

# MHF® III

Low-profile design (mated height = 1.6 mm max.), supports up to 9 GHz

Product Specifications:

Mated Height (mm max.)	1.6		
Rece. SMT Size (mm)	2.0 x 2.0		
Applicable Frequency	DC ~ 9 GHz		
Characteristic Impedance	50 ohm		
VSWR (L=100 mm)	Connector	PLUG	RECEPTACLE
	DC ~ 3 GHz	1.3 max.	1.3 max.
	3 ~ 6 GHz	1.5 max.	1.4 max.
	6 ~ 9 GHz	1.7 max.	1.6 max.

Applicable Cable Size:

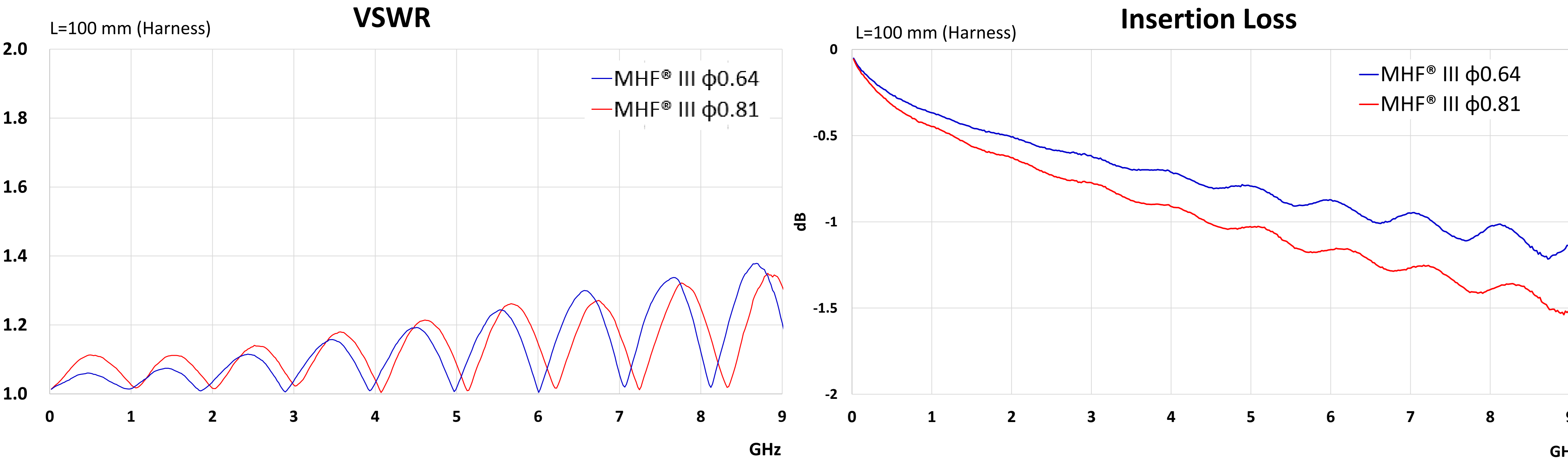
O.D. 0.81 mm / AWG 36
O.D. 0.64 mm / AWG 36

Applicable Standards (Reference Only):

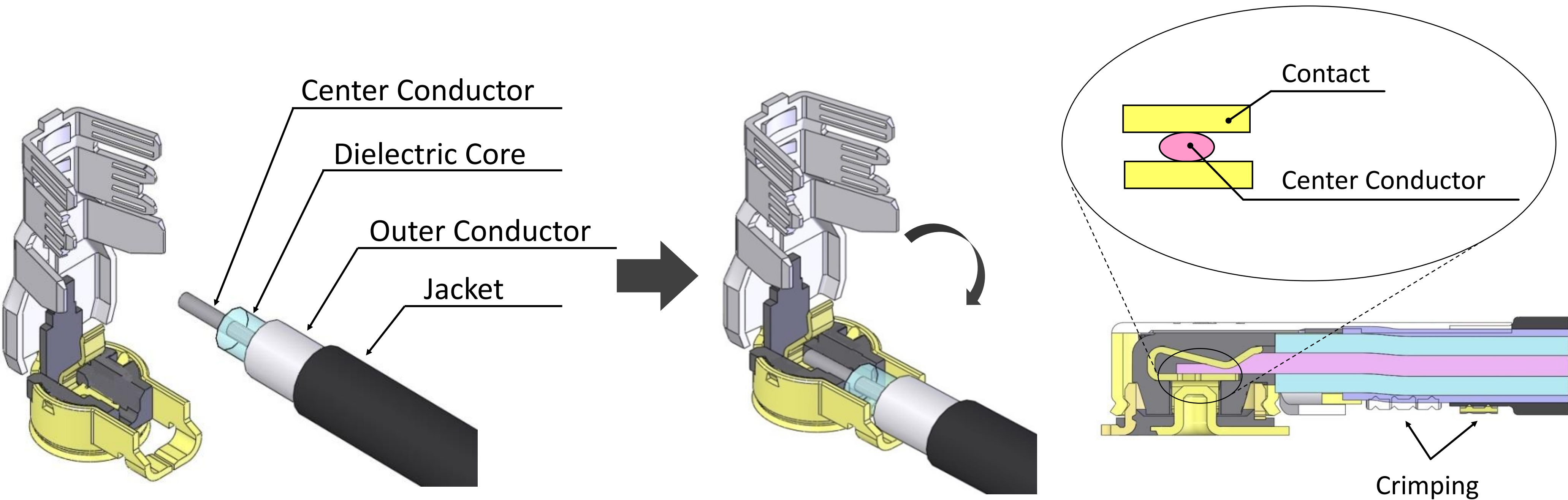
5G sub-6, Wi-Fi 6, LTE/LTE-Advanced, LPWA, Bluetooth, GPS
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Small form factor with big performance through 9 GHz



Solderless micro-coaxial termination technology "i-Fit®" provides consistent performance



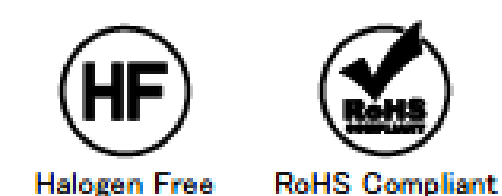
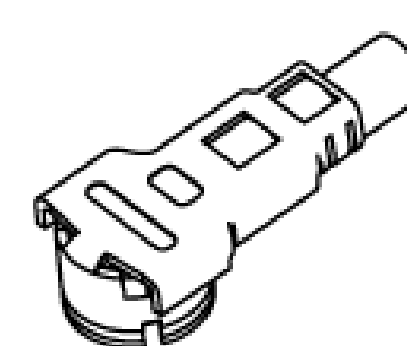
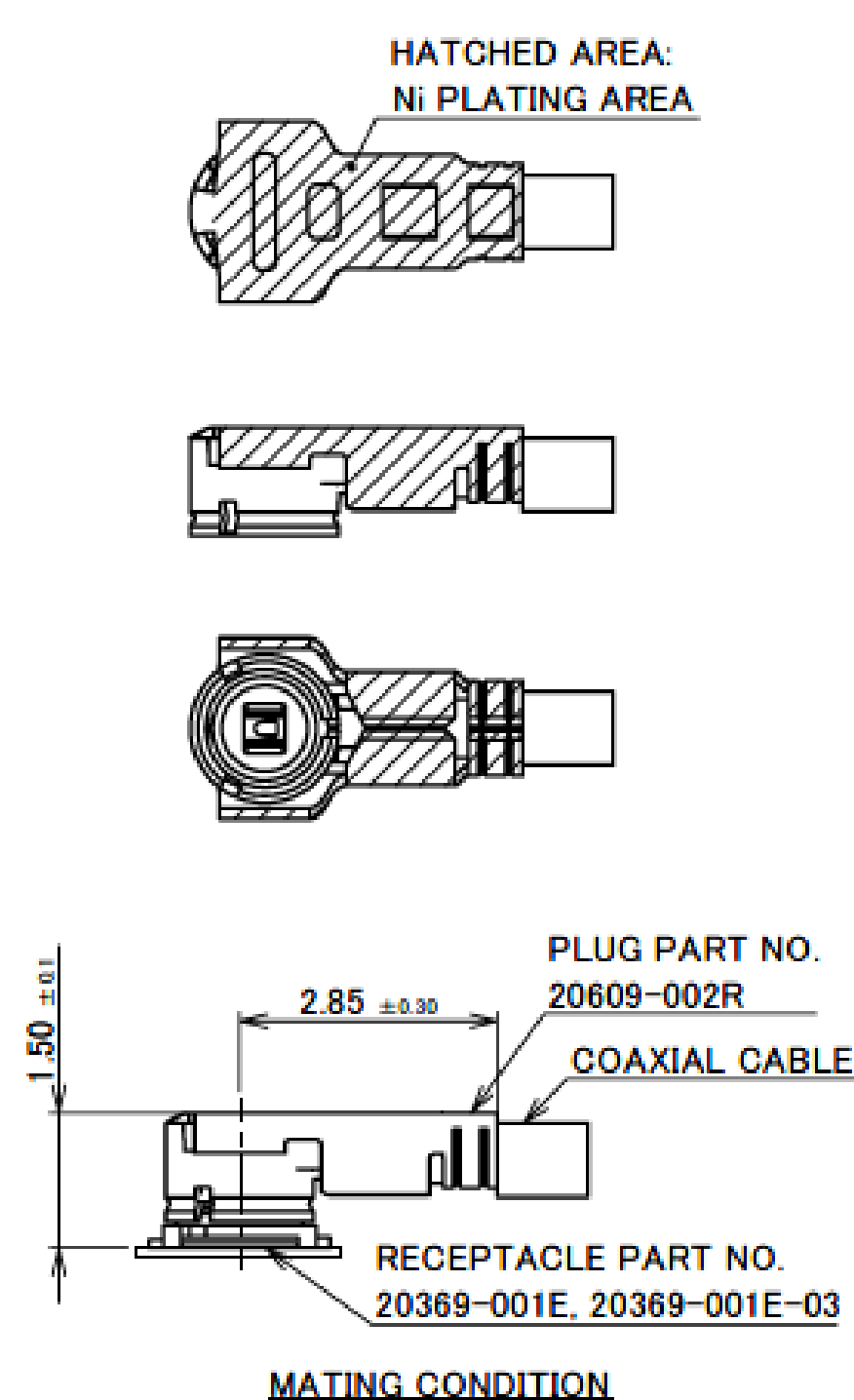
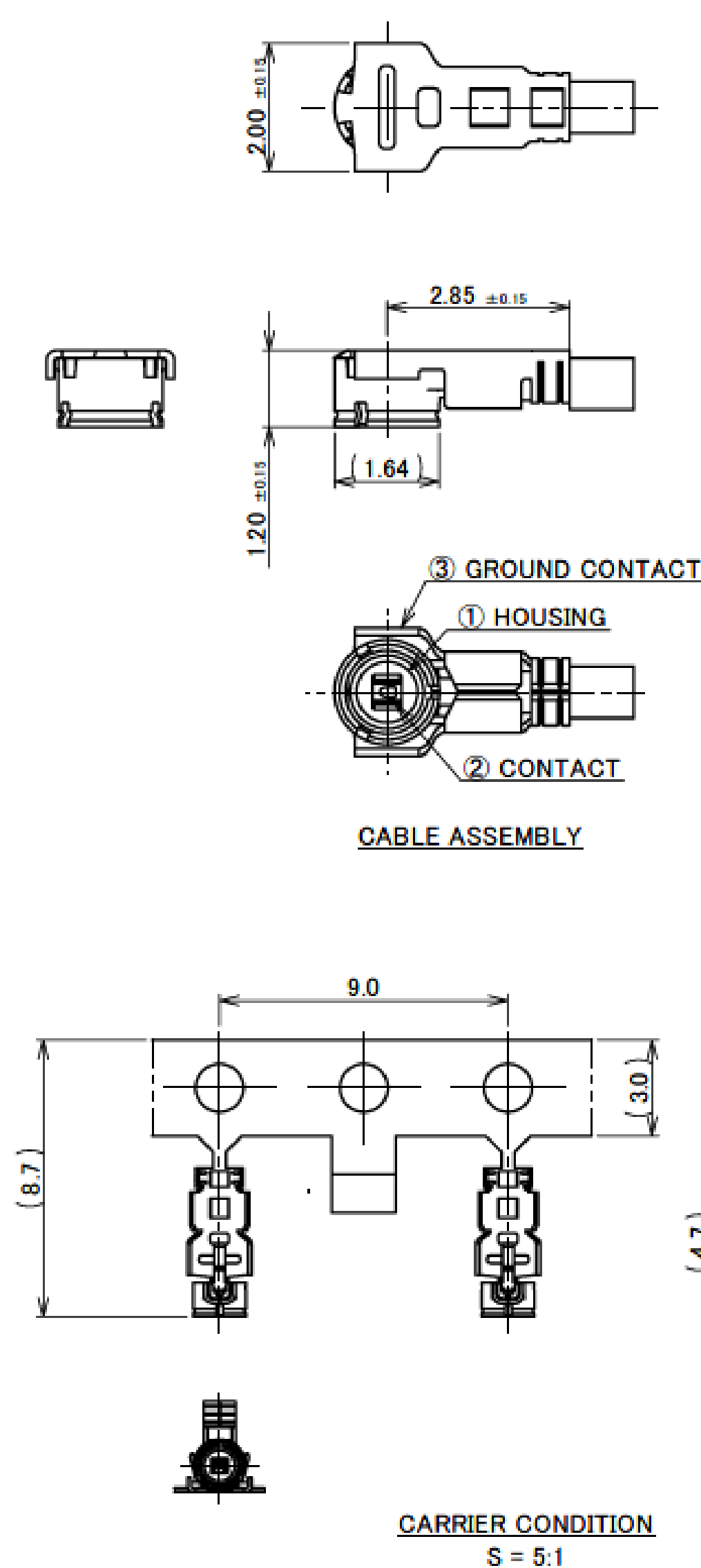
MHF® III Plug available micro-coaxial O.D. (AWG) : 0.81 mm (36), 0.64 mm (36)

Product name	MHF® III	MHF® 4L			MHF® I	
Mating Height	1.6 mm max.	1.7 mm max.	1.4 mm max.	1.2 mm max.	3.0 mm max.	2.5 mm max.
Coaxial O.D. (Center Conductor AWG)	2.00 mm (AWG#26)				●	
	1.80 mm (AWG#30)					●
	1.37 mm (AWG#30)	●				●
	1.32 mm (AWG#32)					●
	1.13 mm (AWG#32)		●			●
	0.95 mm (AWG#33)		●			
	0.81 mm (AWG#36)	●		●		●
	0.64 mm (AWG#36)	●		●		
Receptacle	MHF® III receptacle	MHF® 4 receptacle , MHF® 4L receptacle			MHF® I receptacle	

## Component Parts Details

## MHF® III plug Ni top

Recommended P/N	20609-002R
PART NO.	
20609-002R	



NOTES.

1. APPLICABLE CONNECTOR: 20369-001E, 20369-001E-03
2. PERMISSIBLE LOAD OF CABLE AT MATING.
3. MATING AND UNMATING INSTRUCTION

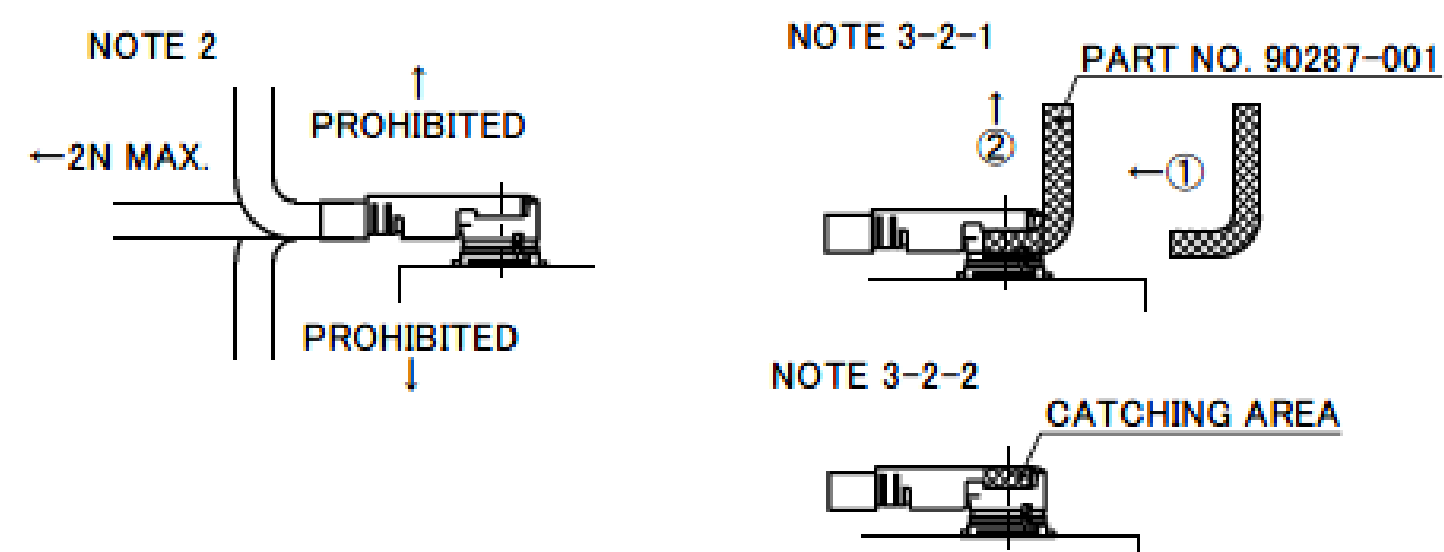
3-1. MATING

MATE THE CONNECTOR VERTICALLY AS MUCH AS POSSIBLE,  
ADJUSTING THE MATING AXIS OF PLUG AND RECEPTACLE.  
DO NOT SLANT MATE.

3-2. UNMATING

3-2-1. IN CASE OF UNMATING BY PULLING TOOL ( P/N : 90287-001 ).  
USE THE PULLING TOOL AS THE FOLLOWING DRAWING, AND PULL PLUG  
TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.

3-2-2. IN CASE OF UNMATING DIRECTLY BY HAND.  
CATCH THE CATCHING AREA OF PLUG, AND PULL PLUG TO VERTICAL  
DIRECTION AS DIRECTLY AS POSSIBLE.

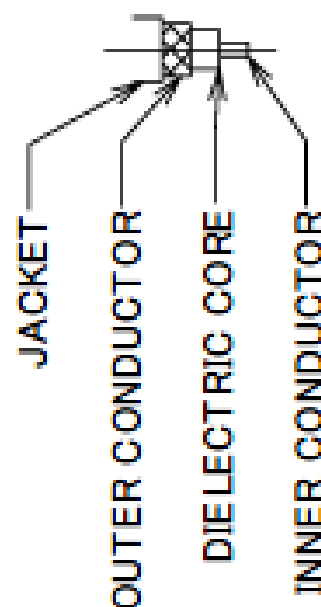
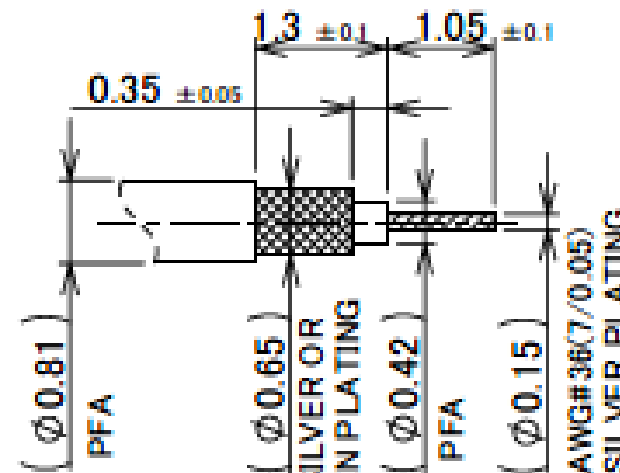
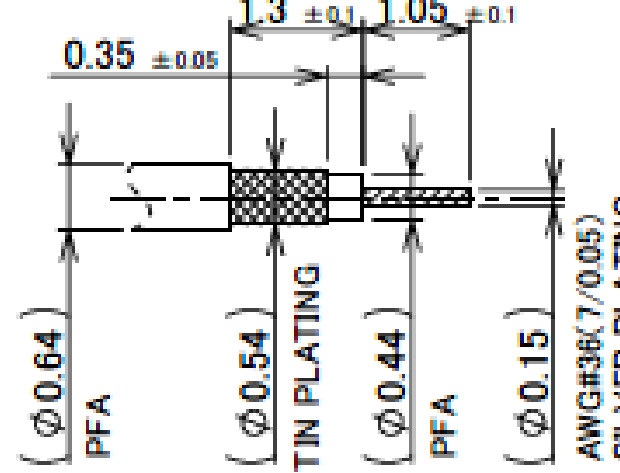
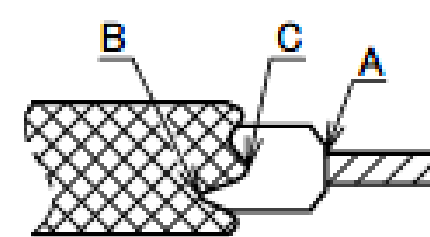
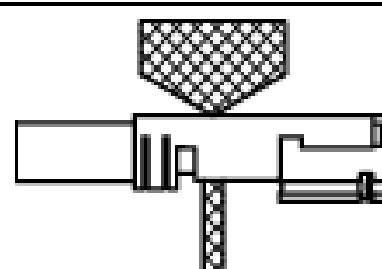
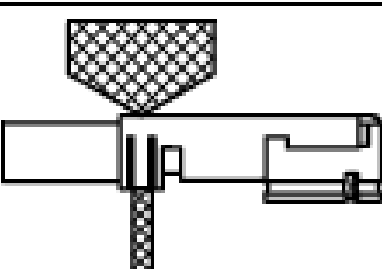
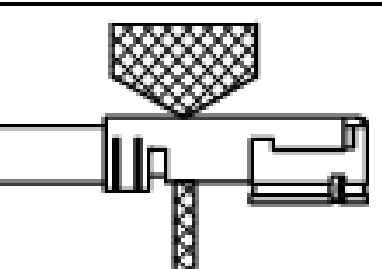
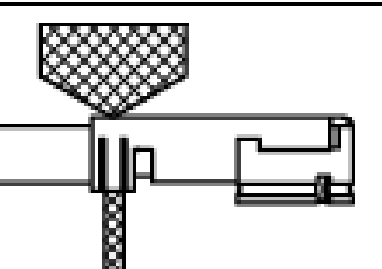


3	GROUND CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00 $\mu$ m MIN. CONTACT PART Au 0.02 $\mu$ m MIN. [Ni PLATIN AREA] Ni ONLY
2	CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00 $\mu$ m MIN. CONTACT PART Au 0.03 $\mu$ m MIN.
1	HOUSING	LCP	UL94V-0, WHITE
NO.	DESCRIPTION	MATERIAL	FINISH . REMARKS

MHF® III plug Ni top

ITEMS	SPECIFICATION
APPLICABLE CONNECTOR PART No.	20369-001E
RATING VOLTAGE	60 V AC (R.M.S)
RATING FREQUENCY	DC ~ 9 GHz
OPERATING TEMPERATURE	233 ~ 363 K(-40°C ~ +90°C)
VSWR (MATED WITH SMA ADAPTER PART No. 90285-001)	1.30 MAX. AT 0.1~3 GHz, 1.50 MAX. AT 3~6 GHz, 1.70 MAX. AT 6~9 GHz
MAIN CONTACT RESISTANCE	INITIAL : 20 mohm MAX. / AFTER TEST : $\angle$ R 20 mohm MAX.
GROUND CONTACT RESISTANCE	INITIAL : 20 mohm MAX. / AFTER TEST : $\angle$ R100 mohm MAX.
INSULATION RESISTANCE	INITIAL : 500 Mohm MIN. / AFTER TEST : 100 Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC 200 V 1 MINUTE
DURABILITY	30 CYCLES
TOTAL UNMATING FORCE (INITIAL / AFTER TEST)	INITIAL: 4 N MIN. / AFTER: 2 N MIN.
CRIMP STRENGTH	7 N MIN.
PRODUCT SPECIFICATION	PRS-2107
TEST REPORT	TR-15061
PACKING STANDARD	300~340
INSTRUCTION MANUAL	HIM-07002
APPEARANCE CRITERIA No.	QLS-A***

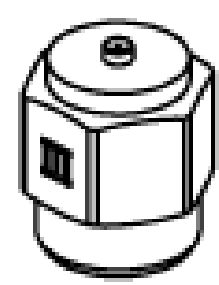
Rev.2

PART NO.		20609-002R		
				
	<p>MUST NOT USE SOLDER COATED INNER CONDUCTOR AND OUTER CONDUCTOR.</p> <div><p>B : MAXIMUM LENGTH C : MINIMUM LENGTH 0.35±0.05 = A-C ≠ A-B</p></div>			
REQUIREMENTS	CHARACTERISTIC IMPEDANCE : 50 OHM BY TDR METHOD NOMINAL CAPACITANCE (REFERENCE VALUE) : 96pF/m CONDUCTOR RESISTANCE OF INNER CONDUCTOR AT 293 K (REFERENCE VALUE) : 1400 OHM/km INSULATION RESISTANCE : 1000 MEGA-OHM.km MIN. DIELECTRIC WITH STANCE VOLTAGE : OD 0.81 TYPE ...NO BREAKDOWN AT AC 1000 V FOR 1 MIN. OD 0.64 TYPE ...NO BREAKDOWN AT AC 500 V FOR 1 MIN.			
BRAIDED SHIELD OF OUTER CONDUCTOR	SINGLE		SINGLE	
P/N OF SEMI AUTO TERMINATION MACHINE	90283-008 SEMI-AUTO		90283-006 SEMI-AUTO	
CRIMP HEIGHT				
	USE FOR POINT MICROMETER CH-1 (i-Fit® PART) 0.89~0.93	USE FOR POINT MICROMETER CH-2 (JACKET PART) 0.80~0.85	USE FOR POINT MICROMETER CH-1 (i-Fit® PART) 0.78~0.82	USE FOR POINT MICROMETER CH-2 (JACKET PART) 0.68~0.72

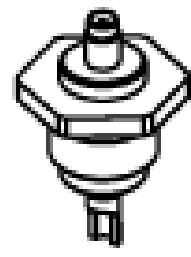
Rev.2



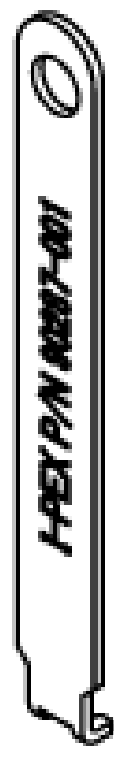
Accessories for MHF® III plug Ni top



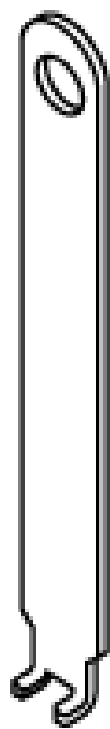
MHF III SMA ADAPTOR  
PART NO. 90285-001



MHF III INSPECTION CONNECTOR  
PART NO. 90286-001



FRONT SIDE



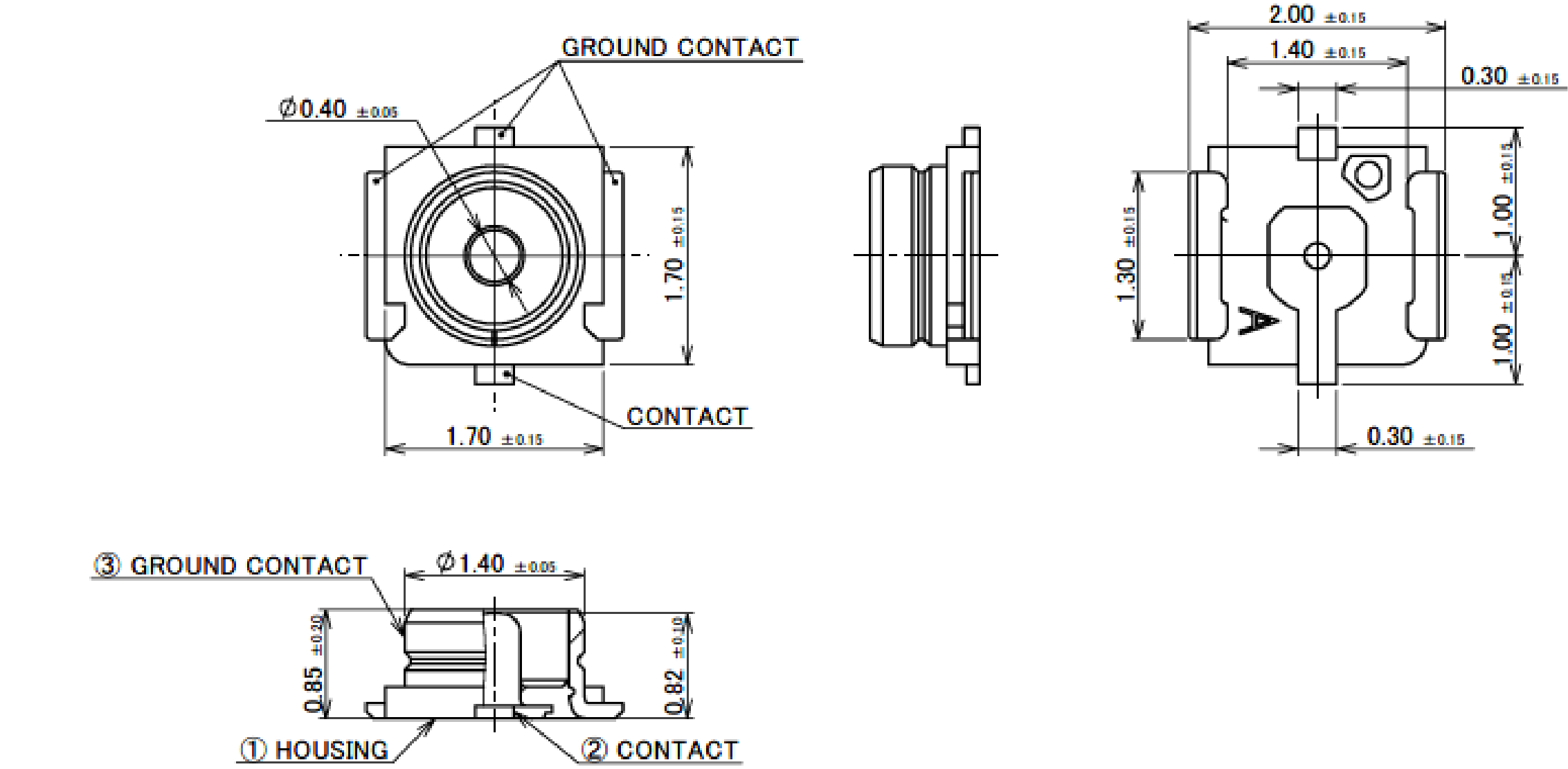
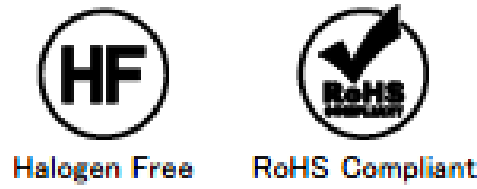
BACK SIDE

MHF III PULLING TOOL  
PART NO. 90287-001

Rev.2

MHF® III Receptacle

Recommended P/N		20369-001E-03
PART NO.	PACKING REEL	PACKING QUANTITY
20369-001E	CORRUGATED PAPER REEL	5,000/REEL
20369-001E-03	PLASTIC REEL	



- NOTES.
- 1. APPLICABLE CONNECTOR  
20609-00\*R  
20367-001R
  - 2. COPLANARITY : 0.1MAX.

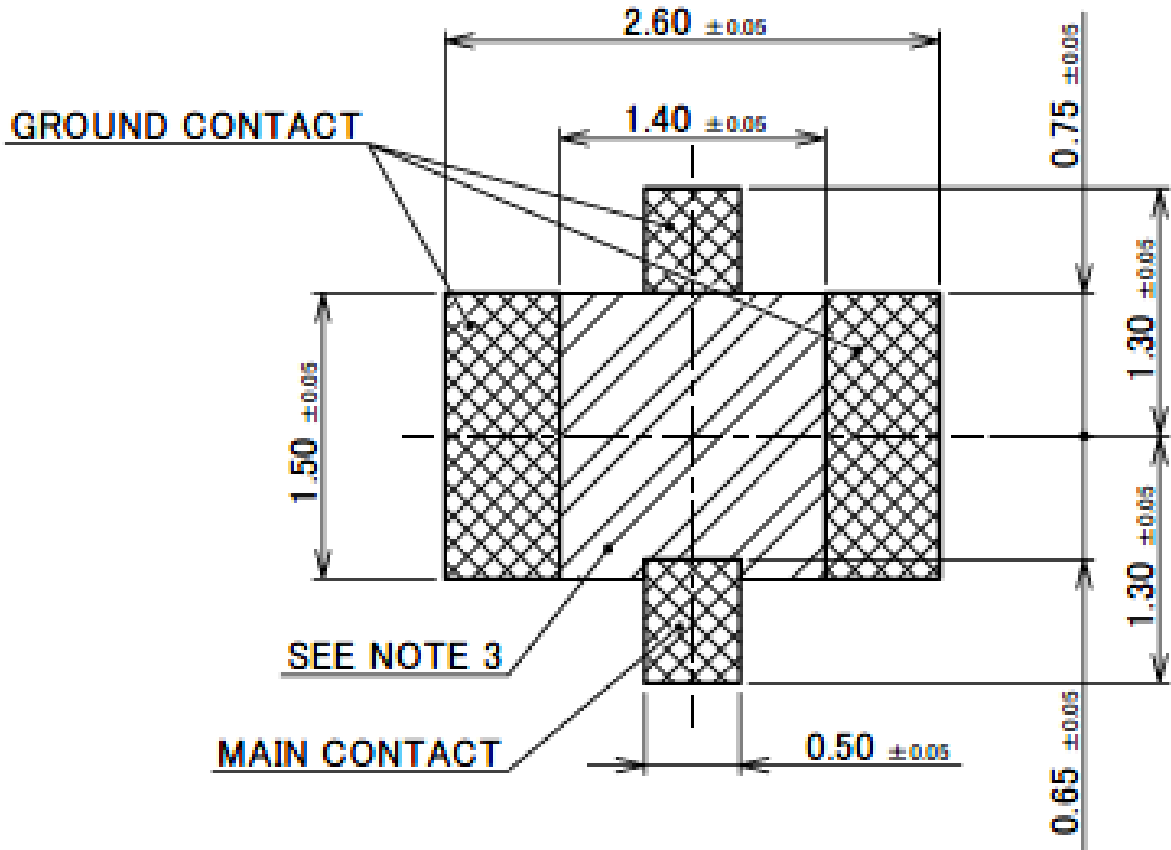
3	GROUND CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00 μm MIN. CONTACT PART Au 0.03 μm MIN. SOLDERING PART Au 0.03 μm MIN.
2	CONTACT A	BRASS	ALL OVER Ni 1.00 μm MIN. CONTACT PART Au 0.1 μm MIN. SOLDERING PART Au 0.1 μm MIN.
1	HOUSING	LCP	UL94V-0, BLACK
NO.	DESCRIPTION	MATERIAL	FINISH , REMARKS

Rev.13

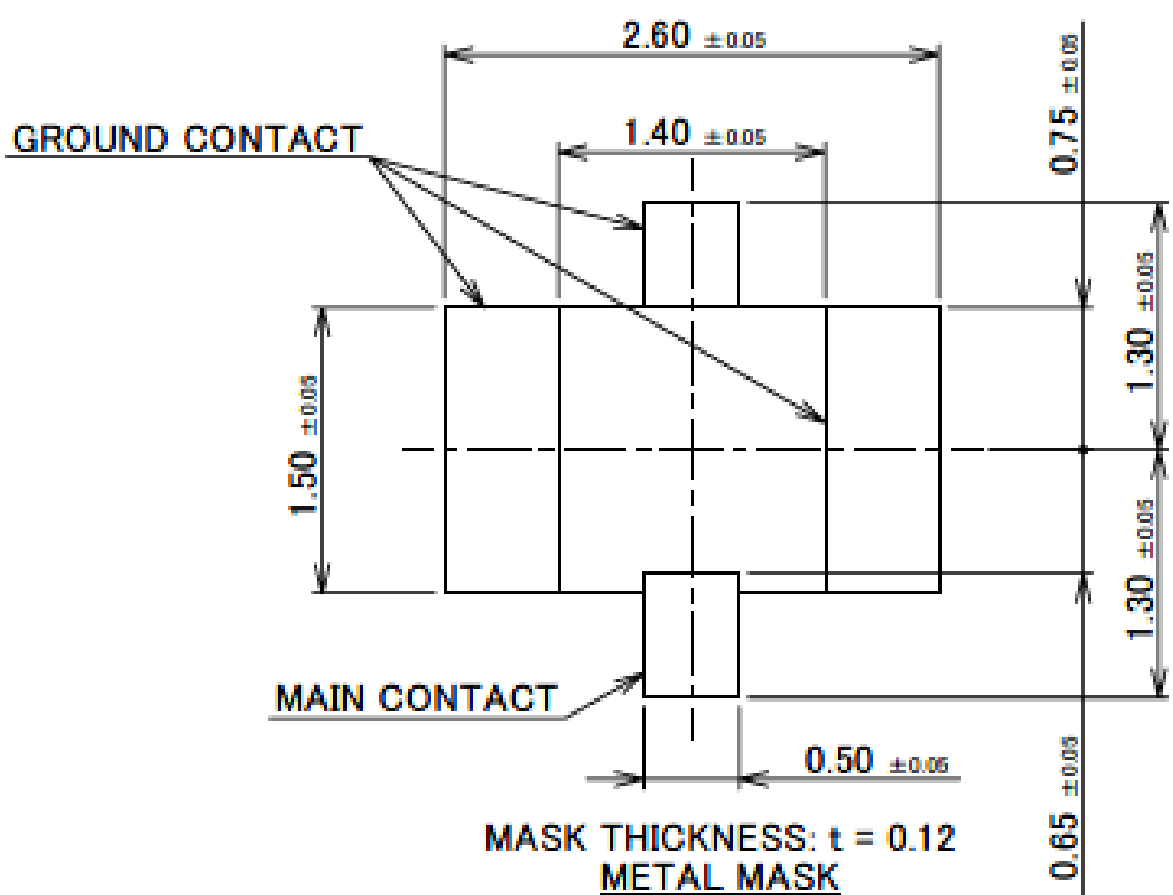
MHF® III Receptacle

ITEMS	SPECIFICATION
APPLICABLE CONNECTOR PART No.	20609-002R
RATING VOLTAGE	60 V AC (R.M.S)
RATING FREQUENCY	DC ~ 9 GHz
OPERATING TEMPERATURE	233 ~ 363 K(-40°C ~ +90°C)
VSWR (MATED WITH SMA ADAPTER PART No. 90285-002)	1.30 MAX. AT 0.1 ~ 3GHz, 1.40 MAX. AT 3 ~ 6GHz, 1.60 MAX. AT 6 ~ 9GHz
MAIN CONTACT RESISTANCE	INITIAL : 20 mohm MAX. / AFTER TEST : ΔR 20 mohm MAX.
GROUND CONTACT RESISTANCE	INITIAL : 20 mohm MAX. / AFTER TEST : ΔR100 mohm MAX.
INSULATION RESISTANCE	INITIAL : 500 Mohm MIN. / AFTER TEST : 100 Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC 200 V 1 MINUTE
DURABILITY	30 CYCLES
TOTAL UNMATING FORCE (INITIAL / AFTER TEST)	INITIAL: 4 N MIN. / AFTER: 2 N MIN.
PRODUCT SPECIFICATION	PRS-2107
TEST REPORT	TR-15061
PACKING STANDARD	300-339
INSTRUCTION MANUAL	HIM-07002
APPEARANCE CRITERIA No.	QLS-A***

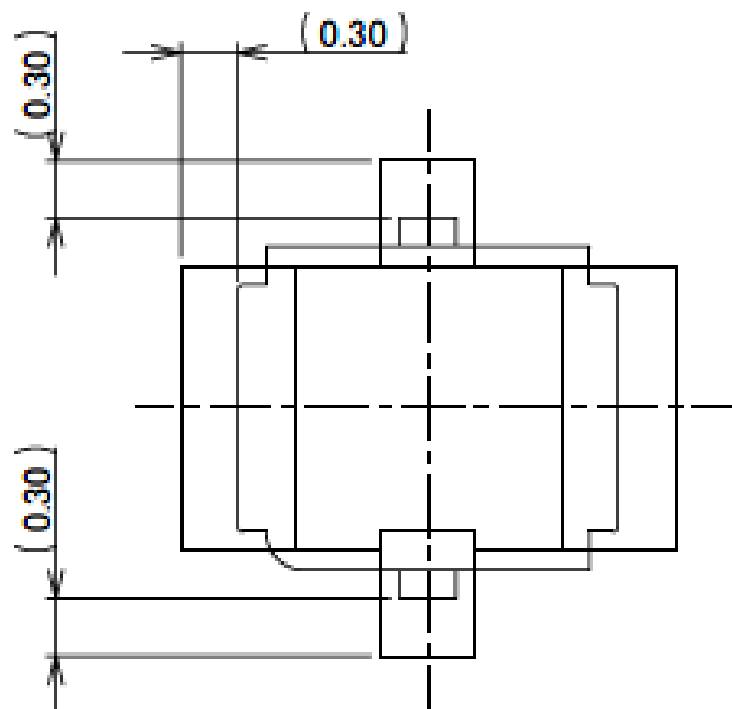
Rev.13



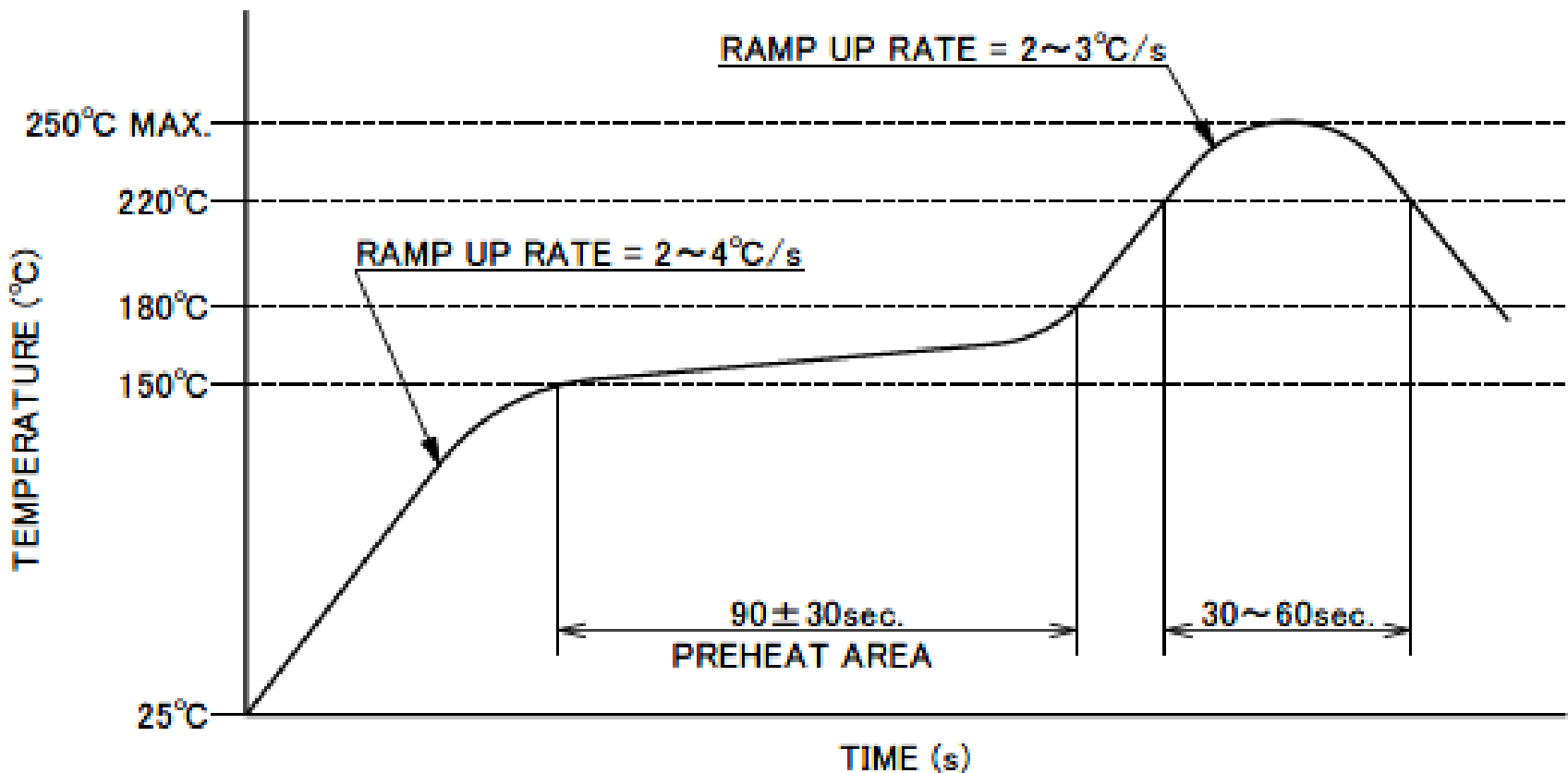
RECOMMENDED FOOTPRINT PATTERN



RECOMMENDED FOOTPRINT PATTERN



CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN



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

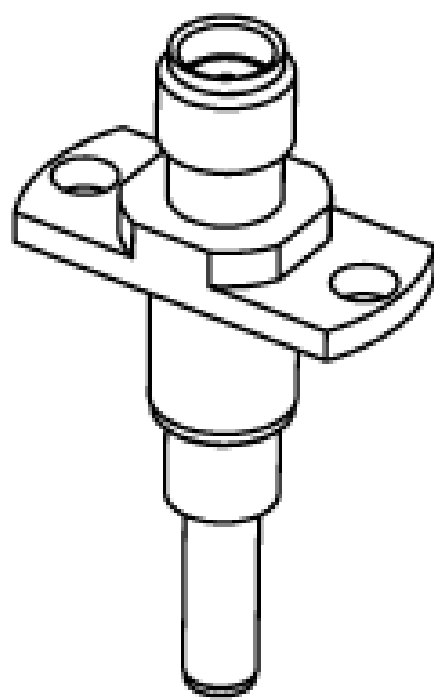
NOTES  
3. NO GROUND, SIGNAL, AND RESIST IN THIS AREA.

Rev.13

Accessories for MHF® III Receptacle



MHF III SMA ADAPTER  
PART NO. 90285-002



MHF III RECEPTACLE HIGH CYCLE SMA ADAPTER  
PART NO. 90491-001



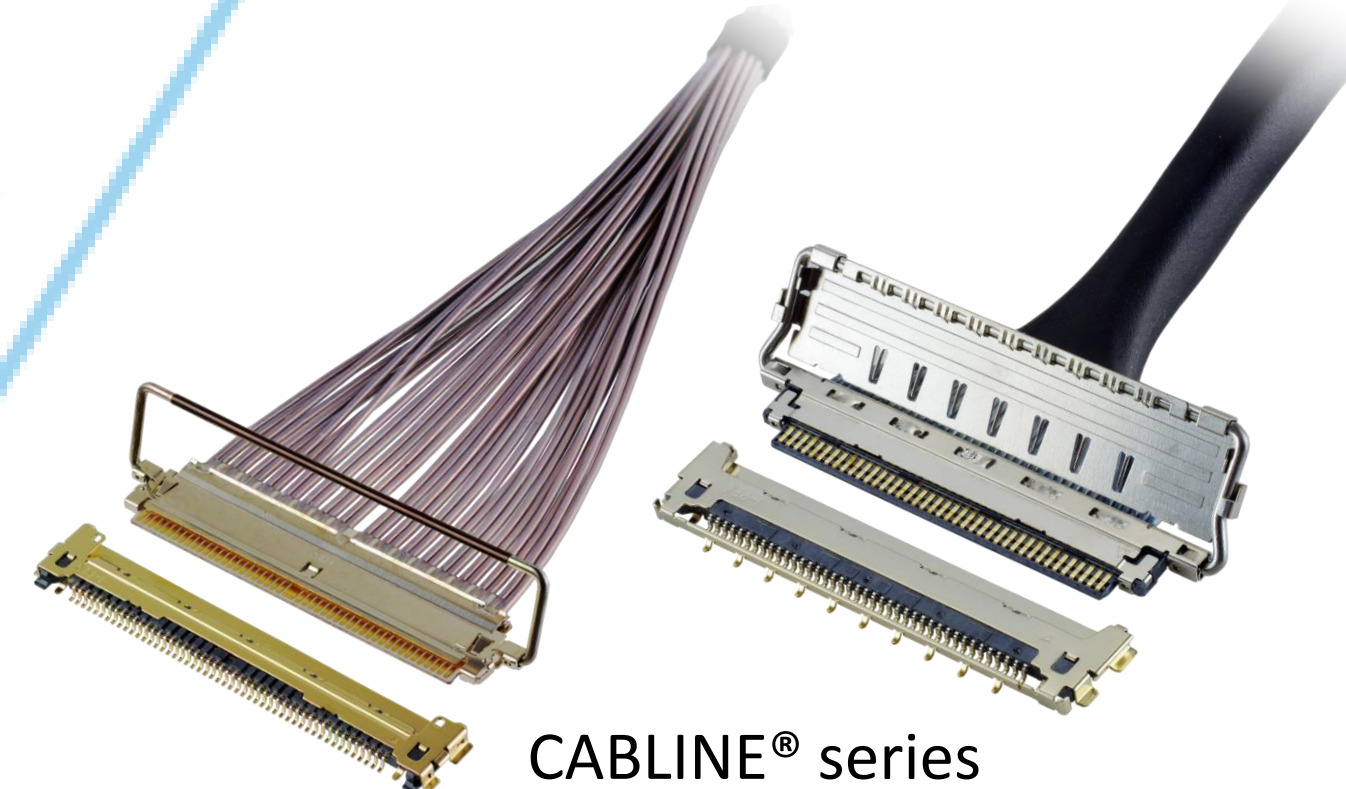
# Custom Connectors Available

 RF  
Connectors

MHF® series



Micro-coaxial/Twinax  
Connectors

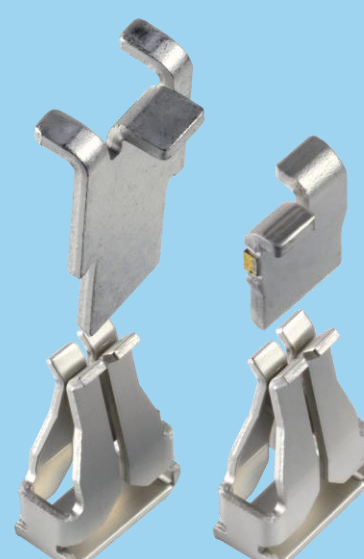


CABLINE® series



Wire-to-Board  
Connectors/  
Terminals

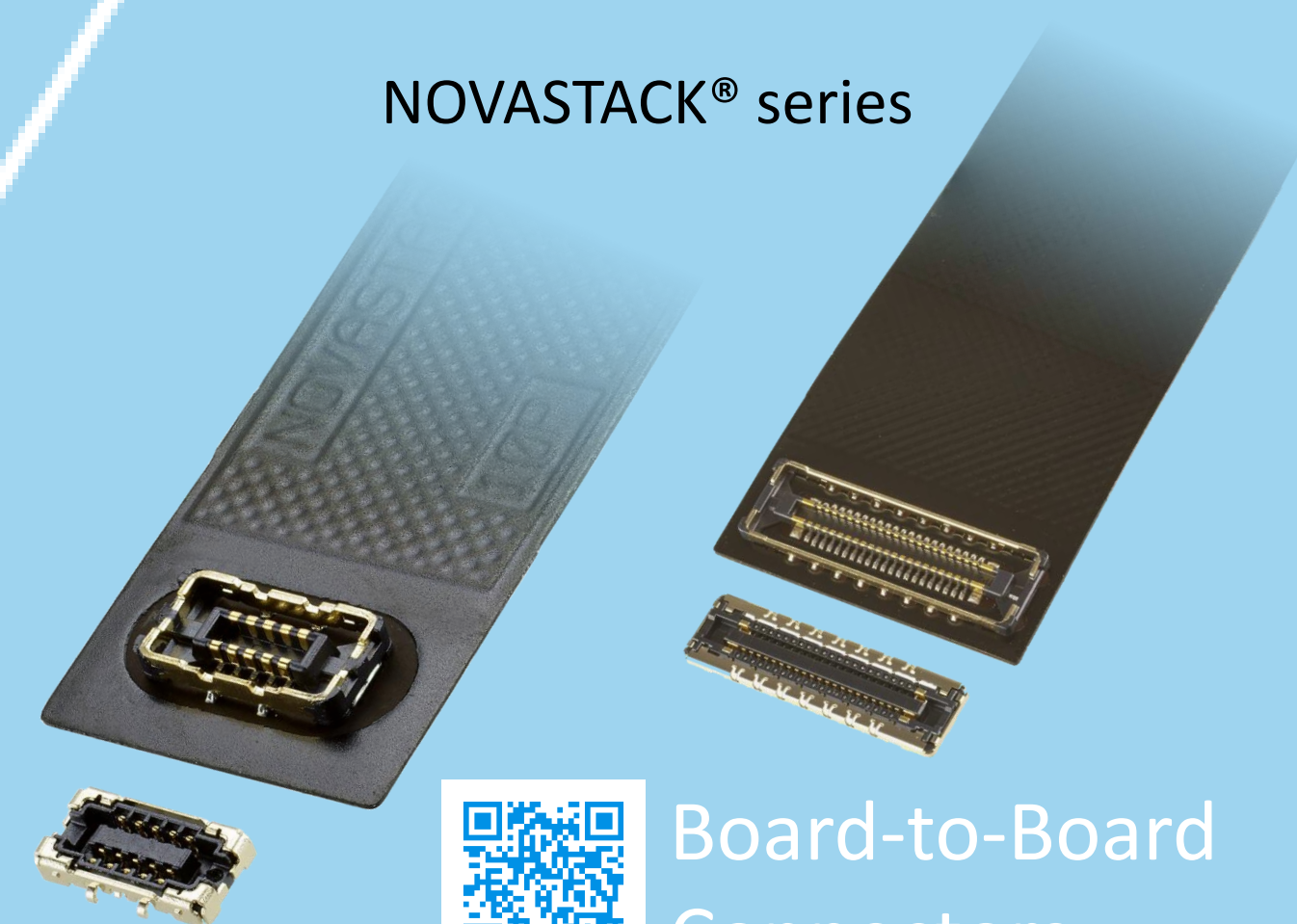
AP series



ISH® series



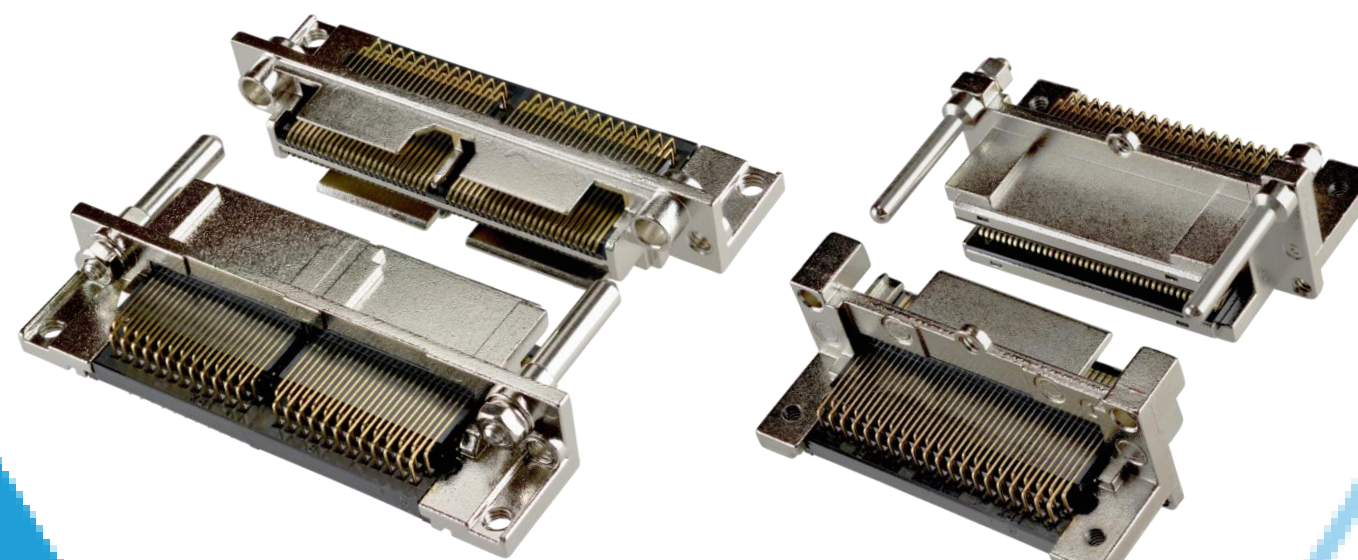
NOVASTACK® series



Board-to-Board  
Connectors



I/O  
Connectors



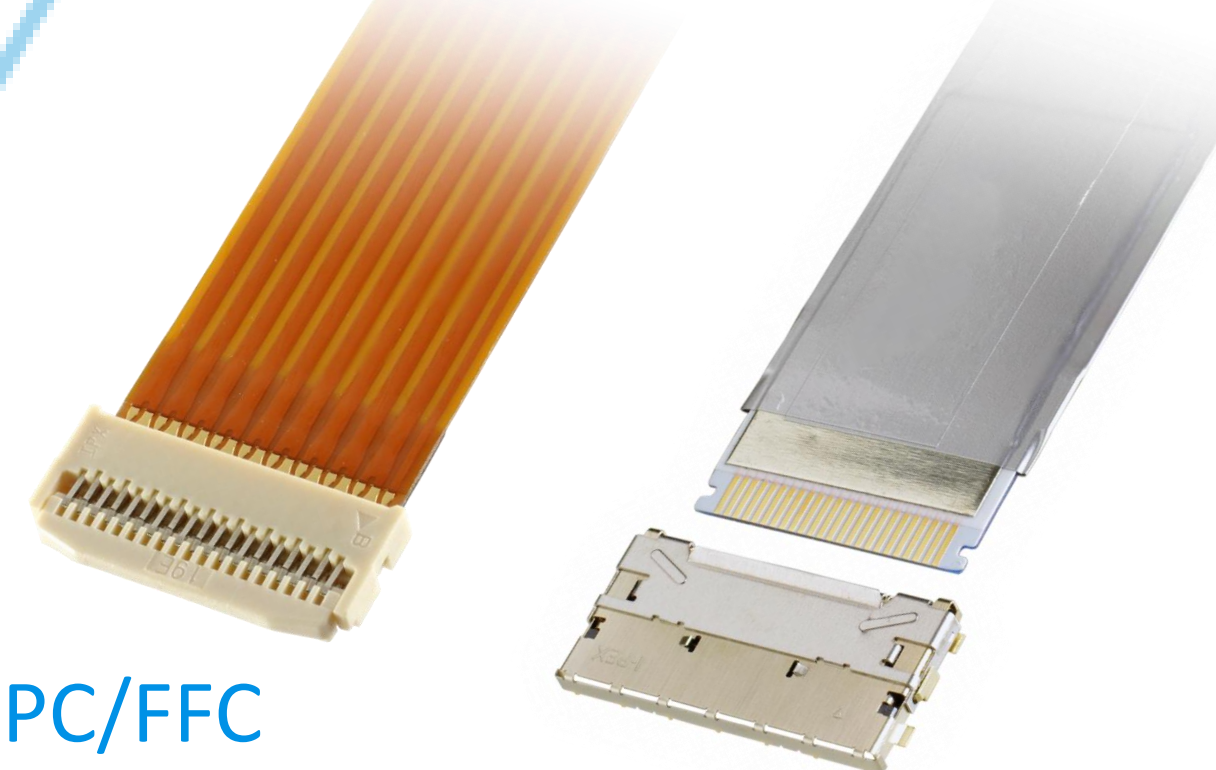
MINIDOCK™ series



FPC/FFC  
Connectors

MINIFLEX® series

EVAFLEX® series



Inquiry



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