



- ✓ Ideal for high frequency applications (5G mmWave, USB4 / Thunderbolt 3, etc.)
- ✓ ZenShield® fully-shielded design, decreases EMI issue caused by 5G applications
- ✓ Narrow depth and low height, fully-shielded board-to-board connector

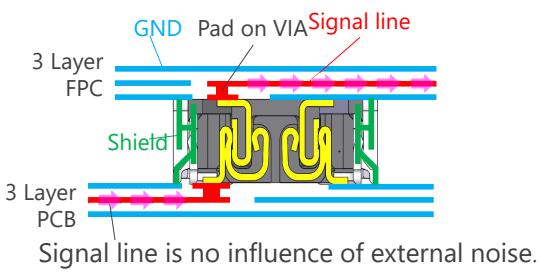
Pin counts:

|           |            |
|-----------|------------|
| Range     | Up to 60   |
| Available | 10, 20, 30 |

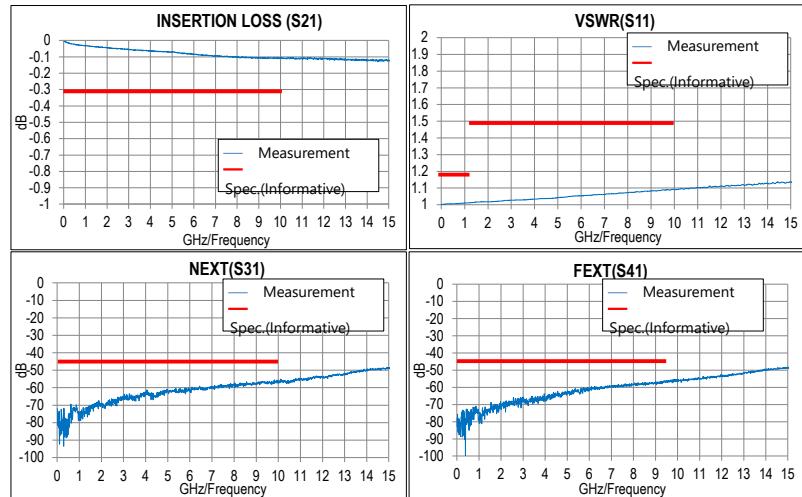
\*Please inquire for pin counts not listed or outside of the pin count range.

| Mating type                  | Board-to-board (FPC)  |
|------------------------------|---|
| Board pitch (mm)             | 0.35  |
| Height                       | 0.7 +/- 0.05  |
| Mated size (mm)              | 4.15 (10P)<br>5.90 (20P)<br>7.90 (30P)                                  |
| Depth                        | 2.15 mm   |
| Current Rating               | 1.0A / Pin (Max. 10P)<br>(12 pin and over : 12.0 A AC/DC (Total))       |
| Performance (Reference only) | USB® 3.1 (10 Gbps)<br>Thunderbolt 3 (20 Gbps)<br>mmWave for 5G (15 GHz) |

## Ideal for high frequency applications (5G mmWave, USB4 / Thunderbolt 3, etc.)

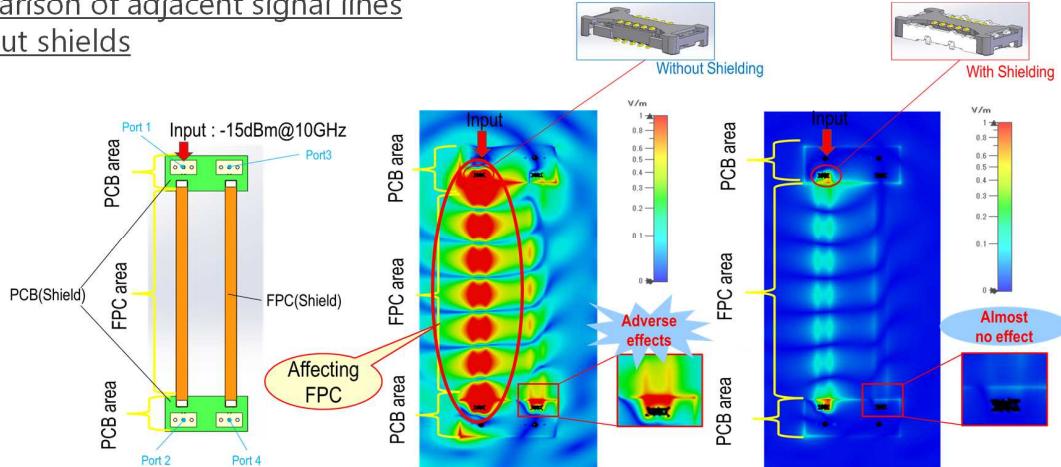


### ◆ Pin assignment



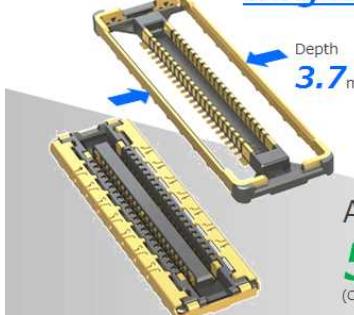
## ZenShield® fully-shielded design, decreases EMI issue caused by 5G applications

E-Field comparison of adjacent signal lines with or without shields



## Narrow depth and low height, fully-shielded board-to-board connector

### Targeting Smartphone



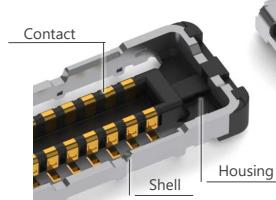
(Comparison of same position number)

Depth  
**2.15mm**

Depth  
**3.7mm**

Area  
**53% Down**

### PLUG



### RECEPTACLE

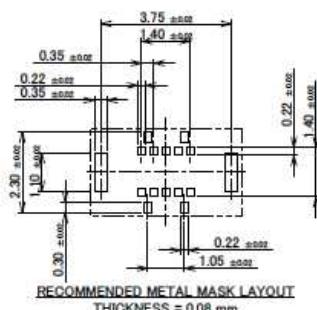
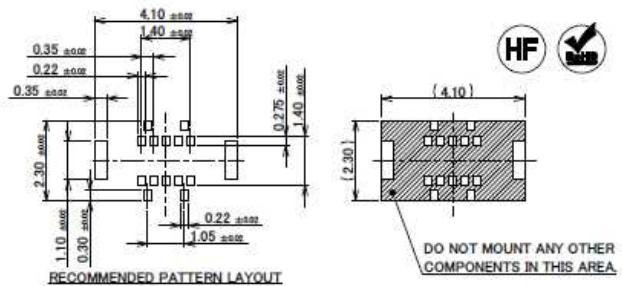
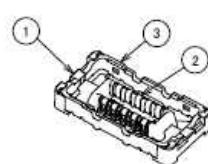
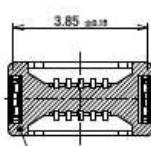
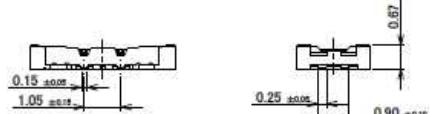
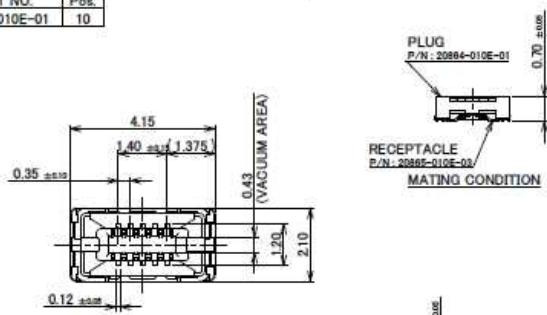


# NOVASTACK® 35-HDN

## Component Parts Detail

### Plug Assembly :

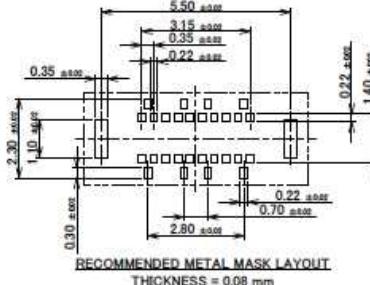
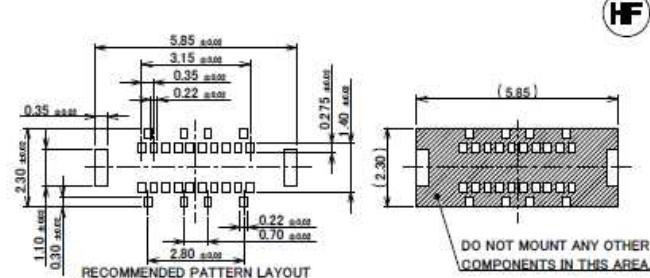
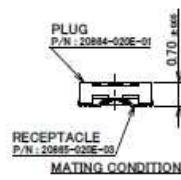
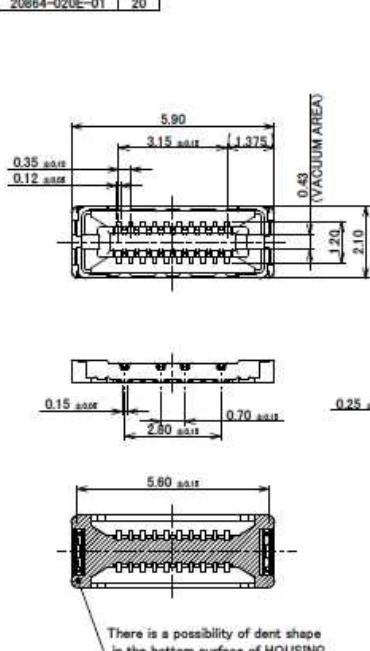
| Recommended P/N |      | 20864-010E-01 |
|-----------------|------|---------------|
| PART NO.        | Pos. |               |
| 20864-010E-01   | 10   |               |



| NO. | DESCRIPTION | MATERIAL     | FINISH  | REMARKS   |
|-----|-------------|--------------|---|---|
| 3   | SHELL       | COPPER ALLOY | SOLDERING PART Au 0.01 $\mu$ m MIN. OVER Ni 1.27 $\mu$ m MIN. |   |
| 2   | CONTACT     | COPPER ALLOY | CONTACT PART Au 0.05 $\mu$ m MIN. OVER Ni 1.27 $\mu$ m MIN.   | SOLDERING PART Au 0.01 $\mu$ m MIN. OVER Ni 1.27 $\mu$ m MIN. |
| 1   | HOUSING     | LCP          | UL94V-0, BLACK  |   |

## Plug Assembly :

|                 |               |
|-----------------|---------------|
| Recommended P/N | 20864-020E-01 |
| PART NO.        | Pos.          |

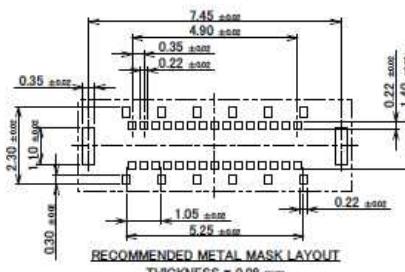
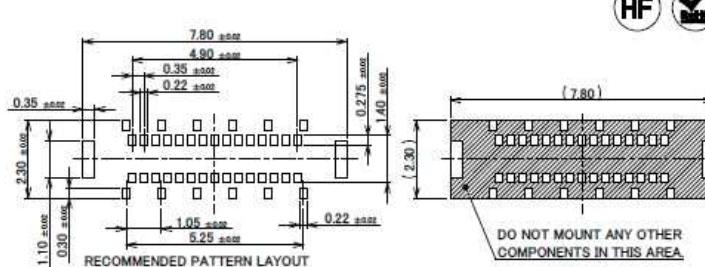
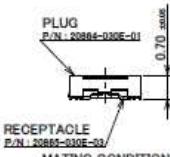
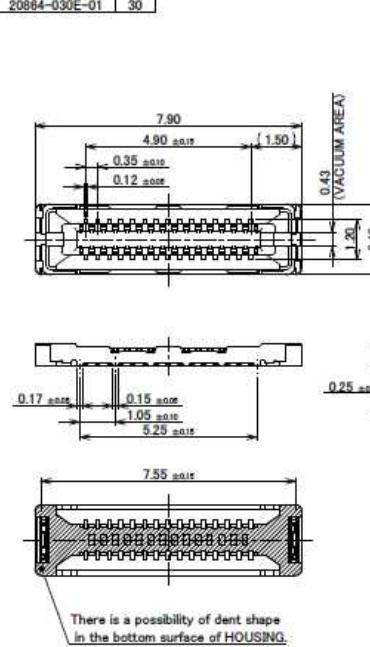


|     |             |              |   |
|-----|-------------|--------------|---|
| 3   | SHELL       | COPPER ALLOY | SOLDERING PART Au 0.01 $\mu$ m MIN. OVER Ni 1.27 $\mu$ m MIN. |
| 2   | CONTACT     | COPPER ALLOY | CONTACT PART Au 0.05 $\mu$ m MIN. OVER Ni 1.27 $\mu$ m MIN.   |
| 1   | HOUSING     | LCP          | SOLDERING PART Au 0.01 $\mu$ m MIN. OVER Ni 1.27 $\mu$ m MIN. |
| NO. | DISCRIPTION | MATERIAL     | FINISH, REMARKS   |

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## Plug Assembly :

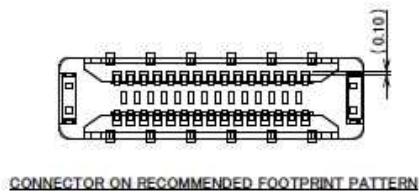
|                 |               |
|-----------------|---------------|
| Recommended P/N | 20864-030E-01 |
| PART NO.        | Pos.          |



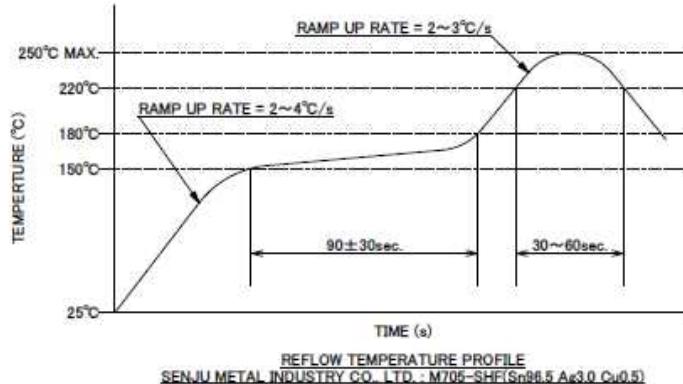
|     |             |              |   |
|-----|-------------|--------------|---|
| 3   | SHELL       | COPPER ALLOY | SOLDERING PART Au 0.01 $\mu$ m MIN. OVER Ni 1.27 $\mu$ m MIN. |
| 2   | CONTACT     | COPPER ALLOY | CONTACT PART Au 0.05 $\mu$ m MIN. OVER Ni 1.27 $\mu$ m MIN.   |
| 1   | HOUSING     | LCP          | SOLDERING PART Au 0.01 $\mu$ m MIN. OVER Ni 1.27 $\mu$ m MIN. |
| NO. | DISCRIPTION | MATERIAL     | FINISH, REMARKS   |

Rev.8

## Plug Assembly :



CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN



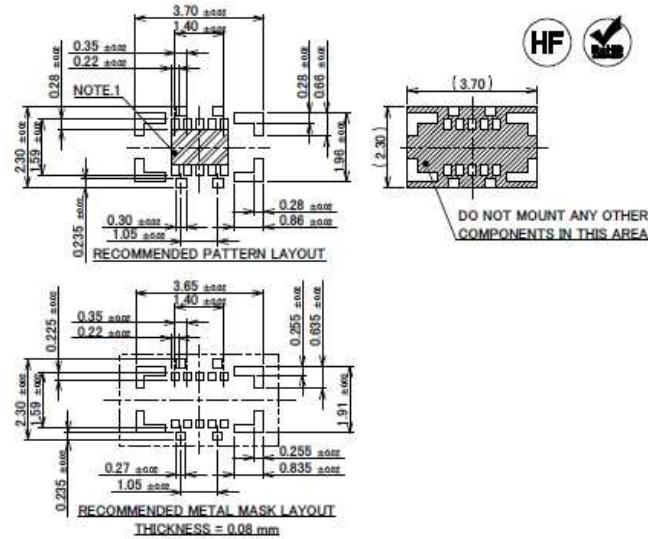
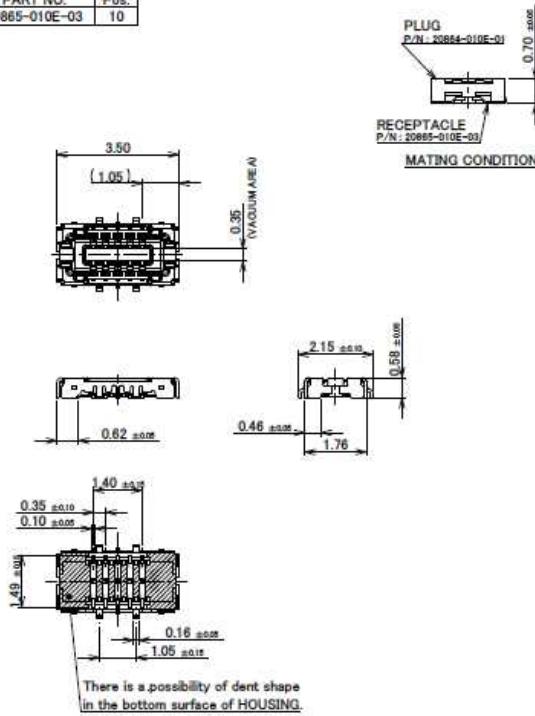
Rev.8

## Plug Assembly :

| ITEMS                                   | SPECIFICATION   |
|---|---|
| RATING VOLTAGE                          | 60V AC(r.m.s) / DC (PER A CONTACT)  |
| RATING AMPERAGE (FOR SIGNAL CONTACT)    | 10P:1.0 A MAX. AC/DC x PIN COUNTS = 10.0 A (TOTAL)<br>12P AND OVER : 12.0 A AC/DC (TOTAL) |
| OPERARING TEMPERATURE                   | 233~358K(-40°C~85°C)  |
| OPERATING HUMIDITY                      | 85% MAX.(NON-CONDENDING)  |
| CONTACT RESISTANCE (FOR SIGNAL CONTACT) | INITIAL : 40mohm MAX. / AFTER TEST : 140mohm MAX.   |
| CONTACT RESISTANCE (FOR GROUND)         | INITIAL : 20mohm MAX. / AFTER TEST : 120mohm MAX.   |
| INSULATION RESISTANCE                   | INITIAL : 1,000Mohm MIN. / AFTER TEST : 500Mohm MIN.                                      |
| DIELECTRIC WITHSTANDING VOLTAGE         | AC250V 1min   |
| DURABILITY                              | 10 CYCLES   |
| MATING FORCE (INITIAL / AFTER TEST)     | INITIAL 2.0N/Pin MAX.   |
| UNMATING FORCE (INITIAL / AFTER TEST)   | 10 CYCLES 0.15N/Pin MIN.  |
| COPLANARITY                             | 0.08 MAX  |
| PRODUCT SPECIFICATION                   | PRS-2807  |
| TEST REPORT                             | TR-19055  |
| PACKING STANDARD                        | PST-1B022   |
| INSTRUCTION MANUAL                      | HIM-18019   |
| APPEARANCE CRITERIA No.                 | QLS-A***  |

Rev.8

## Receptacle Assembly :



&lt;div[](https://www.gutenberg.org/cache/epub/10/pg10.html#notes)

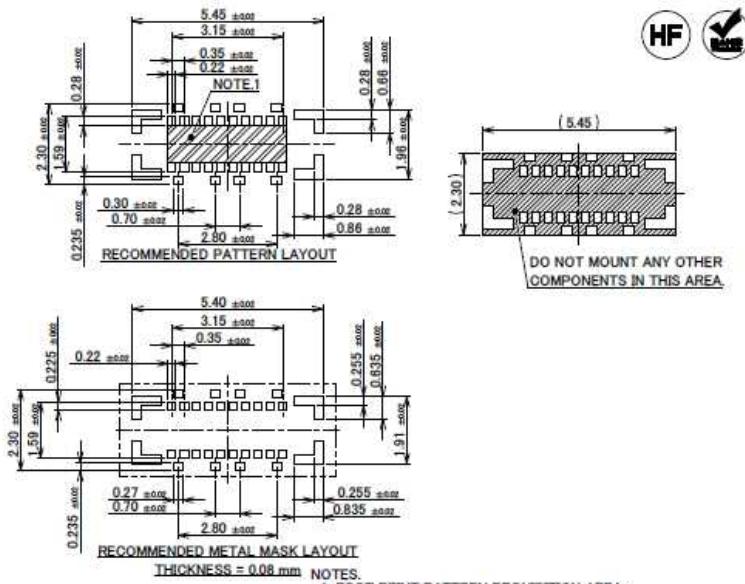
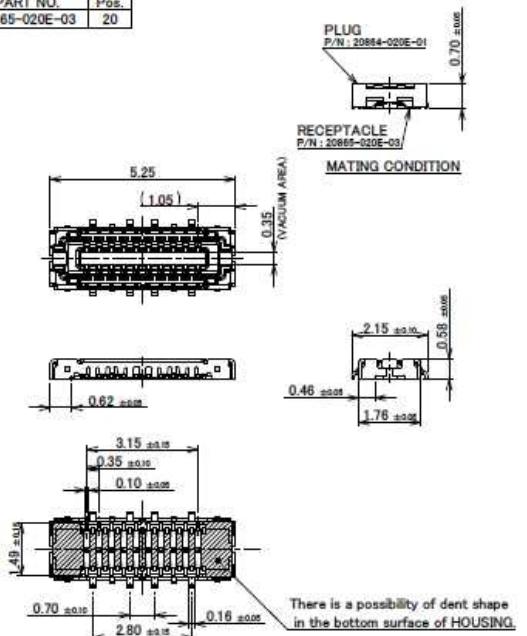
NOTES.  
1. FOOT PRINT PATTERN PROHIBITION AREA :  
SOLDER RESIST MUST BE APPLIED TO THIS HATCHED AREA  
IF SURFACE TRACES ARE ROUNDED.

|     |             |              |  |
|-----|-------------|--------------|--|
| 3   | SHELL       | COPPER ALLOY | SOLDERING PART Au 0.01 $\mu\text{m}$ MIN. OVER Ni 1.27 $\mu\text{m}$ MIN.  |
| 2   | CONTACT     | COPPER ALLOY | CONTACT PART Au 0.05 $\mu\text{m}$ MIN. OVER Ni 1.27 $\mu\text{m}$ MIN.<br>SOLDERING PART Au 0.01 $\mu\text{m}$ MIN. OVER Ni 1.27 $\mu\text{m}$ MIN. |
| 1   | HOUSING     | LCP          | UL94V-0 BLACK  |
| NO. | DESCRIPTION | MATERIAL     | FINISH, REMARKS  |

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## Receptacle Assembly:

|                 |               |
|-----------------|---------------|
| Recommended P/N | 20865-020E-03 |
| PART NO.        | Pos.          |
| 20865-020E-03   | 20            |



THICKNESS = 0.08 mm NOTES:

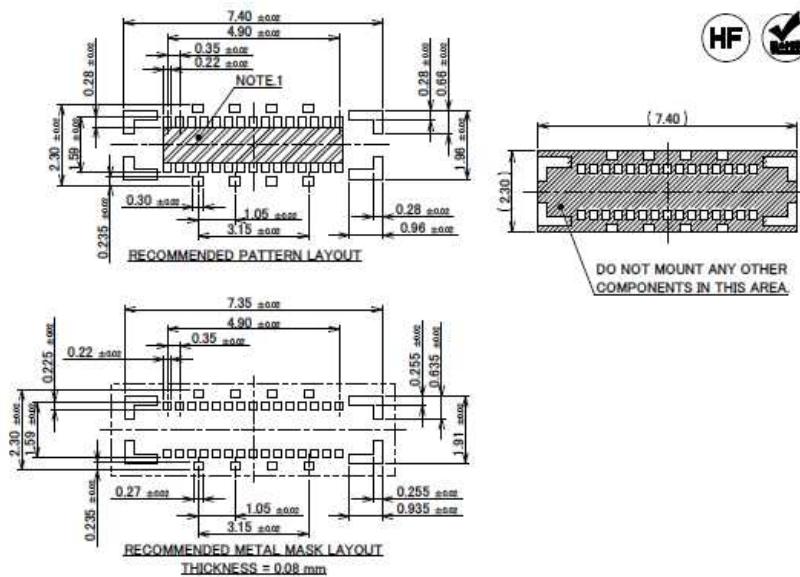
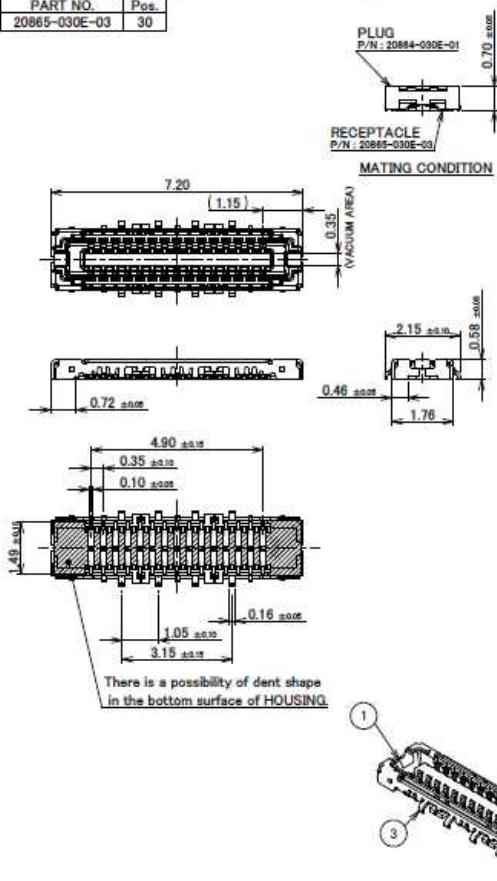
NOTES:  
1. FOOT PRINT PATTERN PROHIBITION AREA:  
SOLDER RESIST MUST BE APPLIED TO THIS HATCHED AREA  
IF SURFACE TRACES ARE ROUNDED.

| 3   | SHELL       | COPPER ALLOY | SOLDERING PART Au 0.01 $\mu$ m MIN. OVER NI 1.27 $\mu$ m MIN.  |
|-----|-------------|--------------|--|
| 2   | CONTACT     | COPPER ALLOY | CONTACT PART Au 0.05 $\mu$ m MIN. OVER NI 1.27 $\mu$ m MIN.<br>SOLDERING PART Au 0.01 $\mu$ m MIN. OVER NI 1.27 $\mu$ m MIN. |
| 1   | HOUSING     | LCP          | UL94V-0 BLACK  |
| NO. | DESCRIPTION | MATERIAL     | FINISH, REMARKS  |

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## Receptacle Assembly :

|                 |               |
|-----------------|---------------|
| Recommended P/N | 20865-030E-03 |
| PART NO.        | Pos.          |



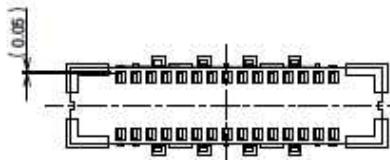
### NOTES.

- FOOT PRINT PATTERN PROHIBITION AREA :  
SOLDER RESIST MUST BE APPLIED TO THIS HATCHED AREA  
IF SURFACE TRACES ARE ROUTED.

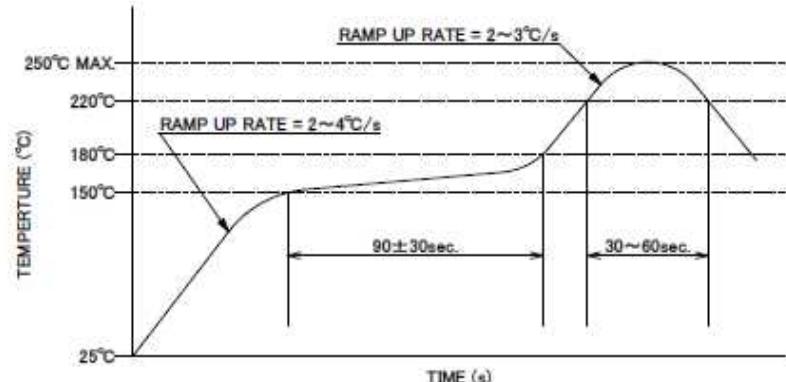
| NO. | DESCRIPTION | MATERIAL     | FINISH, REMARKS  |
|-----|-------------|--------------|--|
| 3   | SHELL       | COPPER ALLOY | SOLDERING PART Au 0.01 $\mu$ m MIN. OVER Ni 1.27 $\mu$ m MIN.  |
| 2   | CONTACT     | COPPER ALLOY | CONTACT PART Au 0.05 $\mu$ m MIN. OVER Ni 1.27 $\mu$ m MIN.<br>SOLDERING PART Au 0.01 $\mu$ m MIN. OVER Ni 1.27 $\mu$ m MIN. |
| 1   | HOUSING     | LCP          | UL94V-0 BLACK  |

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## Receptacle Assembly :



CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN



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

Rev.8

## Receptacle Assembly :

| ITEMS                                   | SPECIFICATION   |
|---|---|
| RATING VOLTAGE                          | 60V AC(r.m.s) / DC (PER A CONTACT)  |
| RATING AMPERAGE (FOR SIGNAL CONTACT)    | 10P:1.0 A MAX. AC/DC x PIN COUNTS = 10.0 A (TOTAL)<br>12P AND OVER : 12.0 A AC/DC (TOTAL) |
| OPERATING TEMPERATURE                   | 233~358K(-40°C~85°C)  |
| OPERATING HUMIDITY                      | 85% MAX(NON-CONDENSING)   |
| CONTACT RESISTANCE (FOR SIGNAL CONTACT) | INITIAL : 40mohm MAX. / AFTER TEST : 140mohm MAX.   |
| CONTACT RESISTANCE (FOR GROUND)         | INITIAL : 20mohm MAX. / AFTER TEST : 120mohm MAX.   |
| INSULATION RESISTANCE                   | INITIAL : 1,000Mohm MIN. / AFTER TEST : 500Mohm MIN.                                      |
| DIELECTRIC WITHSTANDING VOLTAGE         | AC250V 1min   |
| DURABILITY                              | 10 CYCLES   |
| MATING FORCE (INITIAL / AFTER TEST)     | INITIAL 2.0N/Pin MAX.   |
| UNMATING FORCE (INITIAL / AFTER TEST)   | 10 CYCLES 0.15N/Pin MIN.  |
| COPLANARITY                             | 0.08 MAX.   |
| PRODUCT SPECIFICATION                   | PRS-2607  |
| TEST REPORT                             | TR-19055  |
| PACKING STANDARD                        | PST-18023   |
| INSTRUCTION MANUAL                      | HIM-18019   |
| APPEARANCE CRITERIA No.                 | QLS-A***  |

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Contact your sales representative for more detailed information. [ [i-pex.com](http://i-pex.com) ]