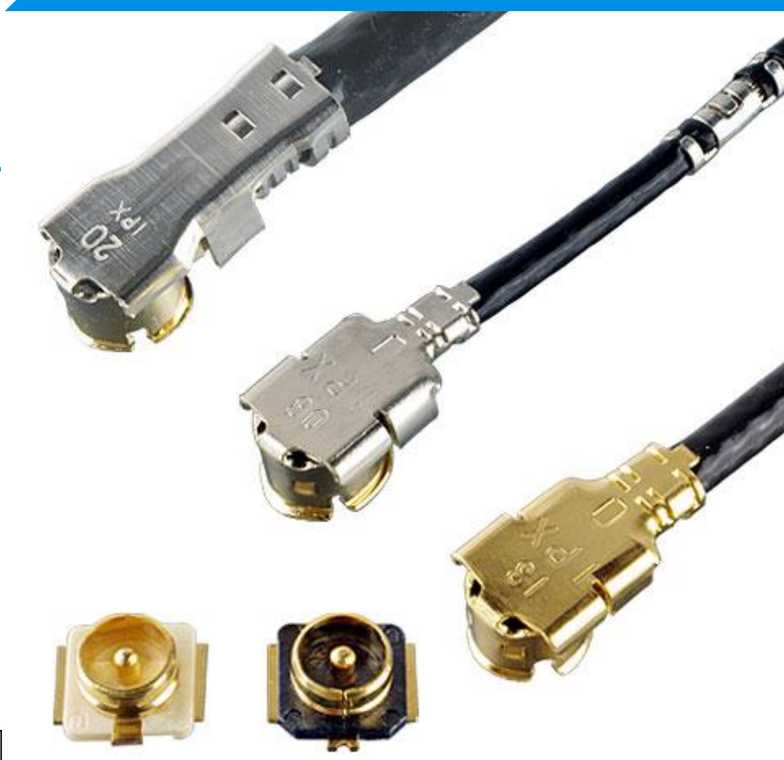
# MHF® I

Reliable industry standard for RF antenna connections, up to 9 GHz, 2.5/3.0 mm max. mated height RF connector



**Product Specifications:**

| | | |
|---|---|---|
| Mated Height | | (1) (2) 2.5 mm max.<br>(3) 3.0 mm max. |
| Rece. SMT Size | | 3.1 x 3.0 mm |
| Frequency Range | | Up to 9 GHz |
| Characteristic Impedance | | 50 ohm |
| VSWR<br>(L = 100 mm) | DC to 3 GHz | 1.3 max. |
| | 3 to 6 GHz | 1.5 max. |
| | 6 to 9 GHz | (1) 1.9 max.<br>(2) (3) 1.6 max. |

* Cable size O.D. (1) 0.81 mm, 1.13 mm, 1.37 mm, 1.8 mm (2) 1.32 mm (3) 2.0 mm

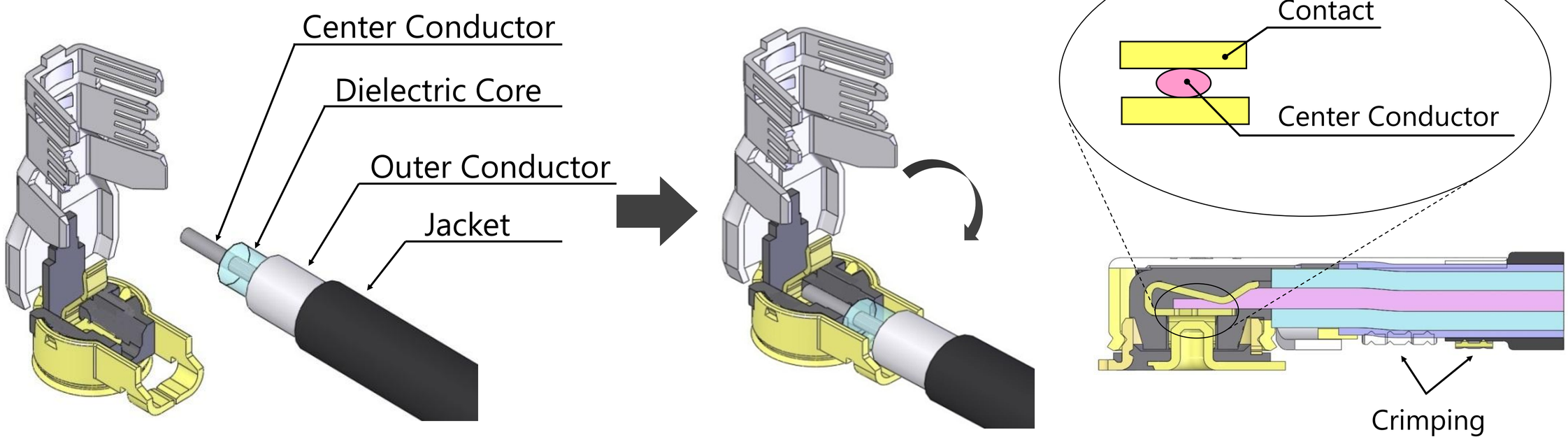
**Applicable Cable Size:**

**20278-112R-****
AWG 30 O.D. 1.8 mm,
AWG 32 O.D. 1.32 mm, 1.13 mm,
AWG 36 O.D. 0.81 mm
**20351-112R-37**
AWG 30 O.D. 1.37 mm
**20767-001R-20**
AWG 26 O.D. 2.0 mm

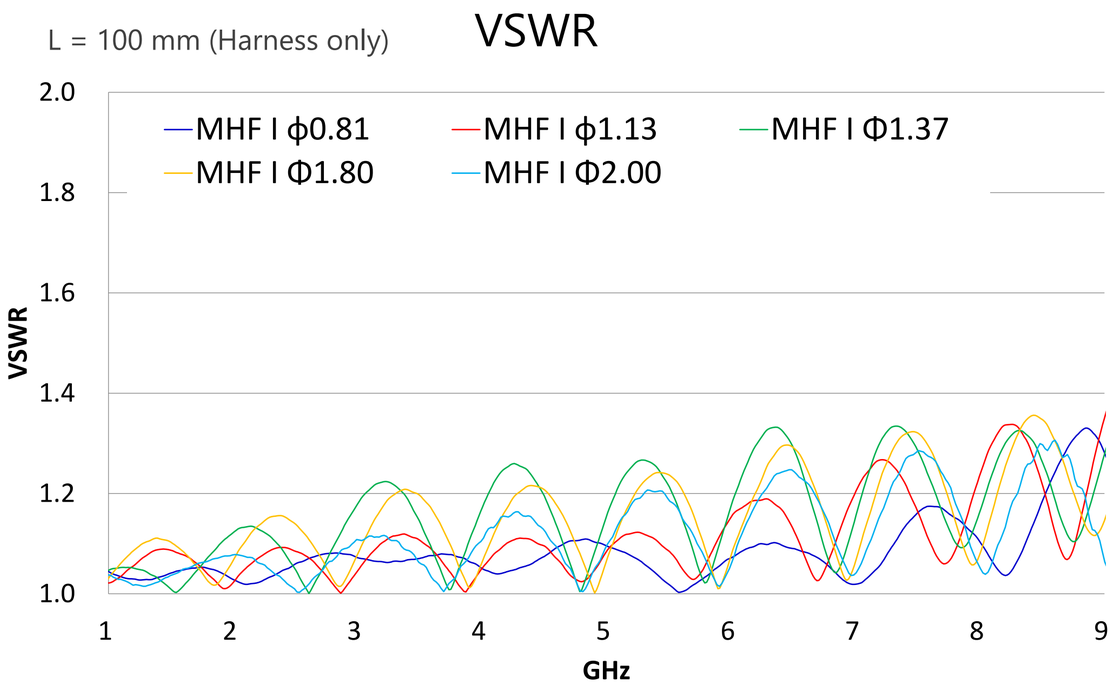
**Applicable Standards (Reference Only):**

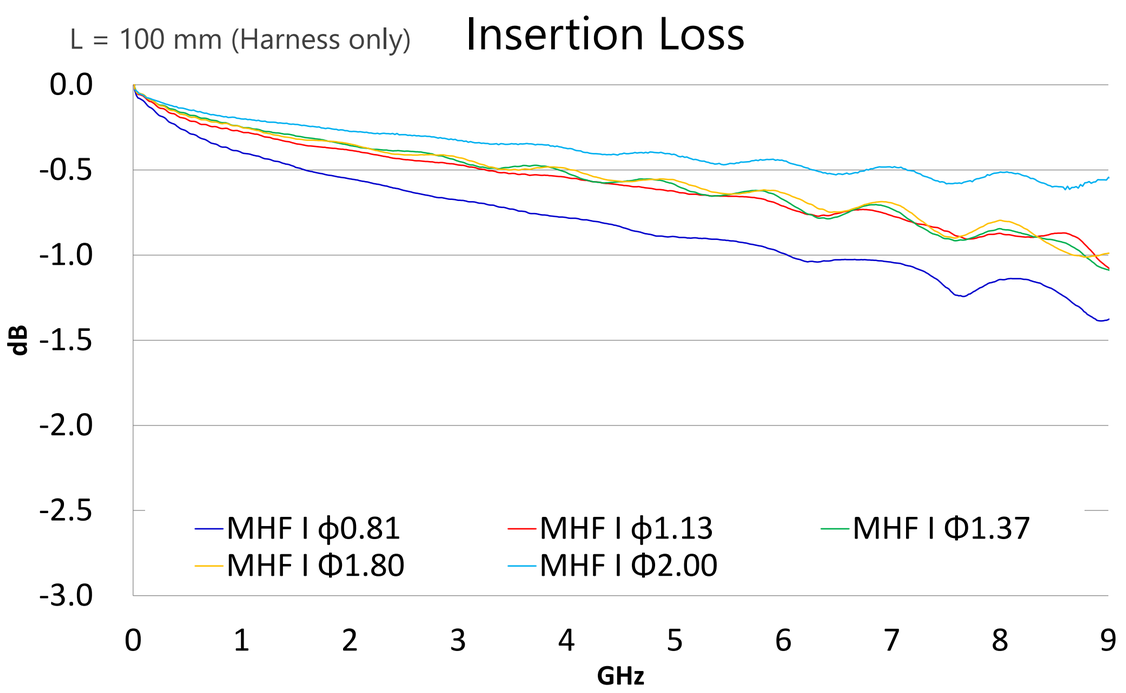
5G sub6, Wi-Fi, LTE / LTE-Advanced, LPWA, Bluetooth, GPS

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

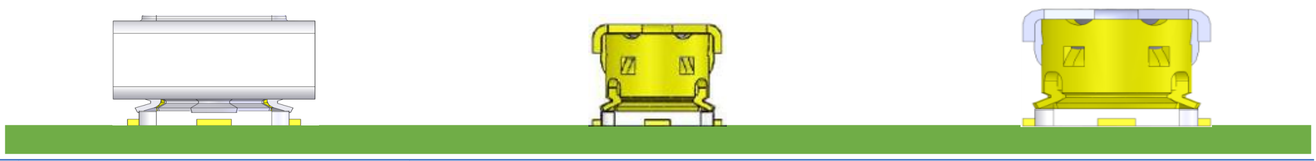



## Small form factor with big performance through 9 GHz



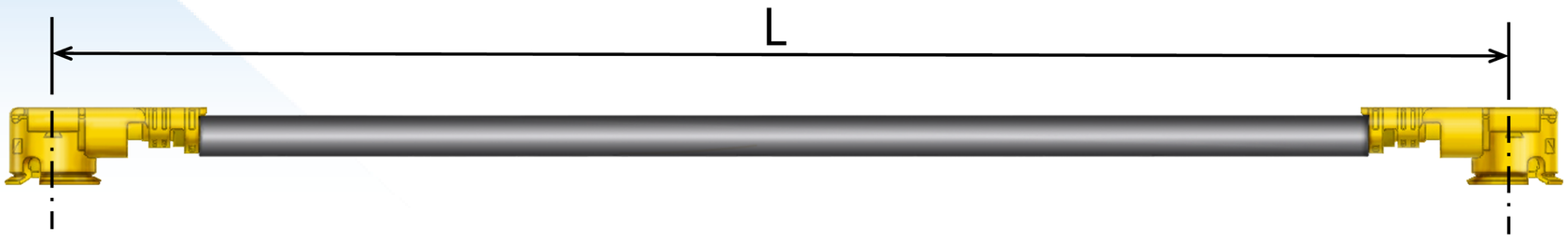

## MHF® I plug available with various cable O.D. and additional locking option



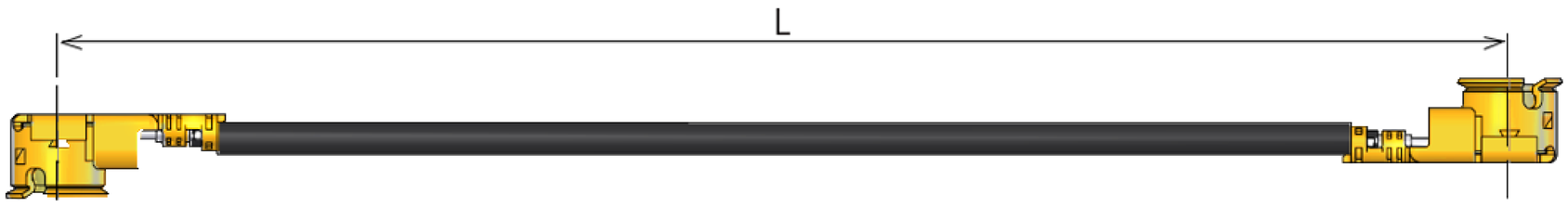
| Product name | | MHF® I LK | MHF® I | MHF® I |
|---|---|---|---|---|
| Lock | | With Lock | Without Lock | Without Lock |
| Mating Height | | 2.9 mm max. | 2.5 mm max. | 3.0 mm max. |
| Coaxial O.D.<br>(Center Conductor AWG) | 2.00 mm (AWG 26) | | | ● |
| | 1.80 mm (AWG 30) | ● | ● | |
| | 1.37 mm (AWG 30) | ● | ● | |
| | 1.32 mm (AWG 32) | ● | ● | |
| | 1.13 mm (AWG 32) | ● | ● | |
| | 0.81 mm (AWG 36) | ● | ● | |
| Receptacle | | MHF® I receptacle 20279-001E-03 (3 pads) /20441-001E-01 (4 pads) | | |

# MHF® I standard harness

- Please click the part number to get its 2D drawing.
- Please be advised that if it becomes necessary to change the harness specifications, the part number will also need to be updated. The following part number is valid only when used with the harness specifications shown below.
- Please contact us via Inquiry form for other harness specifications.



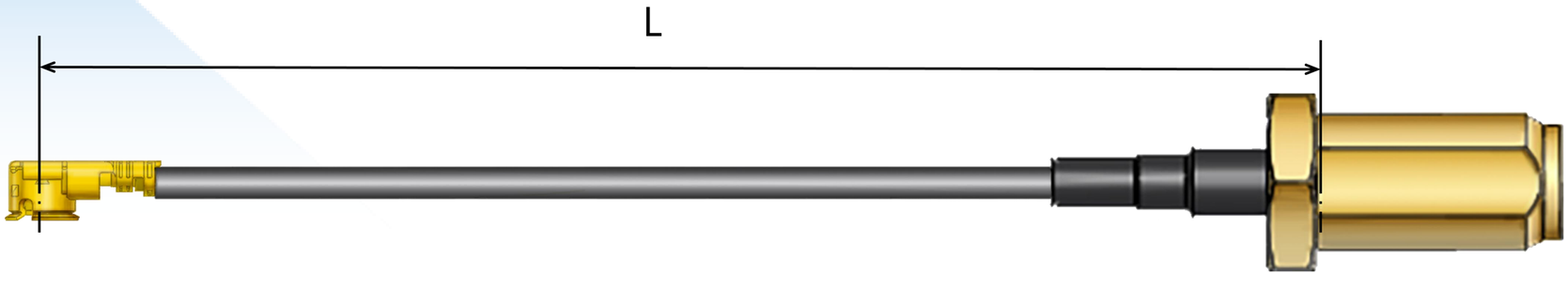

| Part Number Description | Part Number (Link to Drawing) | Sample available |
|---|---|---|
| MHF I-I harness OD=0.81mm L=100mm | 8-25-0819 | Buy from Digikey |
| MHF I-I harness OD=0.81mm L=200mm | 8-25-0820 | Buy from Digikey |
| MHF I-I harness OD=0.81mm L=500mm | 8-25-0823 | Buy from Digikey |
| MHF I-I harness OD=1.13mm L=50mm | 8-24-0113 | Buy from Digikey |
| MHF I-I harness OD=1.13mm L=100mm | 8-24-0114 | Buy from Digikey |
| MHF I-I harness OD=1.13mm L=200mm | 8-21-0048 | Buy from Digikey |
| MHF I-I harness OD=1.13mm L=500mm | 8-24-0115 | Buy from Digikey |
| MHF I-I harness OD=1.32mm L=100mm | 8-25-0814 | Buy from Digikey |
| MHF I-I harness OD=1.32mm L=200mm | 8-25-0815 | Buy from Digikey |
| MHF I-I harness OD=1.32mm L=500mm | 8-25-0818 | Buy from Digikey |
| MHF I-I harness OD=1.37mm L=50mm | 8-24-0140 | Buy from Digikey |
| MHF I-I harness OD=1.37mm L=100mm | 8-24-0141 | Buy from Digikey |
| MHF I-I harness OD=1.37mm L=200mm | 8-24-0142 | Buy from Digikey |
| MHF I-I harness OD=1.37mm L=500mm | 8-24-0143 | Buy from Digikey |
| MHF I-I harness OD=1.80mm L=100mm | 8-25-0858 | Buy from Digikey |
| MHF I-I harness OD=1.80mm L=200mm | 8-25-0859 | Buy from Digikey |
| MHF I-I harness OD=1.80mm L=500mm | 8-25-0862 | Buy from Digikey |




| Part Number Description | Part Number (Link to Drawing) | Sample available |
|---|---|---|
| MHF I-I harness OD=0.81mm L=100mm 180 degree orientation | 8-25-0832 | Buy from Digikey |
| MHF I-I harness OD=0.81mm L=200mm 180 degree orientation | 8-25-0833 | Buy from Digikey |
| MHF I-I harness OD=1.13mm L=100mm 180 degree orientation | 8-25-0827 | Buy from Digikey |
| MHF I-I harness OD=1.13mm L=200mm 180 degree orientation | 8-25-0828 | Buy from Digikey |
| MHF I-I harness OD=1.32mm L=100mm 180 degree orientation | 8-25-0837 | Buy from Digikey |
| MHF I-I harness OD=1.32mm L=200mm 180 degree orientation | 8-25-0838 | Buy from Digikey |
| MHF I-I harness OD=1.37mm L=100mm 180 degree orientation | 8-25-0845 | Buy from Digikey |
| MHF I-I harness OD=1.37mm L=200mm 180 degree orientation | 8-25-0846 | Buy from Digikey |
| MHF I-I harness OD=1.80mm L=100mm 180 degree orientation | 8-25-0853 | Buy from Digikey |
| MHF I-I harness OD=1.80mm L=200mm 180 degree orientation | 8-25-0854 | Buy from Digikey |

# MHF® I standard harness

- Please click the part number to get its 2D drawing.
- Please be advised that if it becomes necessary to change the harness specifications, the part number will also need to be updated. The following part number is valid only when used with the harness specifications shown below.
- Please contact us via Inquiry form for other harness specifications.



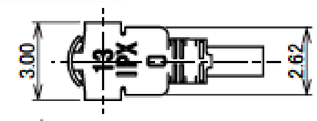

| Part Number Description | Part Number (Link to Drawing) | Sample available |
|---|---|---|
| MHF I-SMA Jack harness OD=1.13mm L=100mm | 8-25-0046 | Buy from Digikey |
| MHF I-SMA Jack harness OD=1.13mm L=150mm | 8-25-0047 | Buy from Digikey |
| MHF I-SMA Jack harness OD=1.13mm L=200mm | 8-25-0048 | Buy from Digikey |
| MHF I-SMA Jack harness OD=1.37mm L=100mm | 8-25-0066 | Buy from Digikey |
| MHF I-SMA Jack harness OD=1.37mm L=150mm | 8-25-0067 | Buy from Digikey |
| MHF I-SMA Jack harness OD=1.37mm L=200mm | 8-25-0068 | Buy from Digikey |

# Component Parts Details

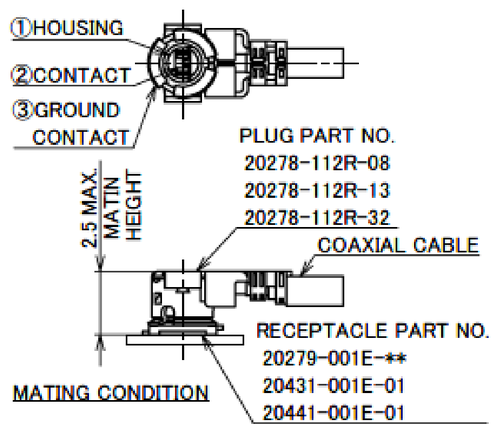
# MHF® I plug Au (0.81,1.13,1.32,1.80)

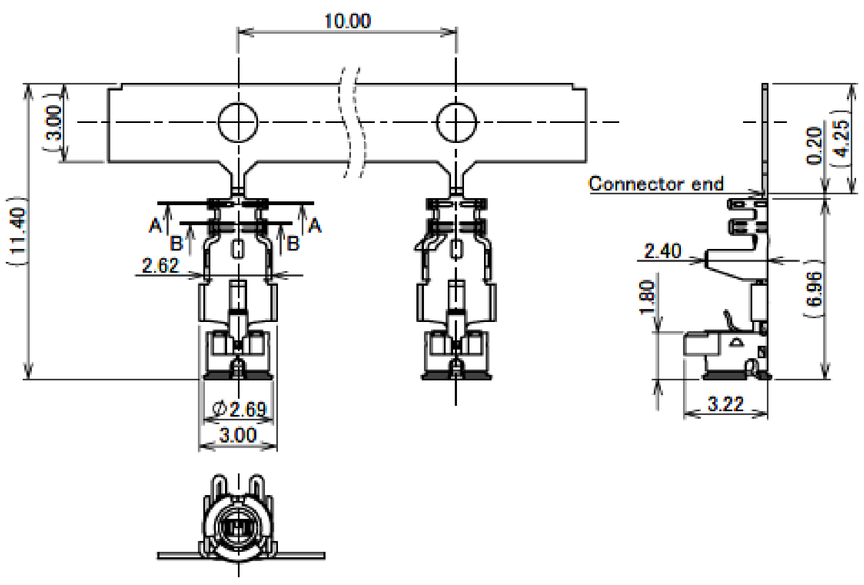
| Recommended P/N | 20278-112R-** |
|---|---|

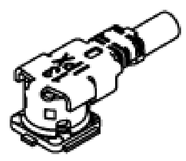
| PART No. | APPLICABLE CABLE |
|---|---|
| 20278-112R-08 | AWG#36 (0.81 O.D.) |
| 20278-112R-13 | AWG#32 (1.13 O.D.) |
| 20278-112R-32 | AWG#32 (1.32 O.D.) |





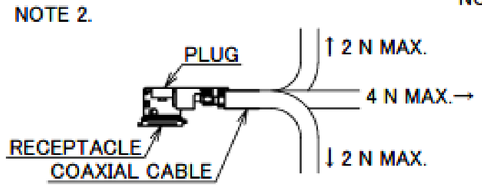



Halogen Free

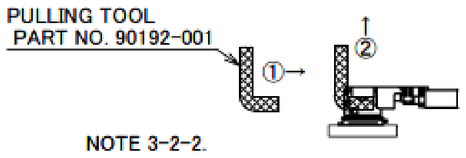
RoHS Compliant

NOTES
1. APPLICABLE CONNECTOR:
   20279-001E-**, 20431-001E-01, 20441-001E-01
2. PERMISSIBLE LOAD OF CABLE AT MATING
3. SUGGESTIONS FOR MATING & UNMATING OPERATION.
3-1. MATING
   PLEASE MATE THE CONNECTOR STRAIGHTLY TO VERTICAL DIRECTION AS MUCH AS POSSIBLE, ADJUSTING THE MATING AXIS OF PLUG AND RECEPTACLE. AS EXCESSIVE SLANT ANGLE MATING MAY BREAK THE CONNECTOR, PLEASE DON'T DO IT.
3-2. UNMATING
3-2-1. IN CASE OF UNMATING BY PULLING TOOL
   PLEASE USE THE PULLING TOOL AS THE FOLLOWING DRAWING, AND please PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
3-2-2. IN CASE OF UNMATING DIRECTLY BY HAND
   PLEASE CATCH THE CATCHING AREA OF PLUG, AND PLEASE PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
3-3. CRIMP OVER STANDARDS OF OUTER CONDUCTOR
   STANDARDS: LESS THAN 10% FROM TOTAL NUMBERS OF OUTER CONDUCTOR.
   (NUMBERS OF OUTER CONDUCTOR'S CRIMP OVER FROM OUTER CONDUCTOR'S BARREL)
3-4. CAUTION ABOUT HEAT SHRINKAGE TUBES
   PLEASE BE CAREFUL NOT TO MELT HOUSING WHEN USING HEAT SHRINKAGE TUBES. IT WILL BECOME CAUSE OPEN CIRCUIT.
4. THIS IS "Pb-FREE" CONNECTOR.

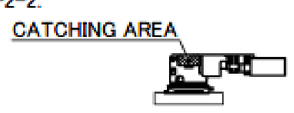
NOTE 2.




NOTE 3-2-1.




NOTE 3-2-2.

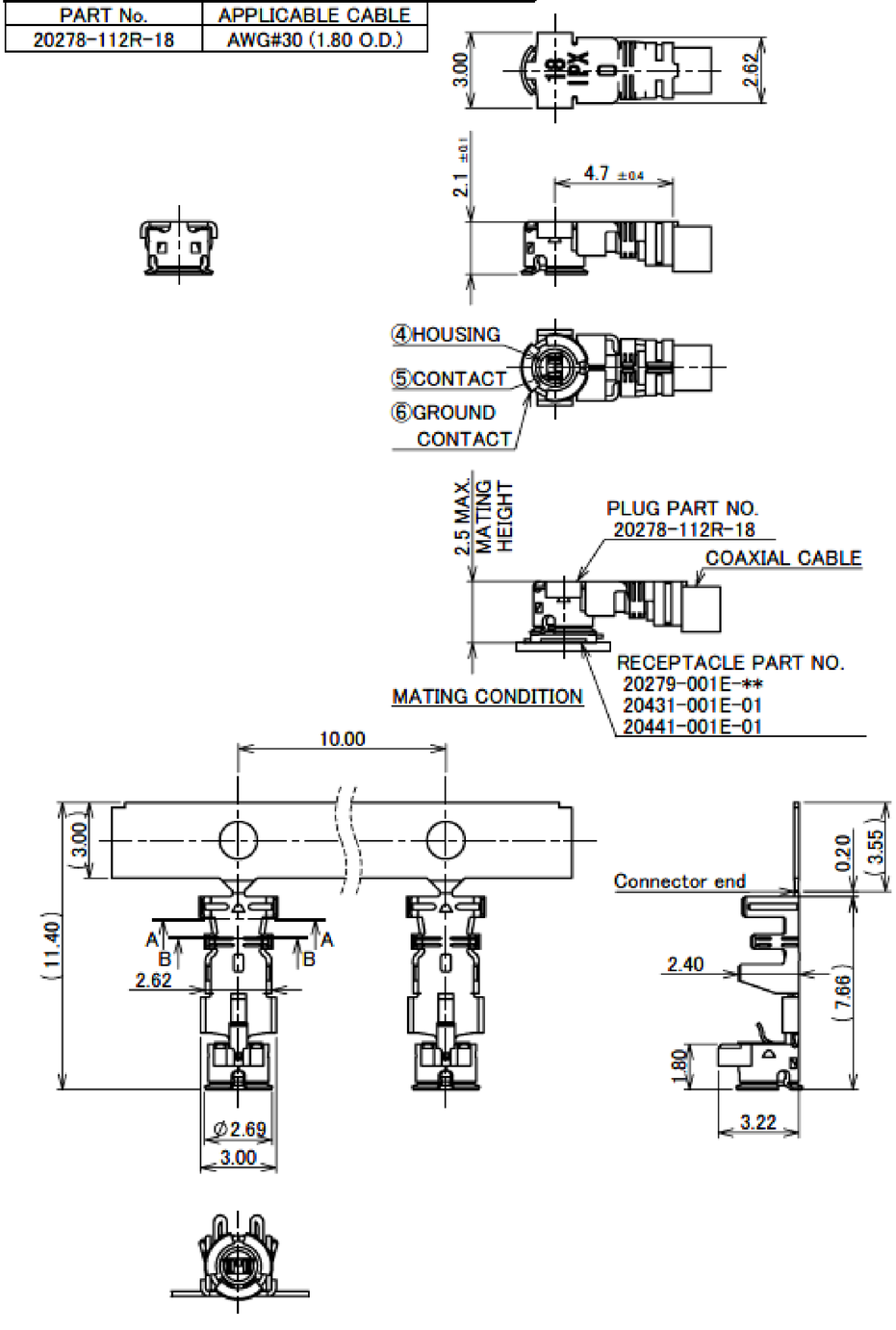


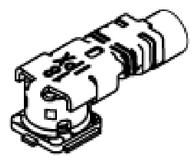

| NO. | DESCRIPTION | MATERIAL | FINISH , REMARKS |
|---|---|---|---|
| 3 | GROUND CONTACT | PHOSPHOR BRONZE | ALL OVER Ni 1.00 μm MIN.<br>CONTACT PART Au 0.05 μm MIN. |
| 2 | CONTACT | PHOSPHOR BRONZE | ALL OVER Ni 1.00 μm MIN.<br>CONTACT PART Au 0.10 μm MIN. |
| 1 | HOUSING | PBT | UL94V-0, 20278-112R-08: WHITE<br>20278-112R-13, -32: BLACK |

Rev.33

# MHF® I plug Au (0.81,1.13,1.32,1.80)

| Recommended P/N | 20278-112R-** |
|---|---|
| PART No. | APPLICABLE CABLE |
| 20278-112R-18 | AWG#30 (1.80 O.D.) |



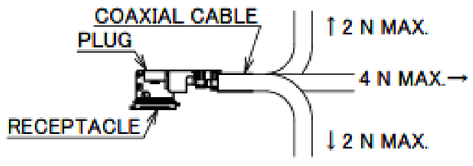



Halogen Free

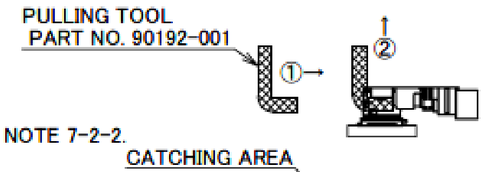
RoHS Compliant

NOTES
5. APPLICABLE CONNECTOR:
20279-001E-**, 20431-001E-01, 20441-001E-01
6. PERMISSIBLE LOAD OF CABLE AT MATING
7. SUGGESTIONS FOR MATING & UNMATING OPERATION.
7-1. MATING
PLEASE MATE THE CONNECTOR STRAIGHTLY TO VERTICAL DIRECTION AS MUCH AS POSSIBLE, ADJUSTING THE MATING AXIS OF PLUG AND RECEPTACLE. AS EXCESSIVE SLANT ANGLE MATING MAY BREAK THE CONNECTOR, PLEASE DON'T DO IT.
7-2. UNMATING
7-2-1. IN CASE OF UNMATING BY PULLING TOOL
PLEASE USE THE PULLING TOOL AS THE FOLLOWING DRAWING, AND please PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
7-2-2. IN CASE OF UNMATING DIRECTLY BY HAND
PLEASE CATCH THE CATCHING AREA OF PLUG, AND PLEASE PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
7-3. CRIMP OVER STANDARDS OF OUTER CONDUCTOR
STANDARDS: LESS THAN 10% FROM TOTAL NUMBERS OF OUTER CONDUCTOR.
(NUMBERS OF OUTER CONDUCTOR'S CRIMP OVER FROM OUTER CONDUCTOR'S BARREL)
7-4. CAUTION ABOUT HEAT SHRINKAGE TUBES
PLEASE BE CAREFUL NOT TO MELT HOUSING WHEN USING HEAT SHRINKAGE TUBES. IT WILL BECOME CAUSE OPEN CIRCUIT.
8. THIS IS "Pb-FREE" CONNECTOR.

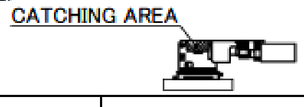
NOTE 6.




NOTE 7-2-1.



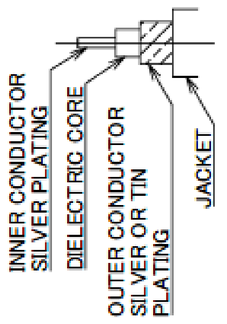
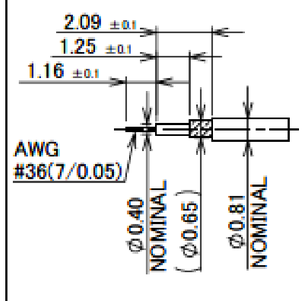
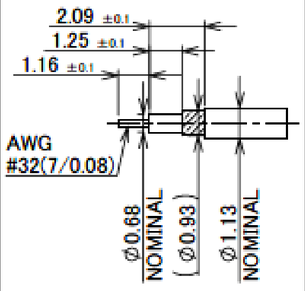
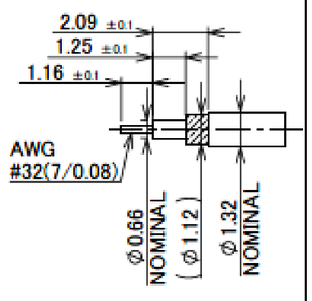
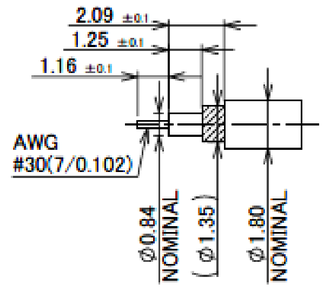
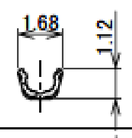
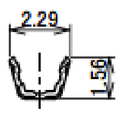
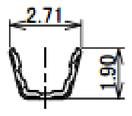
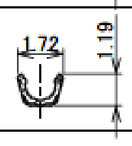
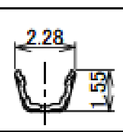
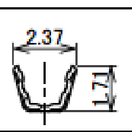
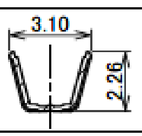

NOTE 7-2-2.



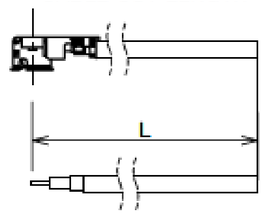

| NO. | DESCRIPTION | MATERIAL | FINISH , REMARKS |
|---|---|---|---|
| 6 | GROUND CONTACT | PHOSPHOR BRONZE | ALL OVER Ni 1.00μm MIN. CONTACT PART Au 0.05μm MIN. |
| 5 | CONTACT | PHOSPHOR BRONZE | ALL OVER Ni 1.00μm MIN. CONTACT PART Au 0.10μm MIN. |
| 4 | HOUSING | PBT | UL94V-0, WHITE |

Rev.33

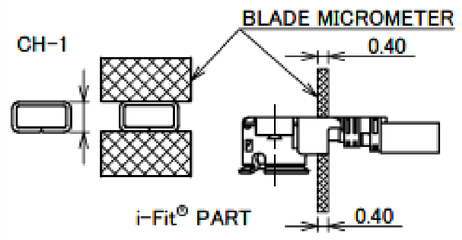
| Recommended P/N | 20278-112R-** |
|---|---|

| PART NO. | | 20278-112R-08 | 20278-112R-13 | 20278-112R-32 | 20278-112R-18 |
|---|---|---|---|---|---|
| APPLICABLE CABLE NOMINAL DIMENSION | |   |   *SEE NOTE 9. |   |   |   |
| BRAIDED SHIELD OF OUTER CONDUCTOR | | SINGLE | SINGLE | DOUBLE | SINGLE |
| PART NO. OF SEMI AUTO TERMINATION MACHINE | | 90213-008C | 90213-013C | 90213-032C | 90232-018 |
| SECT. B-B | |   |   |   |   |
| SECT. A-A | |   |   |   |   |
| CRIMP HEIGHT | CH-1 | 1.34～1.40 | 1.34～1.40 | 1.34～1.40 | 1.34～1.40 |
| | CH-2 | 0.76～0.84 | 1.06～1.14 | 1.20～1.30 | 1.41～1.49 |
| | CH-3 | 0.85～0.97 | 1.15～1.35 | 1.26～1.46 | 1.70～1.80 |

CABLE CUT LENGTH




CRIMP HEIGHT




NOTE 9. DO NOT USE SOLDER COATED EITHER INNER OR OUTER CONDUCTOR CABLE.

Rev.33

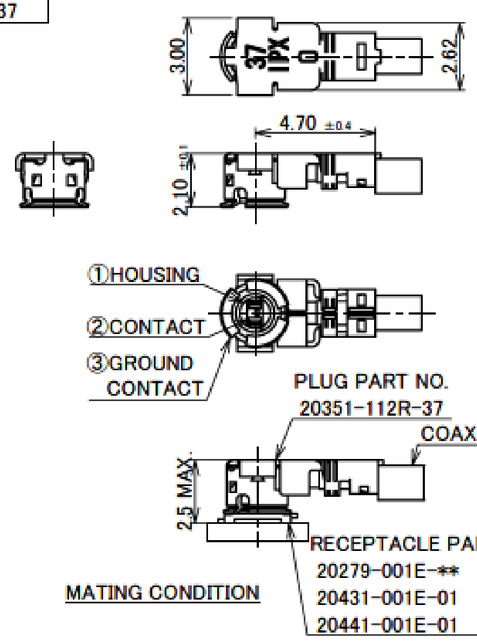
# MHF® I plug Au (0.81,1.13,1.32,1.80)

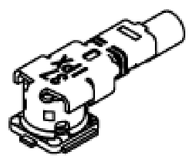
| ITEMS | SPECIFICATION | |
|---|---|---|
| RECOMMENDED APPLICABLE CONNECTOR PART No. | 20279-001E-** | 20441-001E-01 |
| RATING VOLTAGE | 60 V AC (R.M.S) | |
| RATING FREQUENCY | DC～9GHz | |
| OPERATING TEMPERATURE | 233～363 K (-40℃～+90℃) | |
| VSWR<br>(MATED WITH SMA ADAPTER PART No.90193-001) | 1.30 MAX. AT 0.1～3 GHz, 1.50 MAX. AT 3～6 GHz, 1.90 MAX. AT 6～9 GHz<br>(0.81 O.D. / 1.13 O.D. / 1.80 O.D.)<br>1.30 MAX. AT 0.1～3 GHz, 1.50 MAX. AT 3～6 GHz, 1.60 MAX. AT 6～9 GHz (1.32 O.D.) | |
| MAIN CONTACT RESISTANCE | INITIAL: 20 mohm MAX. / AFTER TEST: 25 mohm MAX. | |
| GROUND CONTACT RESISTANCE | INITIAL: 10 mohm MAX. / AFTER TEST: 15 mohm MAX. | |
| INSULATION RESISTANCE | INITIAL: 500 Mohm MIN. / AFTER TEST: 100 Mohm MIN. | |
| DIELECTRIC WITHSTANDING VOLTAGE | 200 V AC, 1 MINUTE | |
| DURABILITY | 30 CYCLES | |
| UNMATING FORCE (INITIAL / AFTER TEST) | 5 N MIN. / 3 N MIN. | |
| CRIMP STRENGTH | 20278-112R-08, 20278-112R-13, 20278-112R-32: 10 N MIN.<br>20278-112R-18: 15 N MIN. | |
| PRODUCT SPECIFICATION | PRS-1676 | |
| TEST REPORT | TR-12044 | |
| PACKING STANDARD | 300-233 | |
| INSTRUCTION MANUAL | HIM-10002 | |
| APPEARANCE CRITERIA No. | QLS-A*** | |

Rev.33

# MHF® I plug Au (1.37)

| Recommended P/N | 20351-112R-37 |
|---|---|
| PART No. | |
| 20351-112R-37 | |

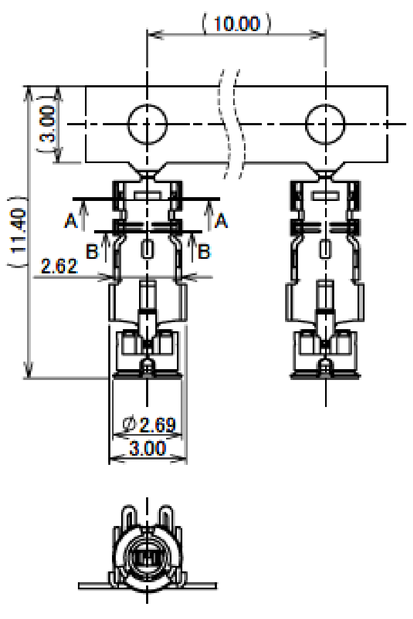


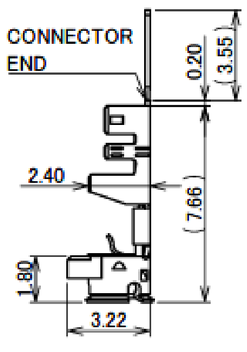



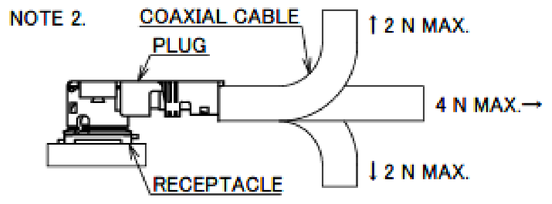
HF Halogen Free

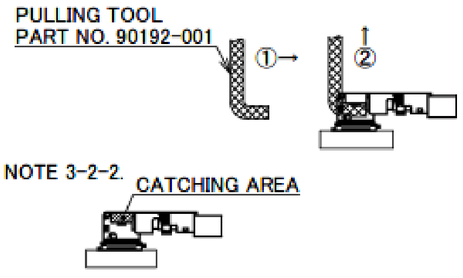
RoHS Compliant

NOTES
1. APPLICABLE CONNECTOR:
   20279-001E-**, 20431-001E-01, 20441-001E-01
2. PERMISSIBLE LOAD OF CABLE AT MATING
3. SUGGESTIONS FOR MATING & UNMATING OPERATION
3-1. MATING
   PLEASE MATE THE CONNECTOR STRAIGHTLY TO VERTICAL DIRECTION AS MUCH AS POSSIBLE, ADJUSTING THE MATING AXIS OF PLUG AND RECEPTACLE. AS EXCESSIVE SLANT ANGLE MATING MAY BREAK THE CONNECTOR, PLEASE DON'T DO IT.
3-2. UNMATING
3-2-1. IN CASE OF UNMATING BY PULLING TOOL
   PLEASE USE THE PULLING TOOL AS THE FOLLOWING DRAWING, AND PLEASE PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
3-2-2. IN CASE OF UNMATING DIRECTLY BY HAND
   PLEASE CATCH THE CATCHING AREA OF PLUG, AND PLEASE PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
3-3. CRIMP OVER STANDARDS OF OUTER CONDUCTOR
   STANDARDS: LESS THAN 10% FROM TOTAL NUMBERS OF OUTER CONDUCTOR.
   (NUMBERS OF OUTER CONDUCTOR'S CRIMP OVER FROM OUTER CONDUCTOR'S BARREL)
3-4. CAUTION ABOUT HEAT SHRINKAGE TUBES
   PLEASE BE CAREFUL NOT TO MELT HOUSING WHEN USING HEAT SHRINKAGE TUBES. IT WILL BECOME CAUSE OPEN CIRCUIT.
4. TIP OF CONTACT SHOULD BE RECESSED OF HOUSING AFTER CRIMPED ABOUT MATING AREA.
5. THIS IS "Pb-FREE" CONNECTOR.



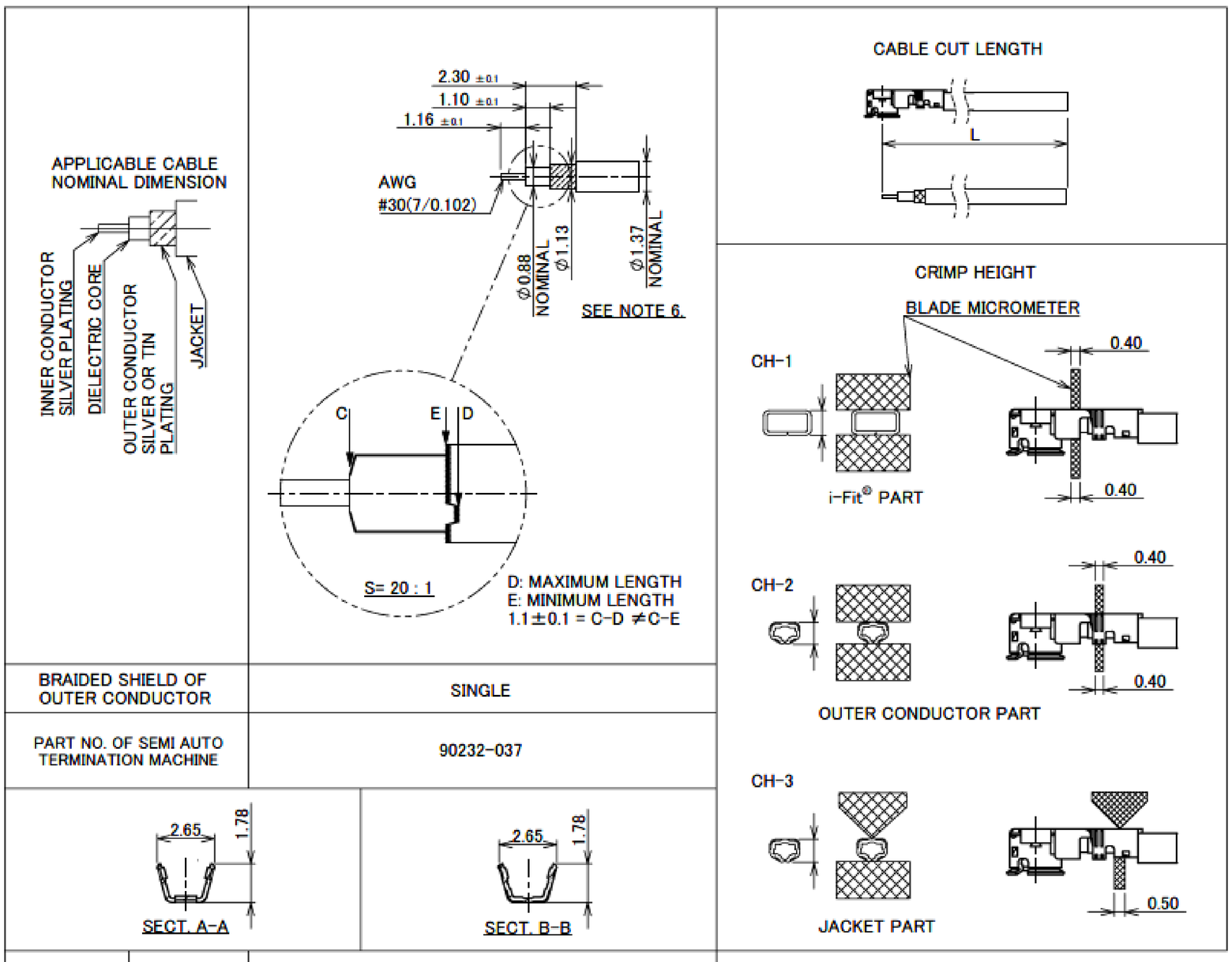




| NO. | DESCRIPTION | MATERIAL | FINISH , REMARKS |
|---|---|---|---|
| 3 | GROUND CONTACT | PHOSPHOR BRONZE | ALL OVER Ni 1.00μm MIN.<br>CONTACT PART Au 0.05μm MIN. |
| 2 | CONTACT | PHOSPHOR BRONZE | ALL OVER Ni 1.00μm MIN.<br>CONTACT PART Au 0.10μm MIN. |
| 1 | HOUSING | PBT | UL94V-0, WHITE |

Rev.21

# MHF® I plug Au (1.37)




| | | |
|---|---|---|
| BRAIDED SHIELD OF OUTER CONDUCTOR | SINGLE | |
| PART NO. OF SEMI AUTO TERMINATION MACHINE | 90232-037 | |
| CRIMP HEIGHT | CH-1 | 1.34～1.40 |
| | CH-2 | 1.36～1.42 |
| | CH-3 | 1.28～1.34 |

NOTE 6. DO NOT USE SOLDER COATED EITHER INNER OR OUTER CONDUCTOR CABLE.

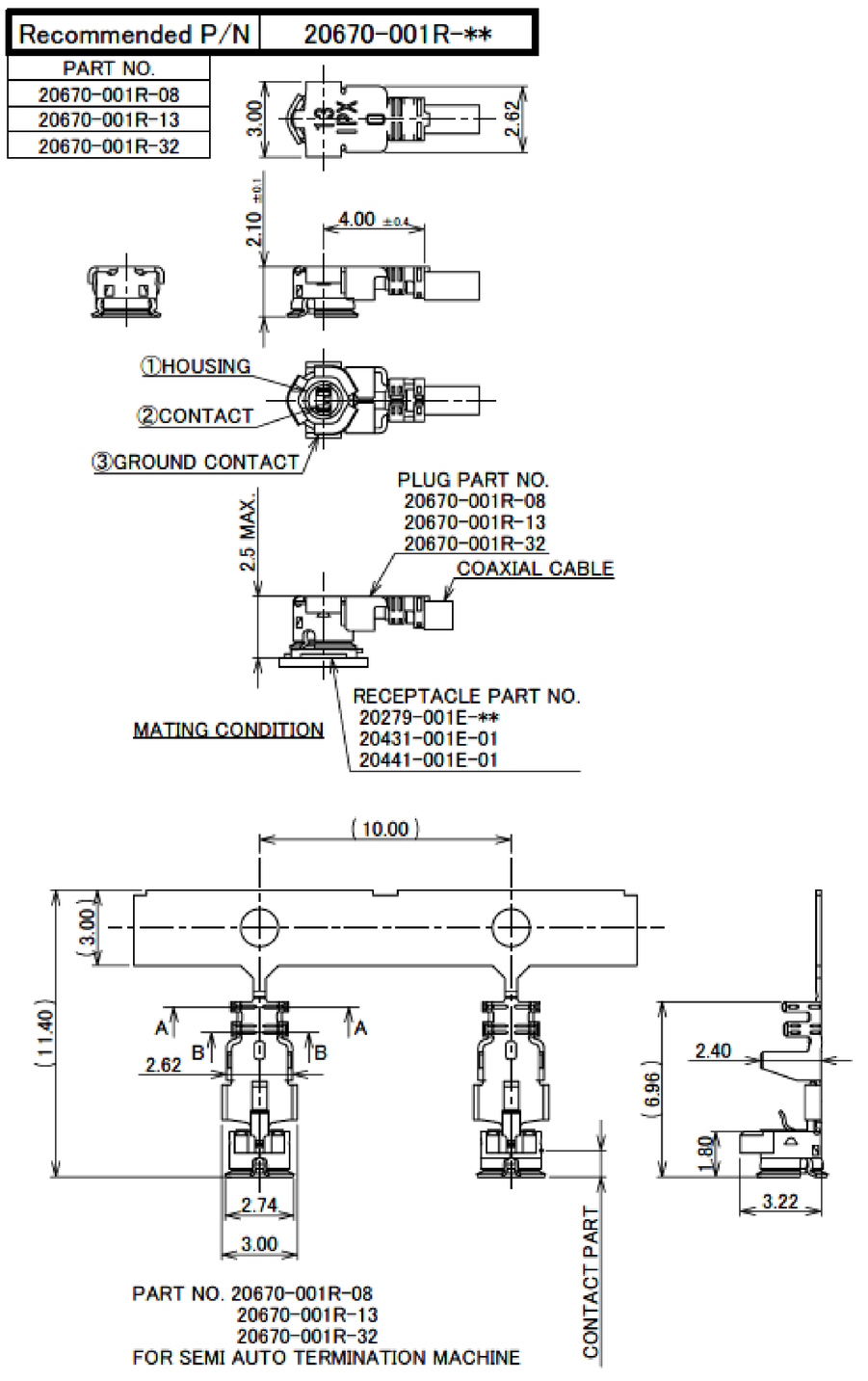


| ITEMS | SPECIFICATION | |
|---|---|---|
| RECOMMENDED APPLICABLE CONNECTOR PART No. | 20279-001E-** | 20441-001E-01 |
| RATING VOLTAGE | 60 V AC (R.M.S) | |
| RATING FREQUENCY | DC～9GHz | |
| OPERATING TEMPERATURE | 233～363 K (-40°C～+90°C) | |
| VSWR | 1.3 MAX. AT 0.1～3 GHz, 1.5 MAX. AT 3～6 GHz, 1.9 MAX. AT 6～9 GHz | |
| MAIN CONTACT RESISTANCE | INITIAL: 20 mohm MAX. / AFTER TEST: 25 mohm MAX. | |
| GROUND CONTACT RESISTANCE | INITIAL: 10 mohm MAX. / AFTER TEST: 15 mohm MAX. | |
| INSULATION RESISTANCE | INITIAL: 500 Mohm MIN. / AFTER TEST: 100 Mohm MIN. | |
| DIELECTRIC WITHSTANDING VOLTAGE | 200 V AC, 1 MINUTE | |
| DURABILITY | 30 CYCLES | |
| UNMATING FORCE (INITIAL / AFTER TEST) | 5 N MIN. / 3 N MIN. | |
| CRIMP STRENGTH | 15 N MIN. | |
| PRODUCT SPECIFICATION | PRS-1726 | |
| TEST REPORT | TR-12096 | |
| PACKING STANDARD | 300-233 | |
| INSTRUCTION MANUAL | HIM-10002 | |
| APPEARANCE CRITERIA No. | QLS-A*** | |

Rev.21

# MHF® I plug Ni top (0.81,1.13,1.32,1.37,1.80)

| Recommended P/N | 20670-001R-** |
|---|---|
| PART NO. | |
| 20670-001R-08 | |
| 20670-001R-13 | |
| 20670-001R-32 | |




PART NO. 20670-001R-08
20670-001R-13
20670-001R-32
FOR SEMI AUTO TERMINATION MACHINE

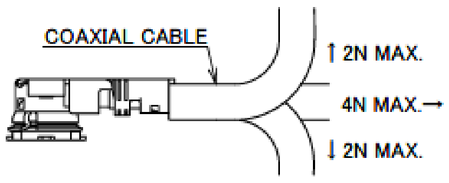



HF Halogen Free

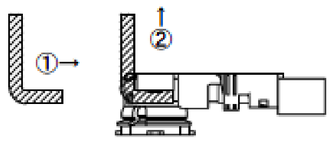
RoHS Compliant

NOTES
1. APPLICABLE CONNECTOR:
   20279-001E-**
   20431-001E-01
   20441-001E-01
2. PERMISSIBLE LOAD OF CABLE AT MATING
3. MATING AND UNMATING INSTRUCTION
3-1. MATING
   MAKE THE CONNECTOR VERTICALY AS MUCH AS POSSIBLE, ADJUSTING THE MATING AXIS OF PLUG AND RECEPTACLE.
3-2. UNMATING
3-2-1. IN CASE OF UNMATING BY PULLING TOOL (PART NO. 90192-001): 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.
3-3. CRIMP OVER STANDARDS OF OUTER CONDUCTOR
   STANDARDS: LESS THAN 10% FROM TOTAL NUMBERS OF OUTER CONDUCTOR.
   (NUMBERS OF OUTER CONDUCTOR'S CRIMP OVER FROM OUTER CONDUCTOR'S BARREL)
3-4. CAUTION ABOUT HEAT SHRINKAGE TUBES
   PLEASE BE CAREFUL NOT TO MELT HOUSING WHEN USING HEAT SHRINKAGE TUBES.
   IT WILL CAUSE OPEN CIRCUIT.
4. THIS IS "Pb-FREE" CONNECTOR.

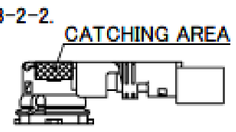
NOTE 2.




NOTE 3-2-1.



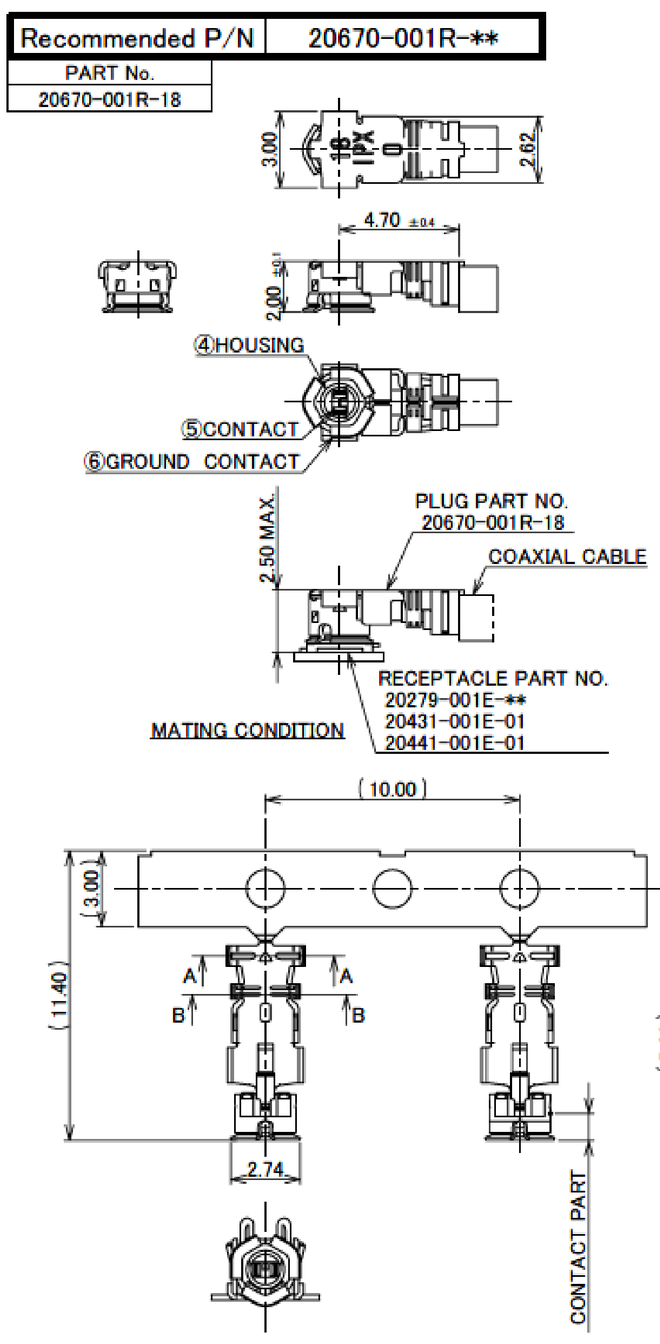

NOTE 3-2-2.




| NO. | DESCRIPTION | MATERIAL | FINISH , REMARKS |
|---|---|---|---|
| 3 | GROUND CONTACT | PHOSPHOR BRONZE | ALL OVER Ni 1.00 μm MIN.<br>CONTACT PART Au 0.02 μm MIN.<br>[Ni PLATING AREA] Ni ONLY |
| 2 | CONTACT | PHOSPHOR BRONZE | ALL OVER Ni 1.00 μm MIN.<br>CONTACT PART Au 0.03 μm MIN. |
| 1 | HOUSING | PBT | UL94V-0, BLACK |

Rev.8

| Recommended P/N | 20670-001R-** |
|---|---|
| PART No. | |
| 20670-001R-18 | |




PART NO. 20670-001R-18
FOR SEMI AUTO TERMINATION MACHINE

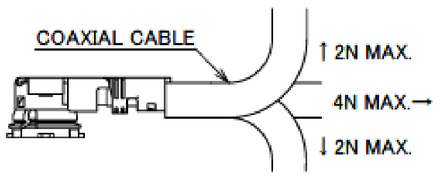



HF Halogen Free

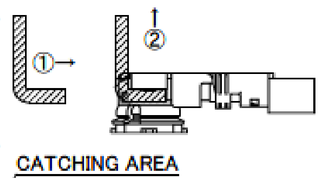
RoHS Compliant

NOTES
5. APPLICABLE CONNECTOR:
   20279-001E-**
   20431-001E-01
   20441-001E-01
6. PERMISSIBLE LOAD OF CABLE AT MATING
7. MATING AND UNMATING INSTRUCTION
7-1. MATING
   MAKE THE CONNECTOR VERTICALY AS MUCH AS POSSIBLE, ADJUSTING THE MATING AXIS OF PLUG AND RECEPTACLE.
7-2. UNMATING
7-2-1. IN CASE OF UNMATING BY PULLING TOOL (PART NO. 90192-001): USE THE PULLING TOOL AS THE FOLLOWING DRAWING, AND PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
7-2-2. IN CASE OF UNMATING DIRECTLY BY HAND: CATCH THE CATCHING AREA OF PLUG, AND PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
7-3. CRIMP OVER STANDARDS OF OUTER CONDUCTOR
   STANDARDS: LESS THAN 10% FROM TOTAL NUMBERS OF OUTER CONDUCTOR.
   (NUMBERS OF OUTER CONDUCTOR'S CRIMP OVER FROM OUTER CONDUCTOR'S BARREL)
7-4. CAUTION ABOUT HEAT SHRINKAGE TUBES
   PLEASE BE CAREFUL NOT TO MELT HOUSING WHEN USING HEAT SHRINKAGE TUBES.
   IT WILL CAUSE OPEN CIRCUIT.
8. THIS IS "Pb-FREE" CONNECTOR.

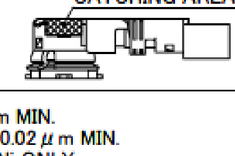
NOTE 6.




NOTE 7-2-1.




NOTE 7-2-2.



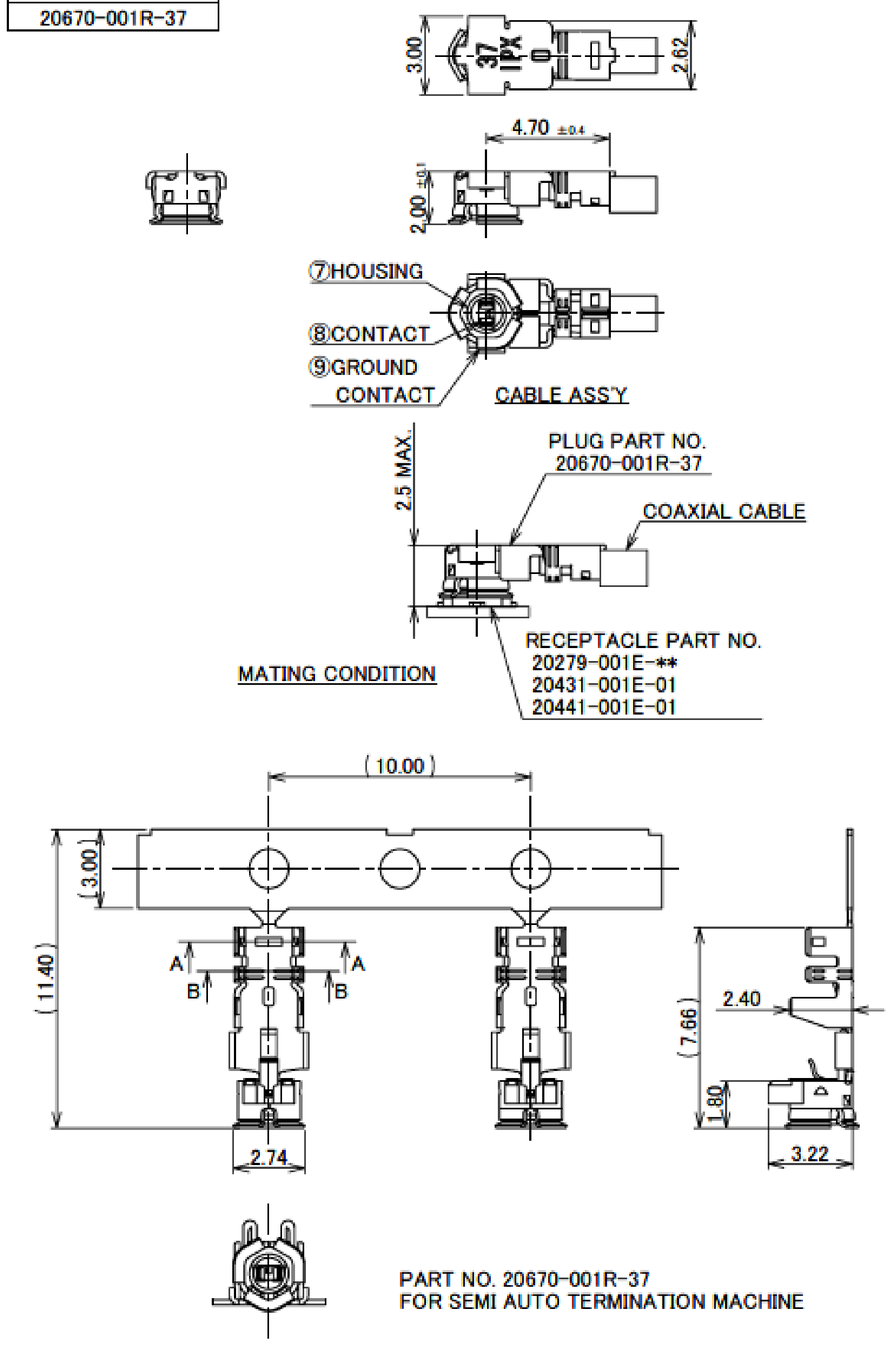

| NO. | DESCRIPTION | MATERIAL | FINISH , REMARKS |
|---|---|---|---|
| 6 | GROUND CONTACT | PHOSPHOR BRONZE | ALL OVER Ni 1.00 μm MIN.<br>CONTACT PART Au 0.02 μm MIN.<br>[Ni PLATING AREA] Ni ONLY |
| 5 | CONTACT | PHOSPHOR BRONZE | ALL OVER Ni 1.00 μm MIN.<br>CONTACT PART Au 0.03 μm MIN. |
| 4 | HOUSING | PBT | UL94V-0, BLACK |

Rev.8

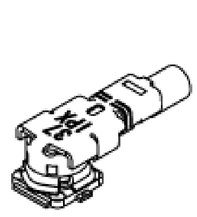
# MHF® I plug Ni top (0.81,1.13,1.32,1.37,1.80)

| Recommended P/N | 20670-001R-** |
|---|---|

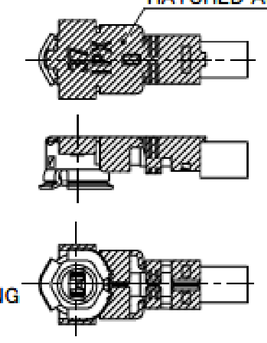
| PART No. |
|---|
| 20670-001R-37 |




PART NO. 20670-001R-37
FOR SEMI AUTO TERMINATION MACHINE



HATCHED AREA: Ni PLATING AREA

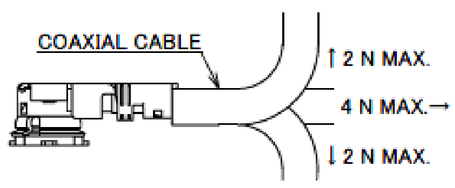


Halogen Free

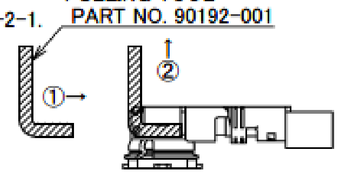
RoHS Compliant

NOTES
9. APPLICABLE CONNECTOR:
   20279-001E-**
   20431-001E-01
   20441-001E-01
10. PERMISSIBLE LOAD OF CABLE AT MATING
11. MATING AND UNMATING INSTRUCTION
11-1. MATING
   MAKE THE CONNECTOR VERTICALY AS MUCH AS POSSIBLE, ADJUSTING THE MATING AXIS OF PLUG AND RECEPTACLE.
11-2. UNMATING
11-2-1. IN CASE OF UNMATING BY PULLING TOOL (PART NO. 90192-001): USE THE PULLING TOOL AS THE FOLLOWING DRAWING, AND PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
11-2-2. IN CASE OF UNMATING DIRECTLY BY HAND: CATCH THE CATCHING AREA OF PLUG, AND PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
11-3. CRIMP OVER STANDARDS OF OUTER CONDUCTOR
   STANDARDS: LESS THAN 10% FROM TOTAL NUMBERS OF OUTER CONDUCTOR.
   (NUMBERS OF OUTER CONDUCTOR'S CRIMP OVER FROM OUTER CONDUCTOR'S BARREL)
11-4. CAUTION ABOUT HEAT SHRINKAGE TUBES
   PLEASE BE CAREFUL NOT TO MELT HOUSING WHEN USING HEAT SHRINKAGE TUBES.
   IT WILL CAUSE OPEN CIRCUIT.
12. THIS IS "Pb-FREE" CONNECTOR.

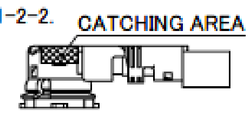
NOTE 10.




NOTE 11-2-1.



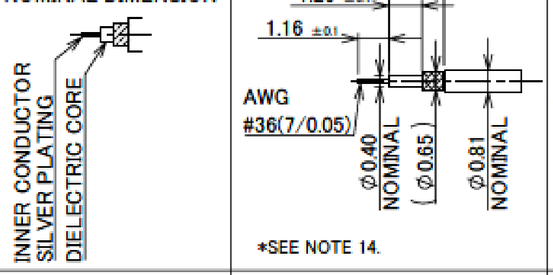
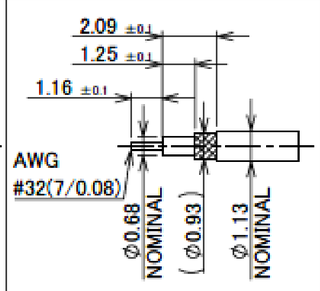
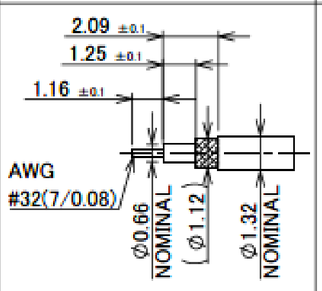
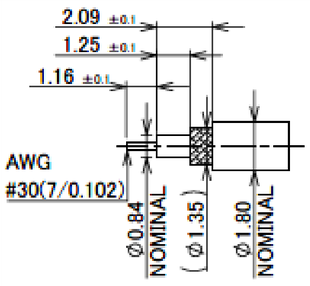
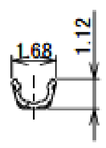
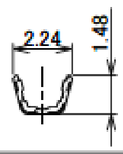
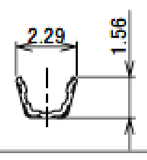
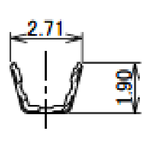
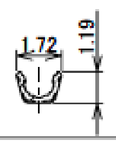
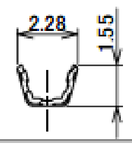
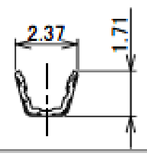
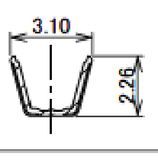

NOTE 11-2-2.




| NO. | DESCRIPTION | MATERIAL | FINISH , REMARKS |
|---|---|---|---|
| 9 | GROUND CONTACT | PHOSPHOR BRONZE | ALL OVER Ni 1.00μm MIN.<br>CONTACT PART Au 0.02μm MIN.<br>[Ni PLATING AREA] Ni ONLY |
| 8 | CONTACT | PHOSPHOR BRONZE | ALL OVER Ni 1.00μm MIN.<br>CONTACT PART Au 0.03μm MIN. |
| 7 | HOUSING | PBT | UL94V-0, BLACK |

Rev.8

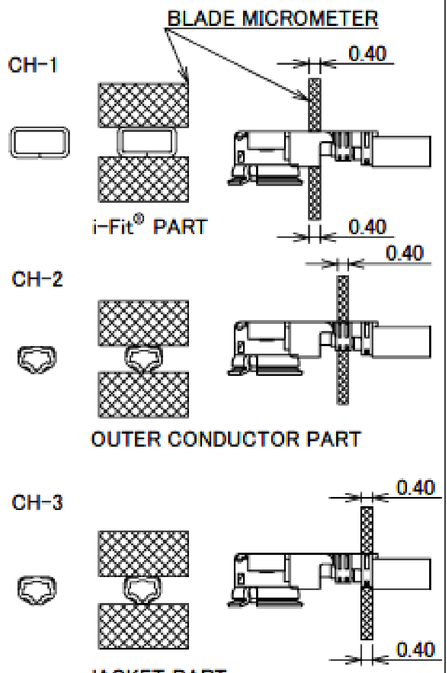
| Recommended P/N | 20670-001R-** |
|---|---|

| PART NO. | | 20670-001R-08 | 20670-001R-13 | 20670-001R-32 | 20670-001R-18 |
|---|---|---|---|---|---|
| APPLICABLE CABLE NOMINAL DIMENSION | |  *SEE NOTE 14. |  *SEE NOTE 14. |  *SEE NOTE 14. |  *SEE NOTE 14. |
| BRAIDED SHIELD OF OUTER CONDUCTOR | | SINGLE | SINGLE | DOUBLE | SINGLE |
| PART NO. OF SEMI AUTO TERMINATION MACHINE | | 90213-008C | 90213-013C | 90213-032C | 90232-018 |
| SECT. B-B | |  |  |  |  |
| SECT. A-A | |  |  |  |  |
| CRIMP HEIGHT | CH-1 | 1.34～1.40 | 1.34～1.40 | 1.34～1.40 | 1.34～1.40 |
| | CH-2 | 0.76～0.84 | 1.06～1.14 | 1.20～1.30 | 1.41～1.49 |
| | CH-3 | 0.85～0.97 | 1.15～1.35 | 1.26～1.46 | 1.70～1.80 |

CABLE CUT LENGTH




CRIMP HEIGHT

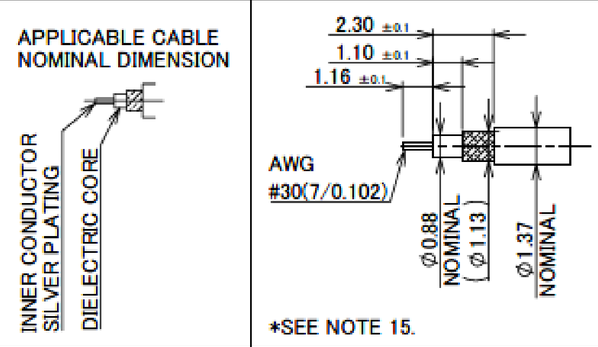
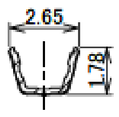
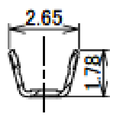



NOTE
13. MUST NOT USE SOLDER COATED INNER CONDUCTOR AND OUTER CONDUCTOR.

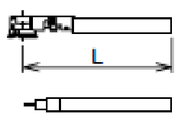
Rev.8

# MHF® I plug Ni top (0.81,1.13,1.32,1.37,1.80)

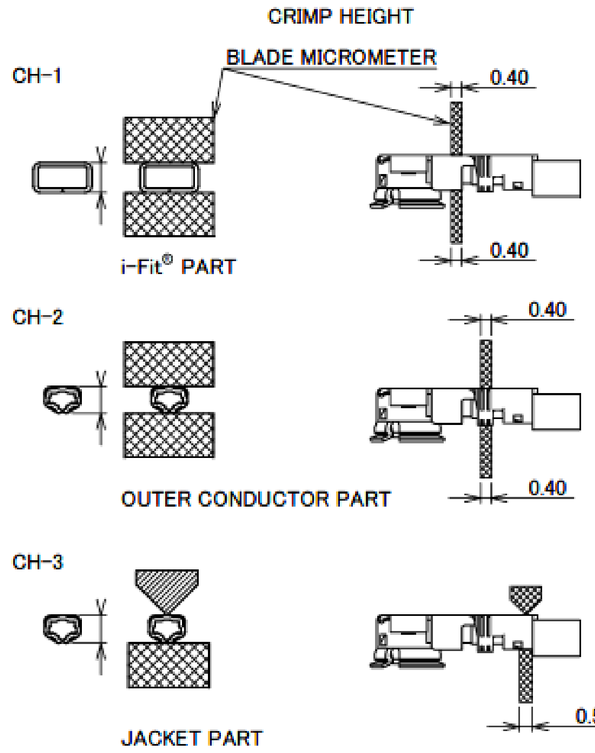
| Recommended P/N | 20670-001R-** |
|---|---|

| | | |
|---|---|---|
| PART NO. | | 20670-001R-37 |
| APPLICABLE CABLE NOMINAL DIMENSION | |  |
| BRAIDED SHIELD OF OUTER CONDUCTOR | | SINGLE |
| PART NO. OF SEMI AUTO TERMINATION MACHINE | | 90232-037 |
| SECT. B-B | |  |
| SECT. A-A | |  |
| CRIMP HEIGHT | CH-1 | 1.34～1.40 |
| | CH-2 | 1.36～1.42 |
| | CH-3 | 1.28～1.34 |

CABLE CUT LENGTH




CRIMP HEIGHT



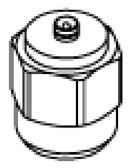

NOTE
14. MUST NOT USE SOLDER COATED INNER CONDUCTOR AND OUTER CONDUCTOR.

Rev.8

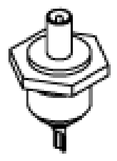
| ITEMS | SPECIFICATION |
|---|---|
| RECOMMENDED APPLICABLE CONNECTOR PART No. | 20279-001E-** |
| RATING VOLTAGE | 60 V AC (R.M.S) |
| RATING FREQUENCY | DC～9GHz |
| OPERATING TEMPERATURE | 233～363 K (-40℃～+90℃) |
| VSWR<br>(MATED WITH SMA ADAPTER PART No:90193-001) | 1.30 MAX. AT 0.1～3 GHz, 1.50 MAX. AT 3～6 GHz, 1.90 MAX. AT 6～9 GHz<br>(0.81 O.D. / 1.13 O.D. / 1.37 O.D. / 1.80 O.D.)<br>1.30 MAX. AT 0.1～3 GHz, 1.50 MAX. AT 3～6 GHz, 1.60 MAX. AT 6～9 GHz (1.32 O.D.) |
| MAIN CONTACT RESISTANCE | INITIAL: 20 mohm MAX. / AFTER TEST: ⊿R 20 mohm MAX. |
| GROUND CONTACT RESISTANCE | INITIAL: 20mohm MAX. / AFTER TEST: ⊿R 100 mohm MAX. |
| INSULATION RESISTANCE | INITIAL: 500 Mohm MIN. / AFTER TEST: 100 Mohm MIN. |
| DIELECTRIC WITHSTANDING VOLTAGE | 200 V AC, 1 MINUTE |
| DURABILITY | 30 CYCLES |
| UNMATING FORCE (INITIAL / AFTER TEST) | 5 N MIN. / 3 N MIN. |
| CRIMP STRENGTH | 20670-001R-08, 20670-001R-13, 20670-001R-32: 10 N MIN.<br>20670-001R-18, 20670-001R-37: 15 N MIN. |
| PRODUCT SPECIFICATION | PRS-2105 |
| TEST REPORT | TR-15059 |
| PACKING STANDARD | 300-233 |
| INSTRUCTION MANUAL | HIM-10002 |
| APPEARANCE CRITERIA No. | QLS-A*** |

Rev.8

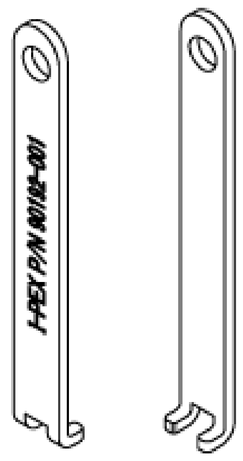
# Accessories for MHF® I plug



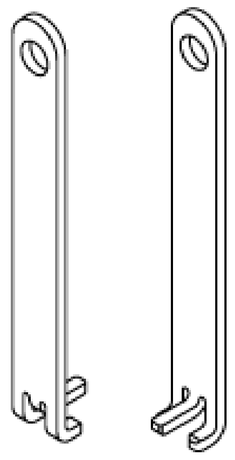
MHF I SMA ADAPTOR
PART NO. 90193-001



MHF I PLUG INSPECTION CONNECTOR
PART NO. 90194-001




FRONT SIDE BACK SIDE
MHF I UNMATING TOOL
PART NO. 90192-001



FRONT SIDE BACK SIDE
MHF I MATING AND UNMATING TOOL
PART NO. 90224-001

Rev.8

# MHF® I plug (2.0 mm Cable O.D.)

| Recommended P/N | 20767-001R-20 |
|---|---|
| PART No. | |
| 20767-001R-20 | |



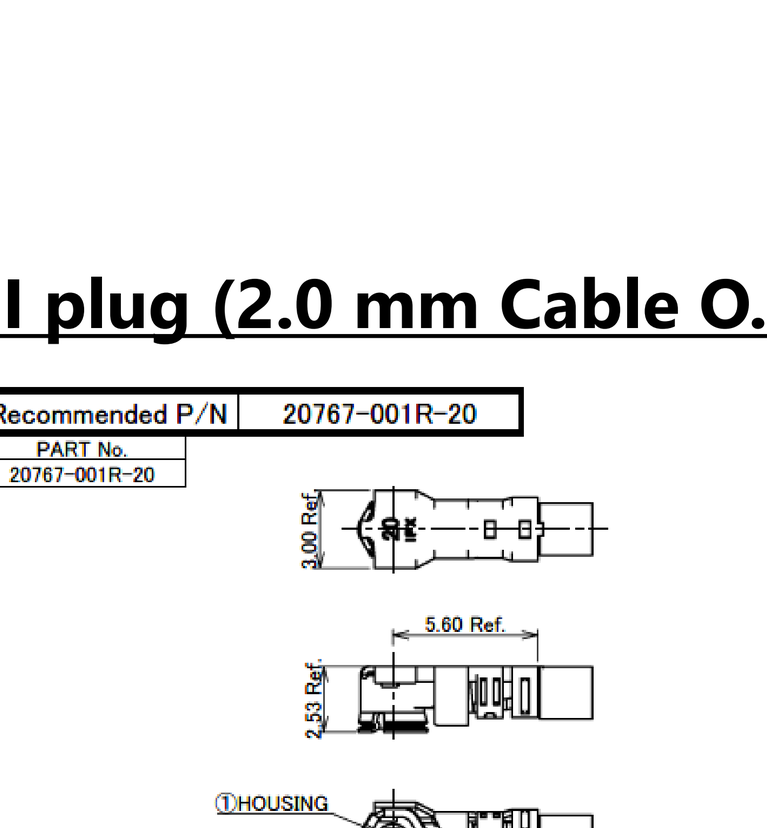






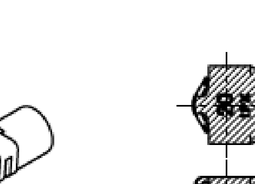
HF Halogen Free

RoHS Compliant

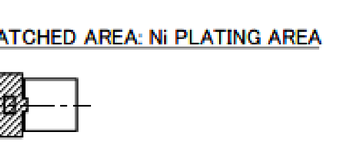



NOTES
1. APPLICABLE CONNECTOR:
20279-001E-**, 20431-001E-01, 20441-001E-01
2. MATING AND UNMATING INSTRUCTION
2-1. MATING
MATE THE CONNECTOR VERTICALY AS MUCH AS POSSIBLE, ADJUSTING THE MATING AXIS OF PLUG AND RECEPTACLE. DO NOT SLANT MATE.
2-2. UNMATING
2-2-1. IN CASE OF UNMATING BY PULLING TOOL (PART NO. 90885-0001)
USE THE PULLING TOOL AS THE FOLLOWING DRAWING, AND PLEASE PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
2-2-2. IN CASE OF UNMATING DIRECTLY BY HAND
CATCH THE CATCHING AREA OF PLUG, AND PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.

NOTES 2-1.




NOTES 2-2-1.



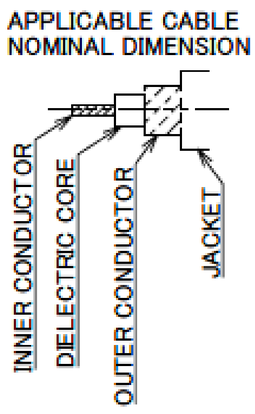
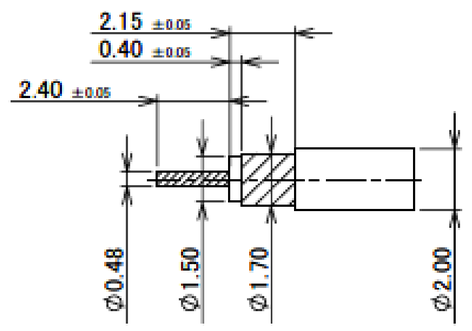
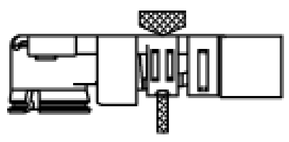
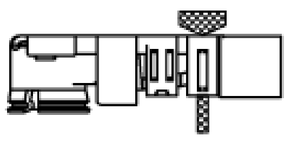

NOTES 2-2-2.




| NO. | DESCRIPTION | MATERIAL | FINISH , REMARKS |
|---|---|---|---|
| 3 | GROUND CONTACT | PHOSPHOR BRONZE | ALL OVER Ni 1.00μm MIN.<br>CONTACT PART Au 0.05μm MIN. |
| 2 | CONTACT | PHOSPHOR BRONZE | ALL OVER Ni 1.00μm MIN.<br>CONTACT PART Au 0.10μm MIN. |
| 1 | HOUSING | PBT | UL94V-0, BLACK |

Rev.6

# MHF® I plug (2.0 mm Cable O.D.)

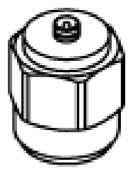
| PART NO. | 20767-001R-20 | | |
|---|---|---|---|
| APPLICABLE CABLE NOMINAL DIMENSION   |   | | |
| BRAIDED SHIELD OF OUTER CONDUCTOR | SINGLE | | |
| PART NO. OF SEMI AUTO TERMINATION MACHINE | 90876-020 | | |
| CRIMP HEIGHT | CH-1 i-Fit© PART  | CH-2 SHIELD PART  | CH-3 JACKET PART  |
| | 2.28～2.36 | 1.81～1.87 | 1.95～2.01 |



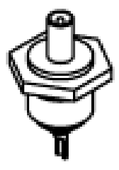
| ITEMS | SPECIFICATION | |
|---|---|---|
| RECOMMENDED APPLICABLE CONNECTOR PART No. | 20279-001E-** | 20441-001E-01 |
| RATING VOLTAGE | 60 V AC (R.M.S) | |
| RATING FREQUENCY | DC～9GHz | |
| OPERATING TEMPERATURE | 233～363 K (-40℃～+90℃) | |
| VSWR (MATED WITH SMA ADAPTER PART No.90193-001) | 1.30 MAX. AT 0.1～3 GHz, 1.50 MAX. AT 3～6 GHz, 1.60 MAX. AT 6～9 GHz | |
| MAIN CONTACT RESISTANCE | INITIAL: 20 mohm MAX. / AFTER TEST: ⊿R 20 mohm MAX. | |
| GROUND CONTACT RESISTANCE | INITIAL: 20 mohm MAX. / AFTER TEST: ⊿R 100 mohm MAX. | |
| INSULATION RESISTANCE | INITIAL: 500 Mohm MIN. / AFTER TEST: 100 Mohm MIN. | |
| DIELECTRIC WITHSTANDING VOLTAGE | 200 V AC, 1 MINUTE | |
| DURABILITY | 30 CYCLES | |
| UNMATING FORCE (INITIAL / AFTER TEST) | 5 N MIN. / 3 N MIN. | |
| CRIMP STRENGTH | 15 N MIN. | |
| PRODUCT SPECIFICATION | PRS-2490 | |
| TEST REPORT | TR-18041 | |
| PACKING STANDARD | PST-16007 | |
| INSTRUCTION MANUAL | HIM-17017 | |
| APPEARANCE CRITERIA No. | QLS-A*** | |

Rev.6

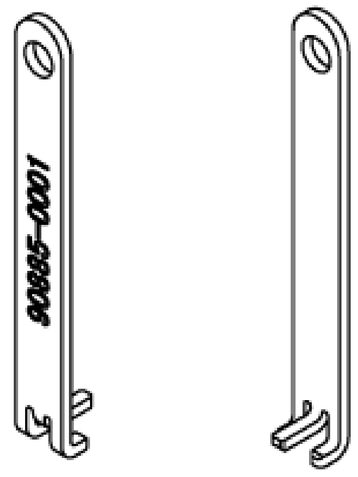
# Accessories for MHF® I plug (2.0 mm Cable O.D.)



MHF I SMA ADAPTOR
PART NO. 90193-001



MHF I PLUG INSPECTION CONNECTOR
PART NO. 90194-001

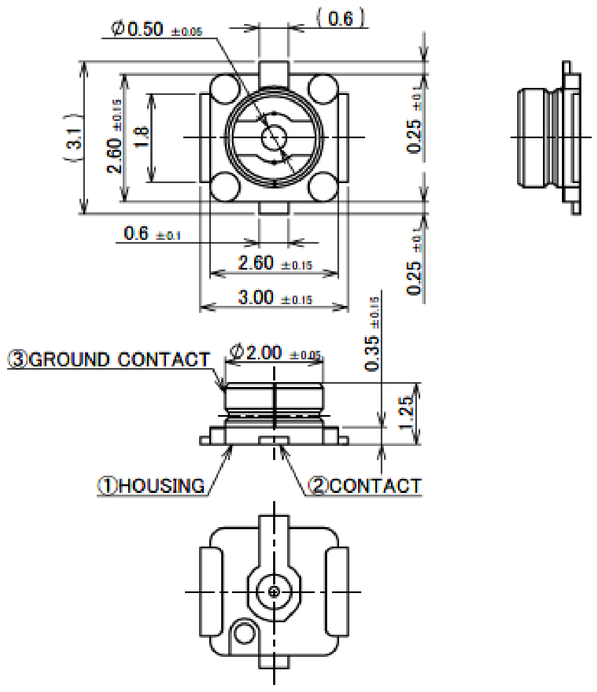


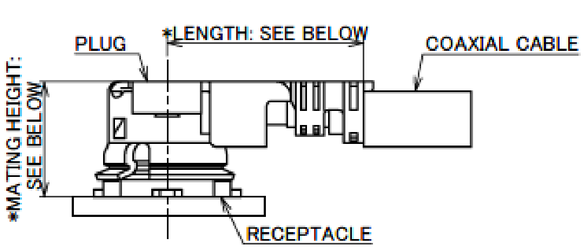

FRONT SIDE BACK SIDE

MHF I 20 TYPE MATING AND UNMATING TOOL
PART NO. 90885-0001

# MHF® I Receptacle (3pads)

| Recommended P/N | 20279-001E-03 | |
|---|---|---|
| PART NO. | PACKING REEL | QUANTITY IN 1 REEL |
| 20279-001E-01 | PLASTIC REEL | 2,500 |
| | CORRUGATED PAPER REEL | 2,500 |
| 20279-001E-03 | PLASTIC REEL | 5,000 |
| 20279-001E-05 | PLASTIC REEL | 10,000 |

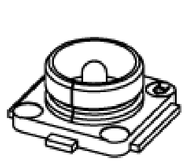



*LENGTH: 4.0±0.4 AT PLUG PART NO. 20670-001R-08, 20670-001R-13, 20670-001R-32
4.7±0.4 AT PLUG PART NO. 20670-001R-18, 20670-001R-37
5.6 AT PLUG PART NO. 20767-001R-20 (REFERENCE DIMENSION)
*MATING HEIGHT: 2.5 MAX. AT PLUG PART NO. 20670-001R-**
(2.9 MAX. AT MHF I LK LOCKED CONDITION)
3.0 MAX. AT PLUG PART NO. 20767-001R-20

MATING CONDITION

Halogen Free RoHS Compliant



NOTES
1. APPLICABLE CONNECTOR PART NO.
20278-112R-**
20351-*12R-37
20631-112R-**
20670-001R-**
20767-001R-20
2. COPLANARITY: 0.1mm MAX.
3. THIS IS "Pb-FREE" CONNECTOR.

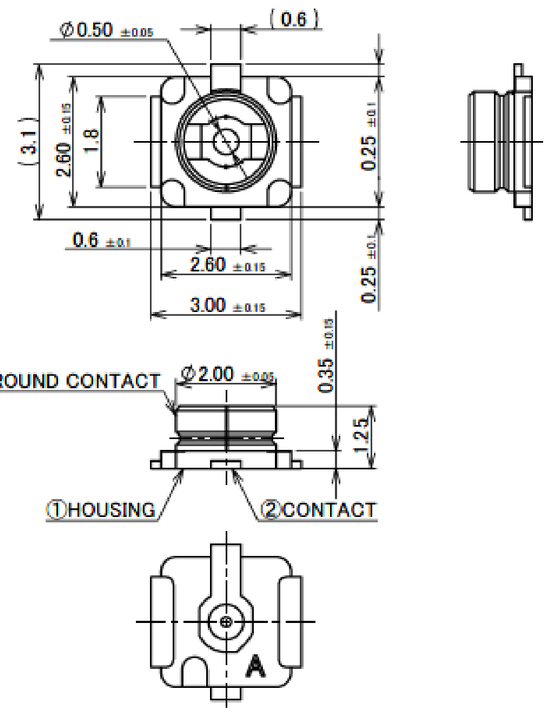
| NO. | DISCRIPTION | MATERIAL | FINISH , REMARKS |
|---|---|---|---|
| 3 | GROUND CONTACT | PHOSPHOR BRONZE | ALL OVER Ni 1.00μm MIN.<br>CONTACT PART Au 0.05μm MIN.<br>SOLDERING PART Au 0.05μm MIN. |
| 2 | CONTACT | BRASS | ALL OVER Ni 1.00μm MIN.<br>CONTACT PART Au 0.10μm MIN.<br>SOLDERING PART Au 0.03μm MIN. |
| 1 | HOUSING | LCP | UL94V-0, WHITE |

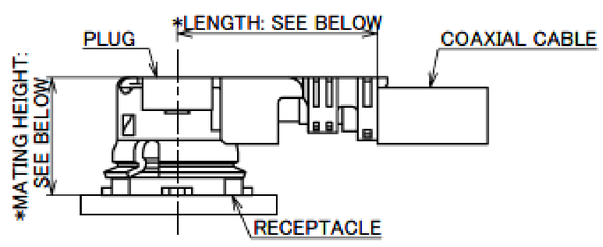


I-PEX
Contact your sales representative for more detailed information. www.i-pex.com

# MHF® I Receptacle (3pads)

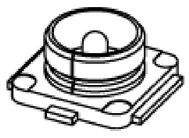
| Recommended P/N | 20279-001E-03 | |
|---|---|---|
| PART NO. | PACKING REEL | QUANTITY IN 1 REEL |
| 20279-001E-06 | PLASTIC REEL | 10,000 |



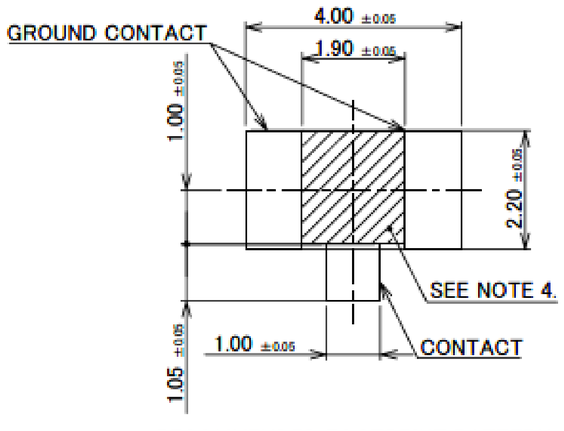

*LENGTH: 4.0±0.4 AT PLUG PART NO. 20670-001R-08, 20670-001R-13, 20670-001R-32
4.7±0.4 AT PLUG PART NO. 20670-001R-18, 20670-001R-37
5.6 AT PLUG PART NO. 20767-001R-20 (REFERENCE DIMENSION)
*MATING HEIGHT: 2.5 MAX. AT PLUG PART NO. 20670-001R-**
(2.9 MAX. AT MHF I LK LOCKED CONDITION)
3.0 MAX. AT PLUG PART NO. 20767-001R-20

MATING CONDITION

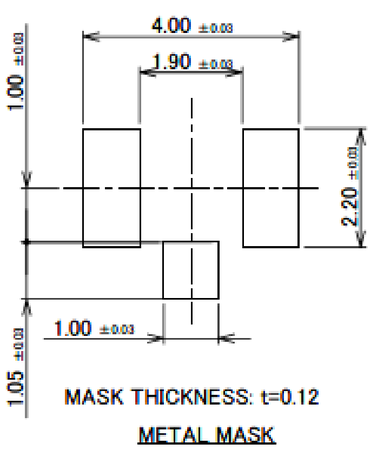


NOTES
1. APPLICABLE CONNECTOR PART NO.
20278-112R-**
20351-*12R-37
20631-112R-**
20670-001R-**
20767-001R-20
2. COPLANARITY: 0.1mm MAX.
3. THIS IS "Pb-FREE" CONNECTOR.

| NO. | DISCRIPTION | MATERIAL | FINISH , REMARKS |
|---|---|---|---|
| 3 | GROUND CONTACT | PHOSPHOR BRONZE | ALL OVER Ni 1.00μm MIN.<br>CONTACT PART Au 0.05μm MIN.<br>SOLDERING PART Au 0.05μm MIN. |
| 2 | CONTACT | BRASS | ALL OVER Ni 1.00μm MIN.<br>CONTACT PART Au 0.10μm MIN.<br>SOLDERING PART Au 0.03μm MIN. |
| 1 | HOUSING | LCP | UL94V-0, WHITE |

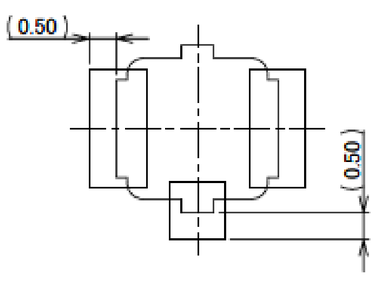



RECOMMENDED FOOTPRINT PATTERN

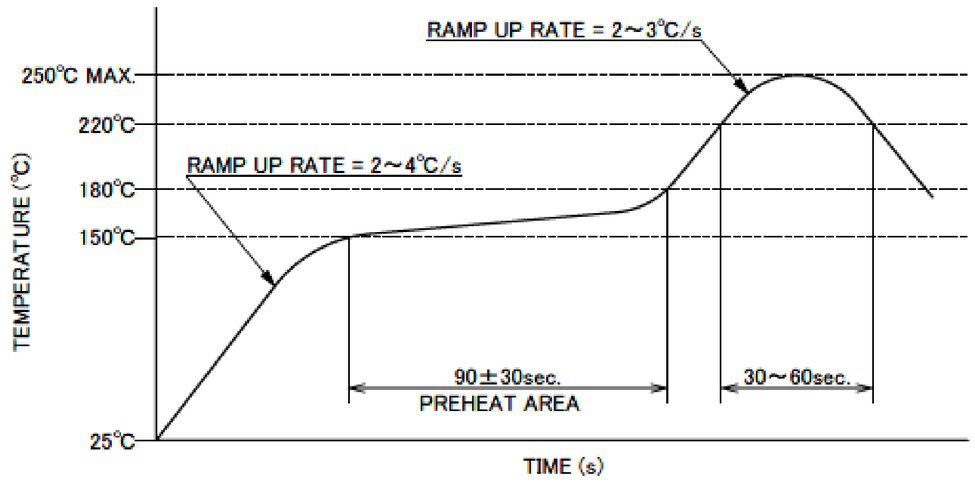



MASK THICKNESS: t=0.12

METAL MASK




CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN




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

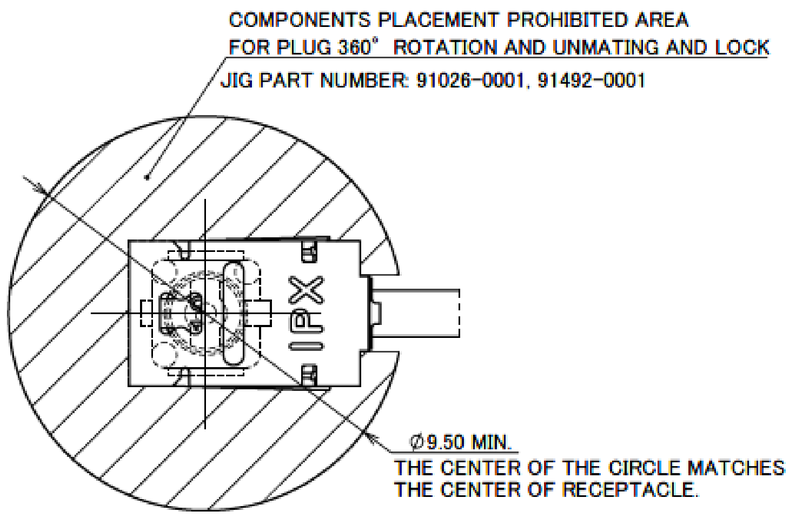
NOTES.
4. NO GROUND, SIGNAL, OR RESIST ALLOWED IN THIS AREA.

Rev.34

# MHF® I Receptacle (3pads)

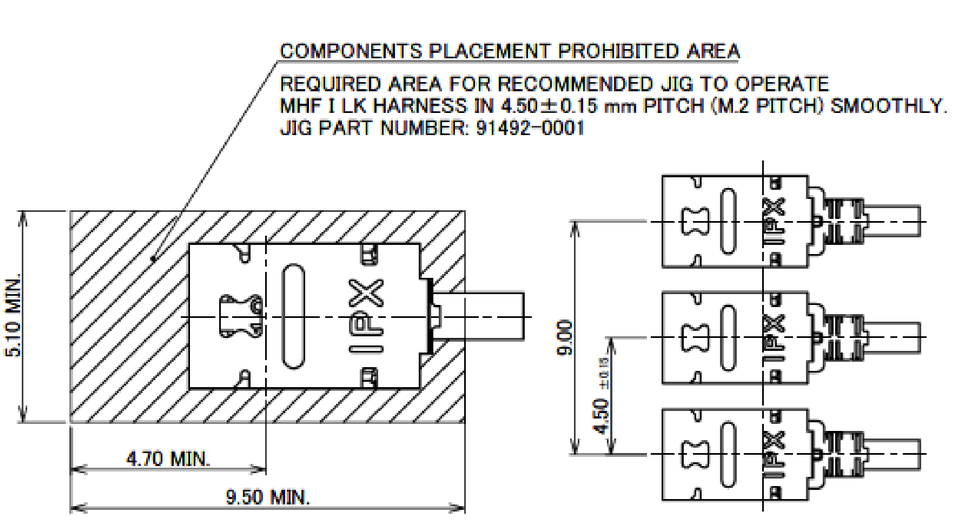
## COMPONENT PLACEMENT PROHIBITED AREA
## FOR MHF I RECEPTACLE MATED WITH MHF I LK HARNESS
## REQUIRED AREA FOR RECOMMENDED JIG TO OPERATE

SINGLE CONNECTOR LAYOUT




MATING AND LOCK CONDITION
WITH MHF I LK HARNESS

MULTIPLE CONNECTORS LAYOUT




MATING AND LOCK CONDITION
WITH MHF I LK HARNESS NARROW PITCH

MHF I LK HARNESS UNLOCK CONDITION
NARROW PITCH DIMENSIONS
(S = 5 : 1)

| ITEMS | SPECIFICATION | | | |
|---|---|---|---|---|
| RECOMMENDED APPLICABLE CONNECTOR PART NO. | 20278-112R-** (MHF I PLUG 1.80, 1.32, 1.13, 0.81) | 20351-112R-37 (MHF I PLUG 1.37) | 20670-001R-** (MHF I PLUG Ni TOP 1.80, 1.37, 1.32, 1.13, 0.81) | 20767-001R-20 (MHF I PLUG 2.00) |
| RATED VOLTAGE | 60 V AC (R.M.S) | | | |
| RATED FREQUENCY | DC TO 9GHz | | | |
| OPERATING TEMPERATURE | 233 TO 363K (-40°C TO +90°C) | | | |
| VSWR (MATED WITH SMA ADAPTER PART No. 90193-002) | RECEPTACLE: 1.30 MAX. AT 0.1-3 GHz, 1.40 MAX. AT 3-6 GHz, 1.80 MAX. AT 6-9 GHz | | | |
| MAIN CONTACT RESISTANCE | INITIAL : 20 mohm MAX.<br>AFTER TEST : 25 mohm MAX. | | INITIAL : 20 mohm MAX.<br>AFTER TEST : ⊿R 20 mohm MAX. | |
| GROUND CONTACT RESISTANCE | INITIAL : 10 mohm MAX.<br>AFTER TEST : 15 mohm MAX. | | INITIAL : 20 mohm MAX.<br>AFTER TEST : ⊿R 100 mohm MAX. | |
| INSULATION RESISTANCE | INITIAL: 500 Mohm MIN. / AFTER TEST: 100 Mohm MIN. | | | |
| DIELECTRIC WITHSTANDING VOLTAGE | 200 V AC, 1 MINUTE | | | |
| DURABILITY | 30 CYCLES | | | |
| UNMATING FORCE (INITIAL / AFTER TEST) | INITIAL: 5 N MIN.<br>AFTER TEST: 3 N MIN. | | | |
| PRODUCT SPECIFICATION | PRS-1676 | PRS-1726 | PRS-2105 | PRS-2490 |
| TEST REPORT | TR-12044 | TR-12096 | TR-15059 | TR-18041 |
| PACKING STANDARD | 20279-001E-01: 300-232 (CORRUGATED PAPER REEL)<br>PST-12002 (ANTI-STATIC PLASTIC REEL)<br>20279-001E-03: 300-850<br>20279-001E-05: PST-13040<br>20279-001E-06: PST-13040 | | | |
| INSTRUCTION MANUAL | HIM-10002 | | | HIM-17017 |
| APPEARANCE CRITERIA No. | QLS-A*** | | | |

※UNLESS OTHERWISE SPECIFIED, 20279-001E-01 WILL BE DELIVERED IN CORRUGATED PAPER REELS.
CONTACT YOUR I-PEX SALES IF YOU WISH FOR PLASTIC REELS.

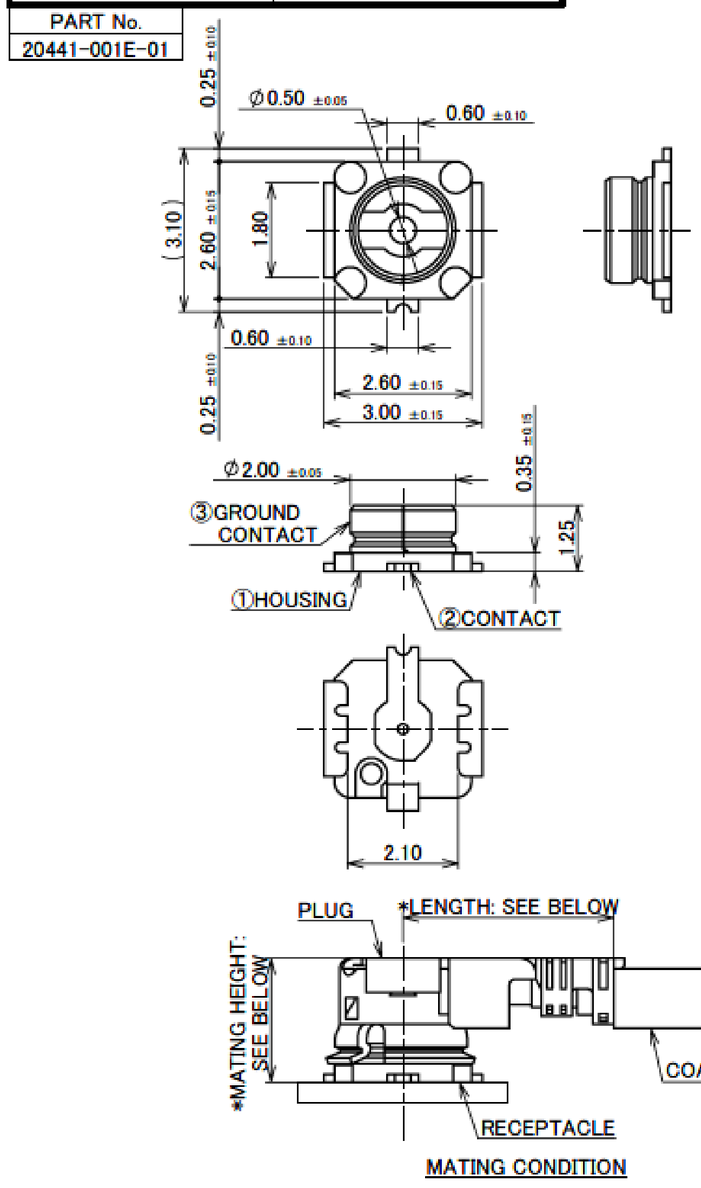


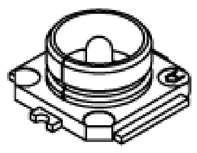
Rev.34

# MHF® I Receptacle (4pads/Black color HSG)

| Recommended P/N | 20441-001E-01 |
|---|---|

| PART No. |
|---|
| 20441-001E-01 |



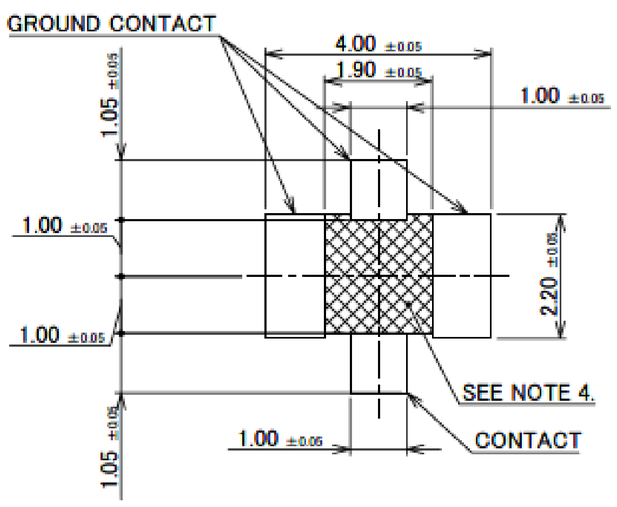
HF Halogen Free

RoHS Compliant

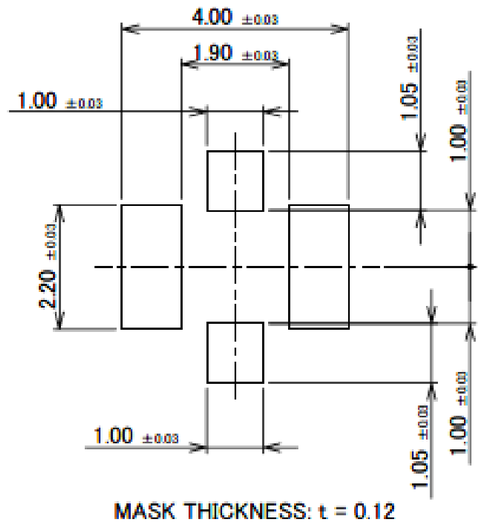
NOTES.
1. APPLICABLE CONNECTOR PART NUMBER:
   20278-112R-**
   20351-*12R-37
   20670-001R-**
   20767-001R-20
2. COPLANARITY: 0.1mm MAX.
3. THIS IS "Pb-FREE" CONNECTOR.

| NO. | DISCRIPTION | MATERIAL | FINISH , REMARKS |
|---|---|---|---|
| 3 | GROUND CONTACT | PHOSPHOR BRONZE | ALL OVER Ni 1.00μm MIN.<br>CONTACT PART Au 0.03μm MIN.<br>SOLDERING PART Au 0.03μm MIN. |
| 2 | CONTACT | BRASS | ALL OVER Ni 1.00μm MIN.<br>CONTACT PART Au 0.10μm MIN.<br>SOLDERING PART Au 0.03μm MIN. |
| 1 | HOUSING | LCP | UL94V-0, BLACK |

*LENGTH: 4.0±0.4 AT PLUG PART NO. 20670-001R-08, 20670-001R-13, 20670-001R-
4.7±0.4 AT PLUG PART NO. 20670-001R-18, 20670-001R-37
5.6 AT PLUG PART NO. 20767-001R-20 (REFERENCE DIMENSION)
*MATING HEIGHT: 2.5 MAX. AT PLUG PART NO. 20670-001R-**
(2.9 MAX. AT MHF I LK LOCKED CONDITION)
3.0 MAX. AT PLUG PART NO. 20767-001R-20

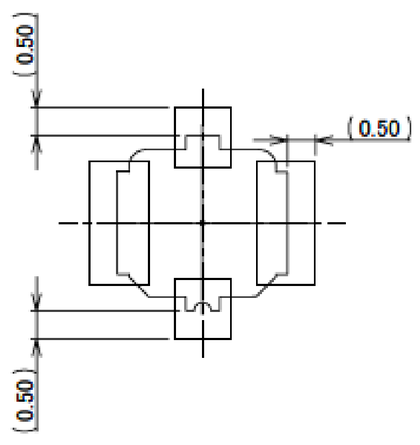



RECOMMENDED FOOTPRINT PATTERN

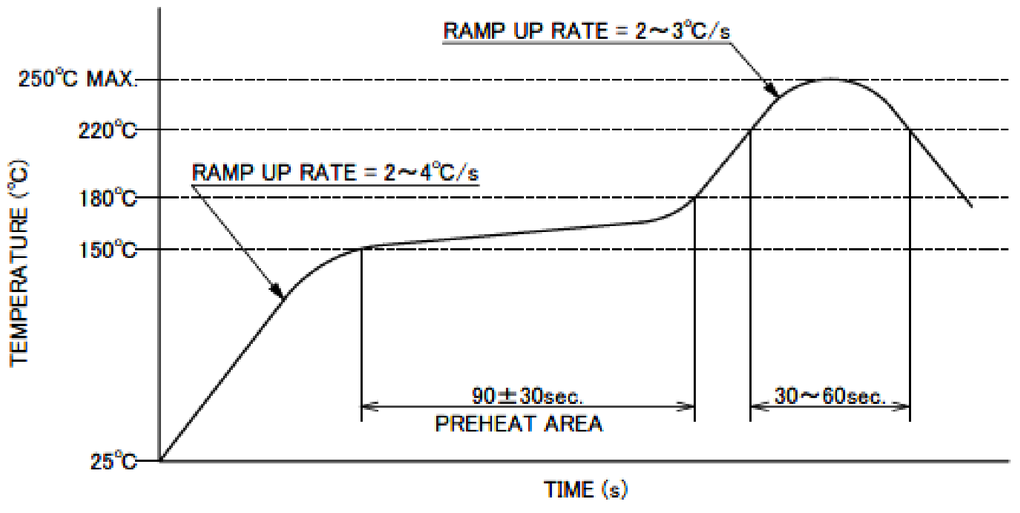



MASK THICKNESS: t = 0.12

METAL MASK




CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN




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

NOTE
4. NO GROUND, SIGNAL, OR RESIST ALLOWED IN THIS AREA.

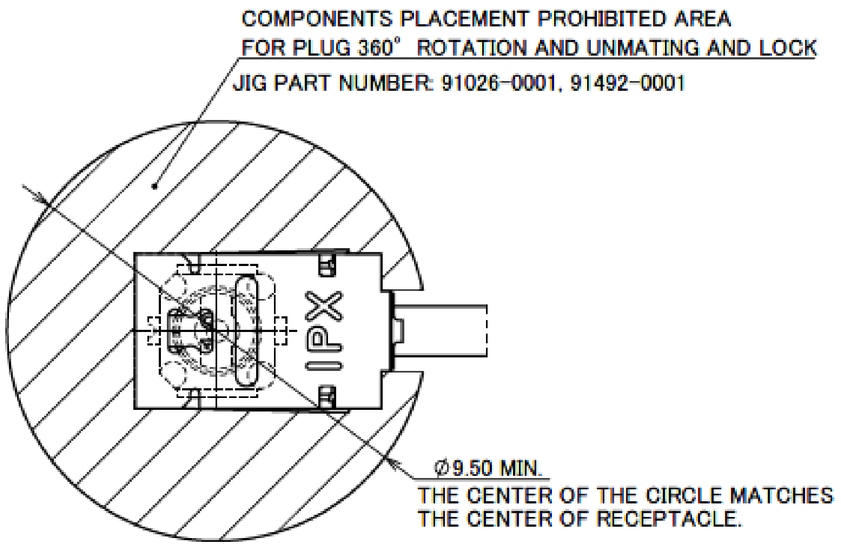


Contact your sales representative for more detailed information. www.i-pex.com

# MHF® I Receptacle (4pads/Black color HSG)

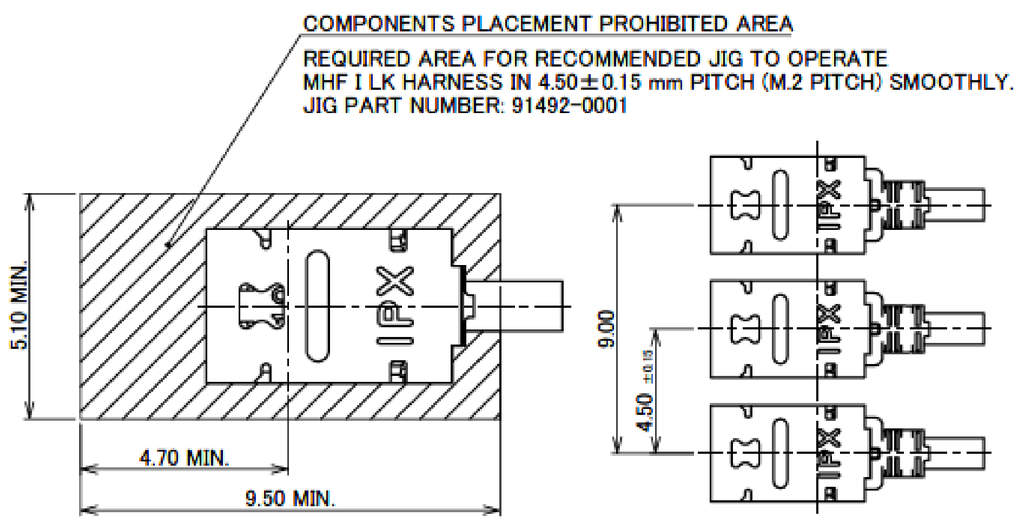
## COMPONENT PLACEMENT PROHIBITED AREA
## FOR MHF I RECEPTACLE MATED WITH MHF I LK HARNESS
## REQUIRED AREA FOR RECOMMENDED JIG TO OPERATE

SINGLE CONNECTOR LAYOUT




MATING AND LOCK CONDITION
WITH MHF I LK HARNESS

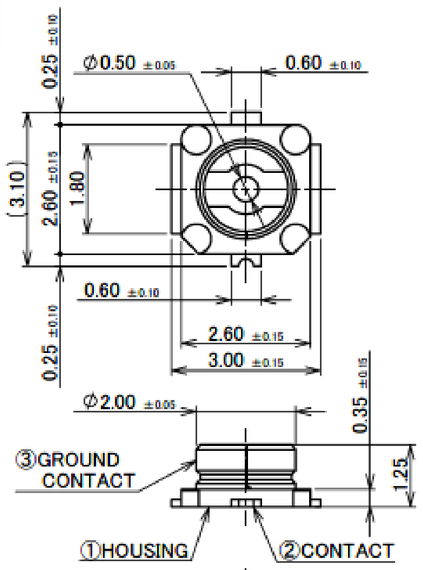
MULTIPLE CONNECTORS LAYOUT

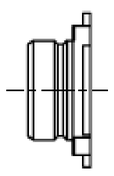


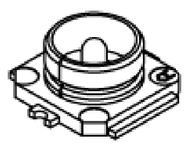

| ITEMS | SPECIFICATION | | | |
|---|---|---|---|---|
| RECOMMENDED APPLICABLE CONNECTOR PART NO. | 20278-112R-** (MHF I PLUG 1.80, 1.32, 1.13, 0.81) | 20351-112R-37 (MHF I PLUG 1.37) | 20670-001R-** (MHF I PLUG Ni TOP 1.80, 1.37, 1.32, 1.13, 0.81) | 20767-001R-20 (MHF I PLUG 2.00) |
| RATING VOLTAGE | 60 V AC (R.M.S) | | | |
| RATING FREQUENCY | DC TO 9GHz | | | |
| OPERATING TEMPERATURE | 233 TO 363K (-40℃ TO +90℃) | | | |
| VSWR (MATED WITH SMA ADAPTER PART No. 90193-002) | RECEPTACLE: 1.30 MAX. AT 0.1-3 GHz, 1.40 MAX. AT 3-6 GHz, 1.80 MAX. AT 6-9 GHz | | | |
| MAIN CONTACT RESISTANCE | INITIAL : 20 mohm MAX.<br>AFTER TEST : 25 mohm MAX. | | INITIAL : 20 mohm MAX.<br>AFTER TEST : ⊿R 20 mohm MAX. | |
| GROUND CONTACT RESISTANCE | INITIAL : 10 mohm MAX.<br>AFTER TEST : 15 mohm MAX. | | INITIAL : 20 mohm MAX.<br>AFTER TEST : ⊿R 100 mohm MAX. | |
| INSULATION RESISTANCE | INITIAL: 500 Mohm MIN. / AFTER TEST: 100 Mohm MIN. | | | |
| DIELECTRIC WITHSTANDING VOLTAGE | 200 V AC, 1 MINUTE | | | |
| DURABILITY | 30 CYCLES | | | |
| UNMATING FORCE (INITIAL / AFTER TEST) | INITIAL: 5 N MIN.<br>AFTER TEST: 3 N MIN. | | | |
| PRODUCT SPECIFICATION | PRS-1676 | PRS-1726 | PRS-2105 | PRS-2490 |
| TEST REPORT | TR-12044 | TR-12096 | TR-15059 | TR-18041 |
| PACKING STANDARD | 300-596 | | | |
| INSTRUCTION MANUAL | HIM-10002 | | | HIM-17017 |
| APPEARANCE CRITERIA No. | QLS-A*** | | | |

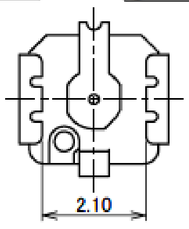
# MHF® I Receptacle (4pads/Natural color HSG)

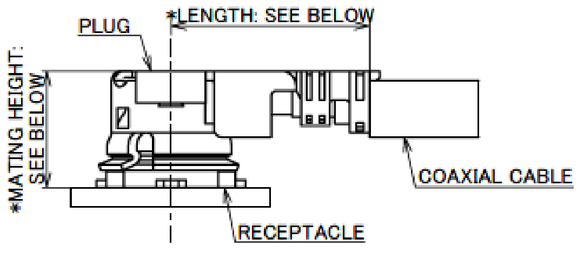
| Recommended P/N | 20431-001E-01 |
|---|---|
| PART No. | |
| 20431-001E-01 | |







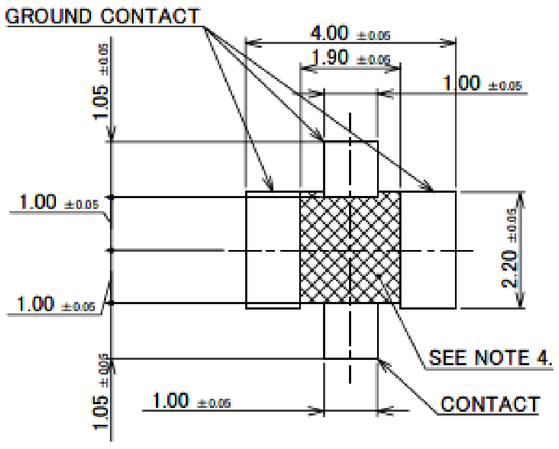




MATING CONDITION

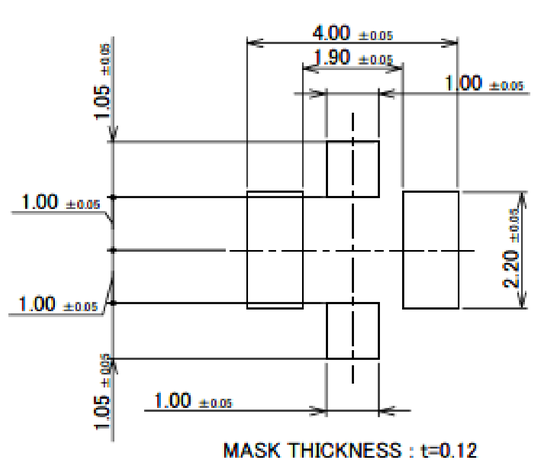
*LENGTH: 4.0±0.4 AT PLUG PART NO. 20670-001R-08, 20670-001R-13, 20670-001R-32
4.7±0.4 AT PLUG PART NO. 20670-001R-18, 20670-001R-37
5.6 AT PLUG PART NO. 20767-001R-20 (REFERENCE DIMENSION)
*MATING HEIGHT: 2.5 MAX. AT PLUG PART NO. 20670-001R-**
(2.9 MAX. AT MHF I LK LOCKED CONDITION)
3.0 MAX. AT PLUG PART NO. 20767-001R-20

NOTES.
1. APPLICABLE CONNECTOR PART NUMBER:
20278-112R-**
20351-*12R-37
20670-001R-**
20767-001R-20
2. COPLANARITY: 0.1mm MAX.
3. THIS IS "Pb-FREE" CONNECTOR.

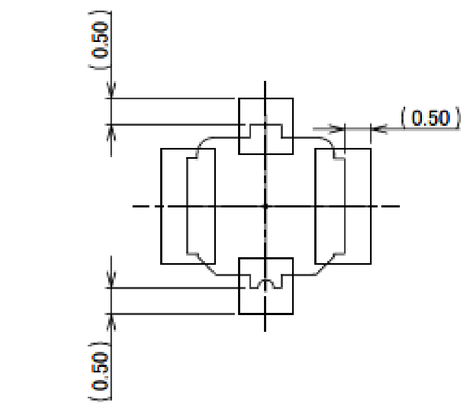
| NO. | DISCRIPTION | MATERIAL | FINISH , REMARKS |
|---|---|---|---|
| 3 | GROUND CONTACT | PHOSPHOR BRONZE | ALL OVER Ni 1.00μm MIN.<br>CONTACT PART Au 0.03μm MIN.<br>SOLDERING PART Au 0.03μm MIN. |
| 2 | CONTACT | BRASS | ALL OVER Ni 1.00μm MIN.<br>CONTACT PART Au 0.10μm MIN.<br>SOLDERING PART Au 0.03μm MIN. |
| 1 | HOUSING | LCP | UL94V-0, NATURAL |



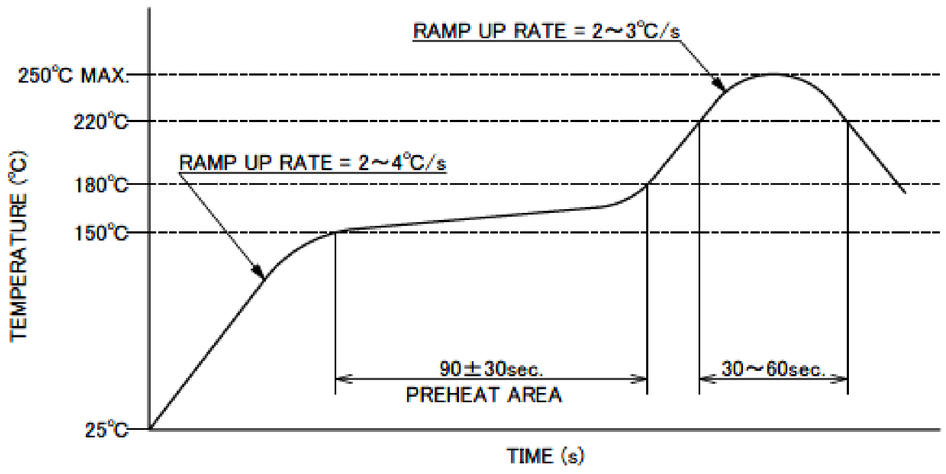

RECOMMENDED FOOTPRINT PATTERN




MASK THICKNESS : t=0.12
METAL MASK




CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN




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

NOTES.
4. NO GROUND, SIGNAL, OR RESIST ALLOWED IN THIS AREA.

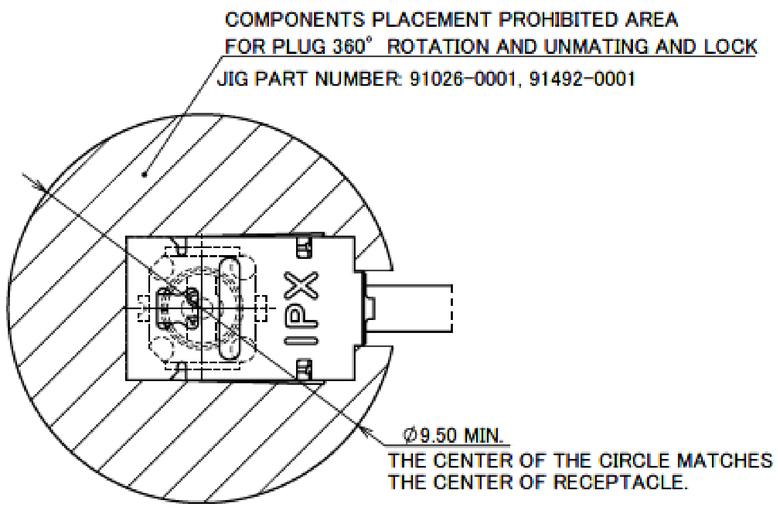
Halogen Free

RoHS Compliant

# MHF® I Receptacle (4pads/Natural color HSG)

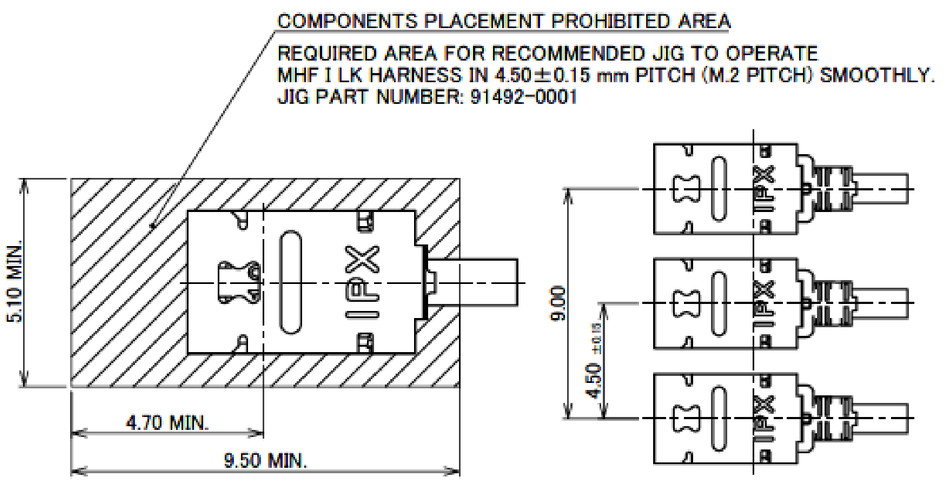
## COMPONENT PLACEMENT PROHIBITED AREA
## FOR MHF I RECEPTACLE MATED WITH MHF I LK HARNESS
## REQUIRED AREA FOR RECOMMENDED JIG TO OPERATE

SINGLE CONNECTOR LAYOUT




MATING AND LOCK CONDITION
WITH MHF I LK HARNESS

MULTIPLE CONNECTORS LAYOUT




MATING AND LOCK CONDITION
WITH MHF I LK HARNESS NARROW PITCH



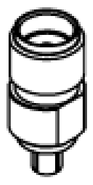

MHF I LK HARNESS UNLOCK CONDITION
NARROW PITCH DIMENSIONS
(S = 5 : 1)

Rev.7

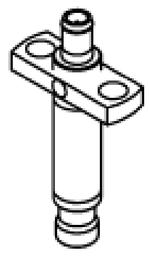
| ITEMS | SPECIFICATION | | | |
|---|---|---|---|---|
| RECOMMENDED APPLICABLE CONNECTOR PART NO. | 20278-112R-** (MHF I PLUG 1.80, 1.32, 1.13, 0.81) | 20351-112R-37 (MHF I PLUG 1.37) | 20670-001R-** (MHF I PLUG Ni TOP 1.80, 1.37, 1.32, 1.13, 0.81) | 20767-001R-20 (MHF I PLUG 2.00) |
| RATING VOLTAGE | 60 V AC (R.M.S) | | | |
| RATING FREQUENCY | DC TO 9GHz | | | |
| OPERATING TEMPERATURE | 233 TO 363K (-40℃ TO +90℃) | | | |
| VSWR (MATED WITH SMA ADAPTER PART No. 90193-002) | RECEPTACLE: 1.3 MAX AT 0.1-3 GHz, 1.4 MAX AT 3-6 GHz, 1.8 MAX. AT 6-9 GHz | | | |
| MAIN CONTACT RESISTANCE | INITIAL: 20 mohm MAX. AFTER TEST: 25 mohm MAX. | | INITIAL: 20 mohm MAX. AFTER TEST: ⊿R 20 mohm MAX. | |
| GROUND CONTACT RESISTANCE | INITIAL: 10 mohm MAX. AFTER TEST: 15 mohm MAX. | | INITIAL: 20 mohm MAX. AFTER TEST: ⊿R 100 mohm MAX. | |
| INSULATION RESISTANCE | INITIAL: 500 Mohm MIN. / AFTER TEST: 100 Mohm MIN. | | | |
| DIELECTRIC WITHSTANDING VOLTAGE | 200 V AC, 1 MINUTE | | | |
| DURABILITY | 30 CYCLES | | | |
| UNMATING FORCE (INITIAL / AFTER TEST) | INITIAL: 5 N MIN. AFTER TEST: 3 N MIN. | | | |
| PRODUCT SPECIFICATION | PRS-1676 | PRS-1726 | PRS-2105 | PRS-2490 |
| TEST REPORT | TR-12044 | TR-12096 | TR-15059 | TR-18041 |
| PACKING STANDARD | PST-17011 | | | |
| INSTRUCTION MANUAL | HIM-10002 | | | HIM-17017 |
| APPEARANCE CRITERIA No. | QLS-A*** | | | |

Rev.7

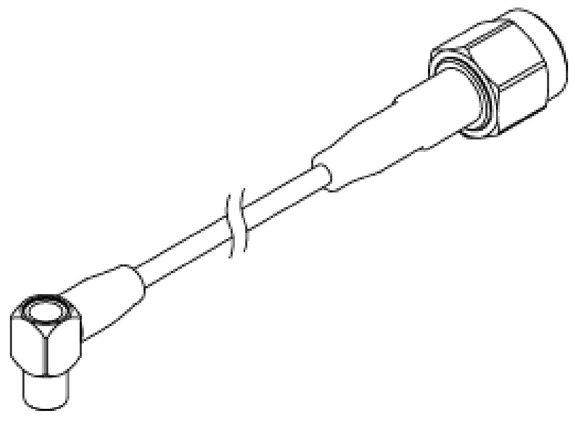
# Accessories for MHF® I Receptacle



MHF I SMA ADAPTER
PART NO. 90193-002



MHF I RECEPTACLE HIGH CYCLE N45 C ADAPTER
PART NO. 90575-0001



MHF SERIES N45 C TO SMA ADAPTER CABLE
PART NO. 90577-****

* 90575-0001 AND 90577-**** SHOULD BE USED TOGETHER.

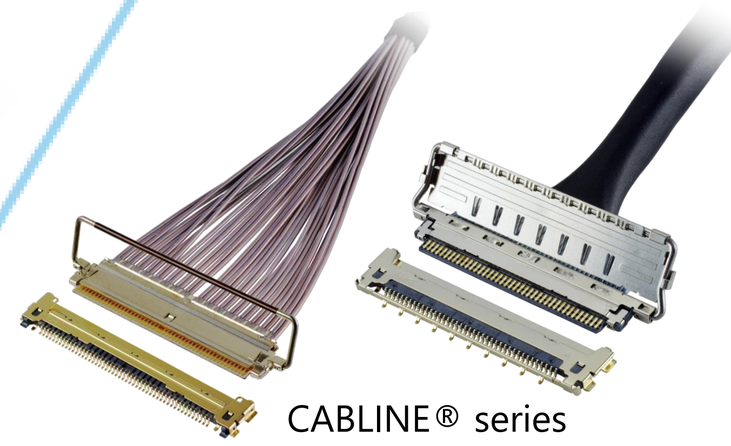
# Custom Connectors Available

## RF Connectors

MHF® series



## Micro-Coaxial/Twinaxial Connectors



CABLINE® series

## Wire-to-Board Connectors/ Terminals

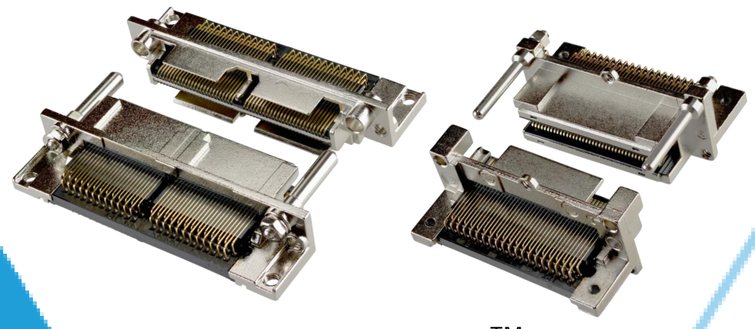
AP series



ISH® series



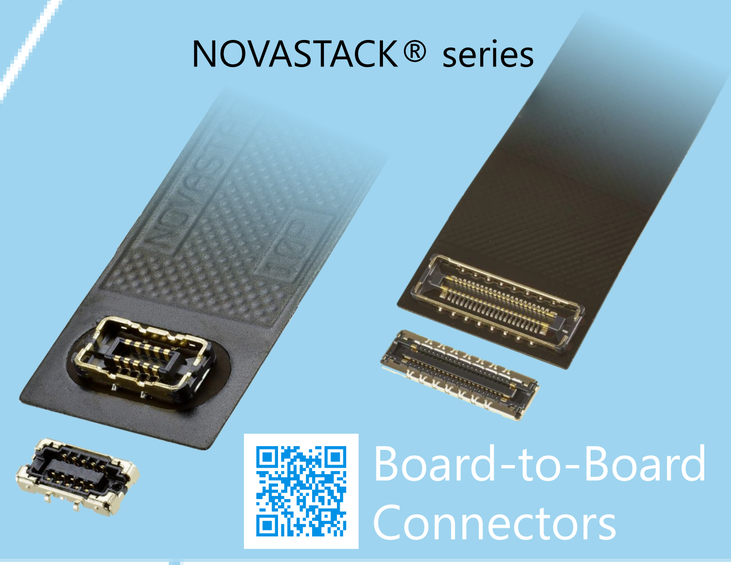
## I/O Connectors



MINIDOCK™ series

## Board-to-Board Connectors

NOVASTACK® series

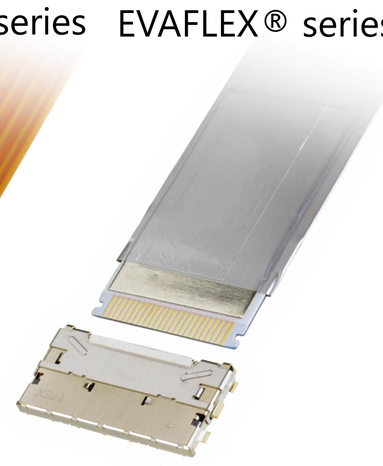


## FPC/FFC Connectors

MINIFLEX® series



EVAFLEX® series



## Inquiry

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Contact your sales representative or more detailed information.

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