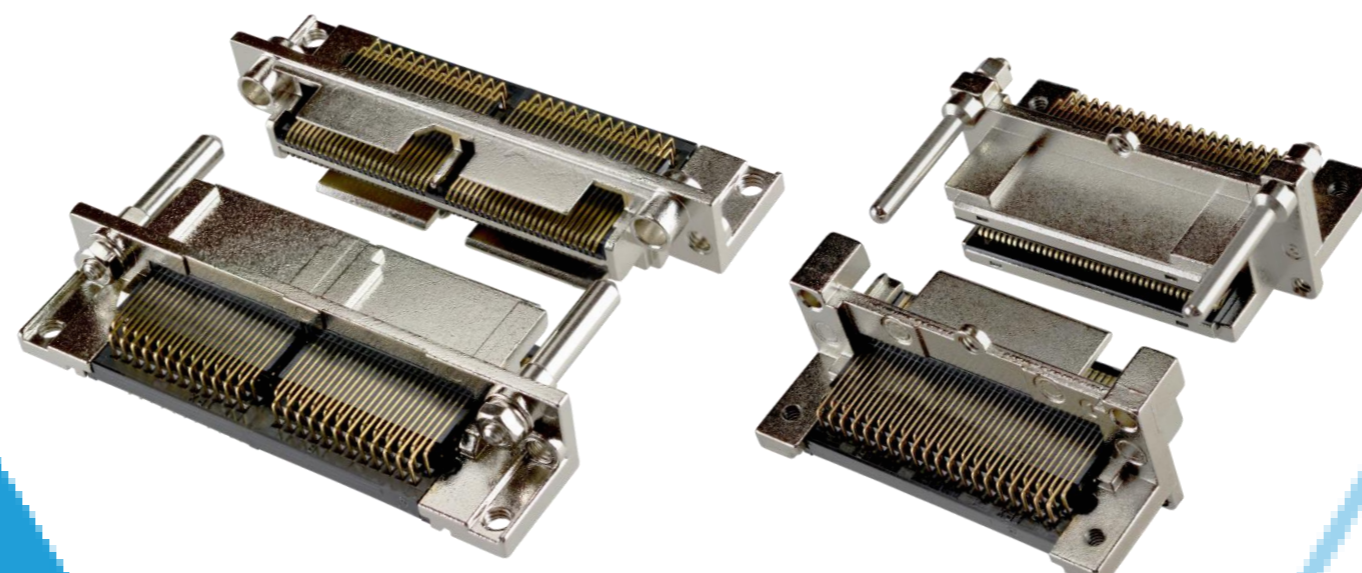
NOVASTACK® series



Board-to-Board Connectors



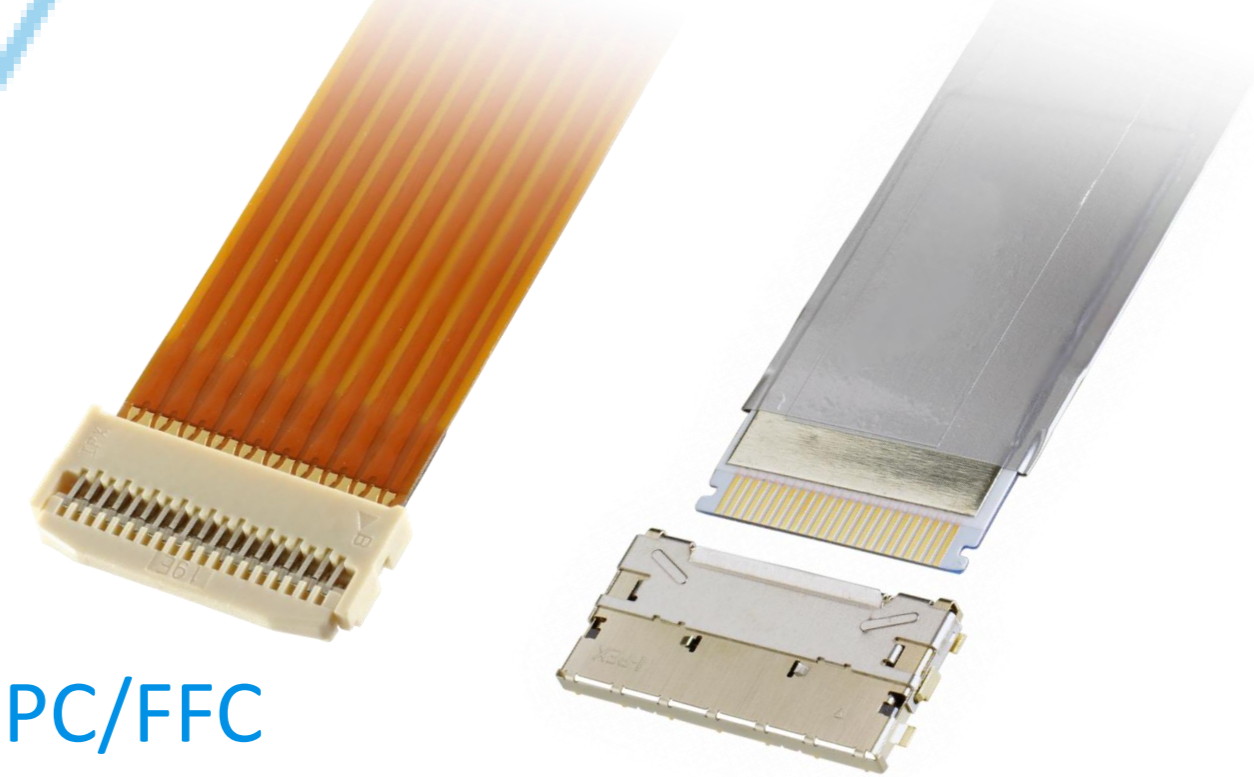
I/O Connectors



MINIDOCK™ series

MINIFLEX® series

EVAFLEX® series



FPC/FFC Connectors



Inquiry



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