

MINIFLEX® 3-BFNH

Improved retention force, footprint compatibility, 0.3 mm pitch, horizontal

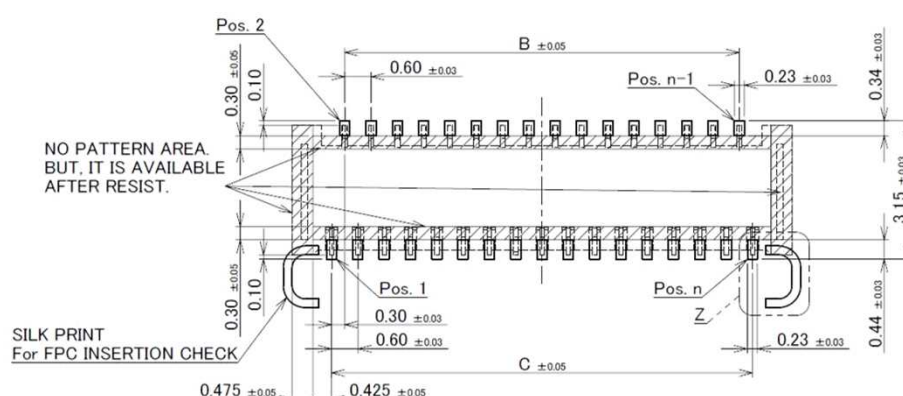
| Product Specifications: | | | Short Actuator | Long Actuator |
|-------------------------|-----------|------------|-----------------------------|---------------|
| Board Pitch (mm) | | | 0.3 | |
| Wiping Length (mm) | | Contact A: | 1.0 | |
| | | Contact B: | 0.45 | |
| Size (mm) | Height | | 0.90 +/- 0.10 | |
| | Width | | 1.5 +/- (0.3 * ?p) | |
| | Depth | | 2.95 | |
| Pin counts | Range | | 7-71 (odd) | 33-71 (odd) |
| | Available | | 7,9,11,21,23,31,35,39,41,45 | 51, 61, 71 |

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

| Applicable FPC/FFC: | |
|------------------------|----------------|
| FPC/FFC Contact Pitch | 0.3 |
| FPC/FFC Contact Point | Top and Bottom |
| FPC/FFC Thickness (mm) | 0.2 +/- 0.03 |

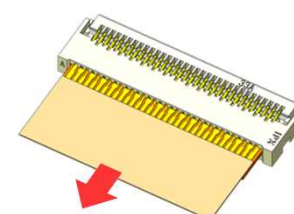
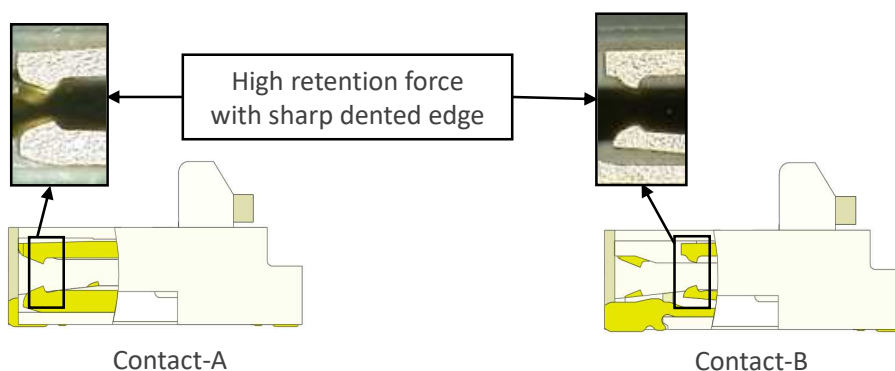


► Footprint compatible with industry standard products



| Short actuator | | | Long actuator | | |
|----------------|-------|-------|---------------|-------|-------|
| Pos. | B | C | Pos. | B | C |
| 7P | 1.20 | 1.80 | 51P | 14.40 | 15.00 |
| 9P | 1.80 | 2.40 | 61P | 17.40 | 18.00 |
| 11P | 2.40 | 3.00 | 71P | 20.40 | 21.00 |
| 21P | 5.40 | 6.00 | | | |
| 23P | 6.00 | 6.60 | | | |
| 31P | 8.40 | 9.00 | | | |
| 35P | 9.60 | 10.20 | | | |
| 39P | 10.80 | 11.40 | | | |
| 41P | 11.40 | 12.00 | | | |
| 45P | 12.60 | 13.20 | | | |

► Designed with sharp edge for stronger FPC retention force



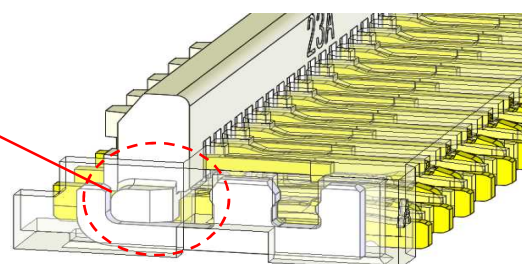
FPC retention force (39 p)

16.058 N

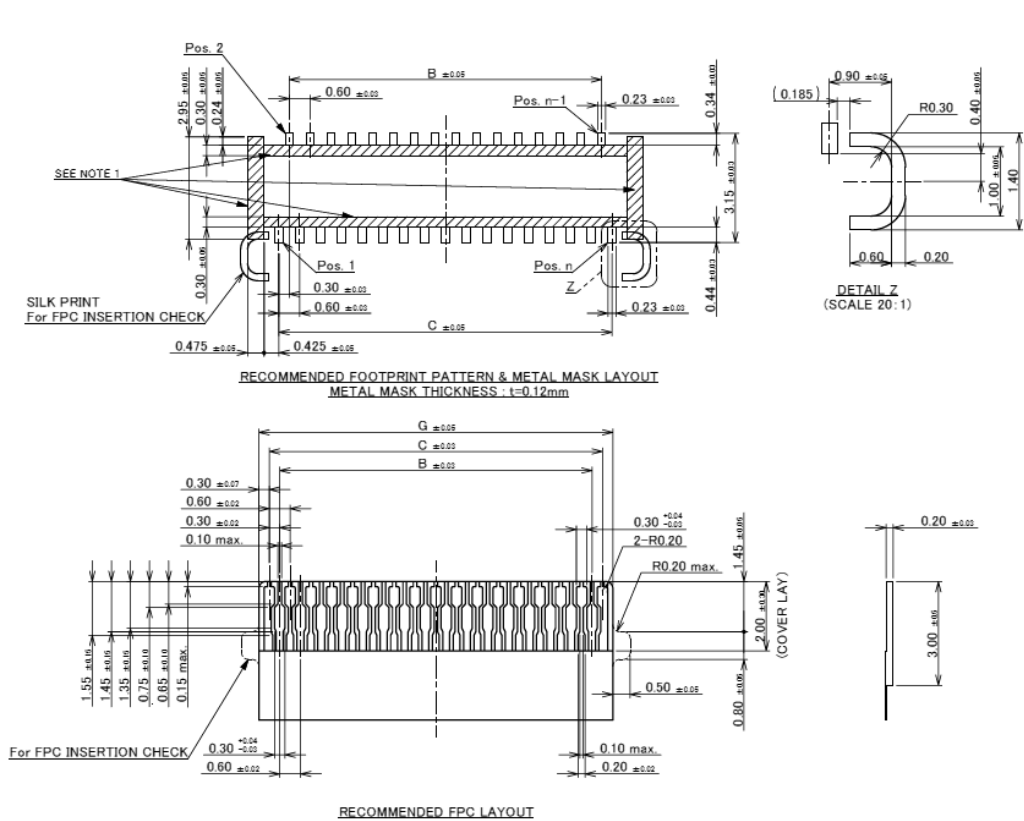
► Unique actuator holder design prevents actuator drop-off

Actuator holder parts act as a guard against actuator peel-off action

| |
|--|
| Actuator peel-off force (Actuator pulled outwards at 2 mm position from actuator edge.) |
| 8.35 N |



Connector Assembly

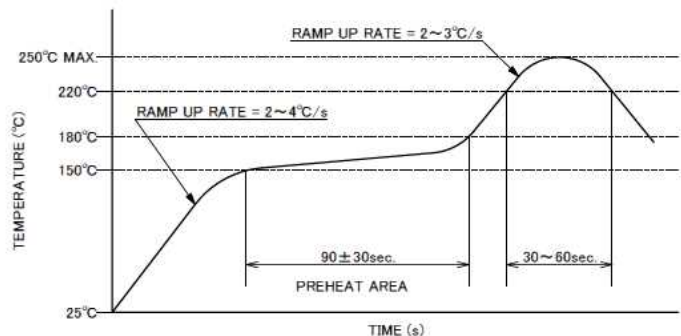
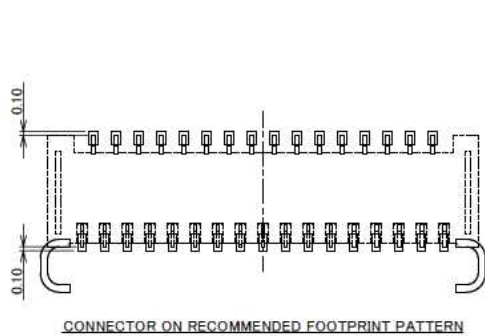


| PART No. | Pos. | B | C | G |
|----------------|------|-------|-------|-------|
| 20613-007E-02 | 7P | 1.20 | 1.80 | 2.40 |
| 20613-009E-02 | 9P | 1.80 | 2.40 | 3.00 |
| 20613-011E-02 | 11P | 2.40 | 3.00 | 3.60 |
| ◆20613-013E-02 | 13P | 3.00 | 3.60 | 4.20 |
| ◆20613-015E-02 | 15P | 3.60 | 4.20 | 4.80 |
| ◆20613-017E-02 | 17P | 4.20 | 4.80 | 5.40 |
| ◆20613-019E-02 | 19P | 4.80 | 5.40 | 6.00 |
| 20613-021E-02 | 21P | 5.40 | 6.00 | 6.60 |
| 20613-023E-02 | 23P | 6.00 | 6.60 | 7.20 |
| ◆20613-025E-02 | 25P | 6.60 | 7.20 | 7.80 |
| ◆20613-027E-02 | 27P | 7.20 | 7.80 | 8.40 |
| ◆20613-029E-02 | 29P | 7.80 | 8.40 | 9.00 |
| 20613-031E-02 | 31P | 8.40 | 9.00 | 9.60 |
| ◆20613-033E-02 | 33P | 9.00 | 9.60 | 10.20 |
| 20613-035E-02 | 35P | 9.60 | 10.20 | 10.80 |
| ◆20613-037E-02 | 37P | 10.20 | 10.80 | 11.40 |
| 20613-039E-02 | 39P | 10.80 | 11.40 | 12.00 |
| 20613-041E-02 | 41P | 11.40 | 12.00 | 12.60 |
| ◆20613-043E-02 | 43P | 12.00 | 12.60 | 13.20 |
| 20613-045E-02 | 45P | 12.60 | 13.20 | 13.80 |
| ◆20613-047E-02 | 47P | 13.20 | 13.80 | 14.40 |
| ◆20613-049E-02 | 49P | 13.80 | 14.40 | 15.00 |
| ◆20613-051E-02 | 51P | 14.40 | 15.00 | 15.60 |
| ◆20613-053E-02 | 53P | 15.00 | 15.60 | 16.20 |
| ◆20613-055E-02 | 55P | 15.60 | 16.20 | 16.80 |
| ◆20613-057E-02 | 57P | 16.20 | 16.80 | 17.40 |
| ◆20613-059E-02 | 59P | 16.80 | 17.40 | 18.00 |
| ◆20613-061E-02 | 61P | 17.40 | 18.00 | 18.60 |
| ◆20613-071E-02 | 71P | 20.40 | 21.00 | 21.60 |

◆ MARK MEANS NOT AVAILABLE

NOTE
1. SOLDER RESIST MUST BE APPLIED TO THIS AREA.

Rev.14



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

Connector Assembly

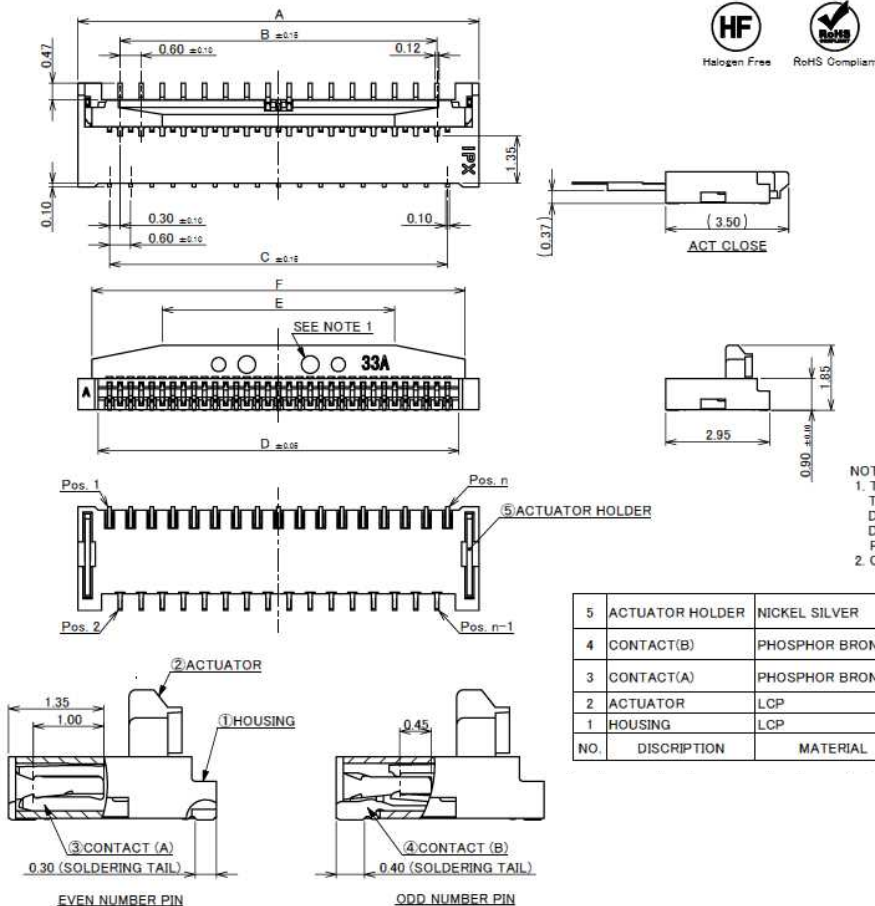
| ITEMS | SPECIFICATION |
|--|---|
| RATING VOLTAGE | 50V AC/DC (PER CONTACT PIN) |
| RATING AMPERAGE | 0.3A DC (PER CONTACT PIN) |
| OPERATING TEMPERATURE | 233~358K(-40°C~+85°C) |
| OPERATING HUMIDITY | 85% MAX.(NON-CONDENSING) |
| CONTACT RESISTANCE | INITIAL : 60mohm MAX. / AFTER TEST : 440mohm MAX. |
| INSULATION RESISTANCE | 100Mohm MIN. |
| DIELECTRIC WITHSTANDING VOLTAGE | AC250V 1min |
| DURABILITY | 20TH CYCLES |
| ACTUATOR LOCKING FORCE (INITIAL / 20TH CYCLES) | INITIAL : 0.35N(31gf) × n MAX. / 20TH CYCLES : 0.35N(31gf) × n MAX. |
| ACTUATOR UNLOCKING FORCE (INITIAL / 20TH CYCLES) | INITIAL : 0.02N(2gf) × n MIN. / 20TH CYCLES : 0.02N(2gf) × n MIN. |
| FPC RETENTION FORCE (INITIAL / AFTER TEST) | INITIAL : 0.13N(13gf) × n MIN. / AFTER TEST : 0.10N(10gf) × n MIN. |
| COPLANARITY | 0.10 MAX. |
| PRODUCT SPECIFICATION | PRS-1846 |
| TEST REPORT | TR-13104 |
| PACKING STANDARD | PST-13054 |
| INSTRUCTION MANUAL | HIM-14004 |
| APPEARANCE CRITERIA No. | QLS-A*** |

※ "n" IS THE NUMBER OF PIN

CAUTION PLEASE BE SURE TO READ AND UNDERSTAND "INSTRUCTION MANUAL" BEFORE YOU USE OUR PRODUCTS.

Rev.14

Recommended P/N 20605-0**E-02



| PART No. | Pos. | A | B | C | D | E | F |
|----------------|------|-------|-------|-------|-------|-------|-------|
| ◆20605-033E-02 | 33P | 11.40 | 9.00 | 9.60 | 10.25 | 6.25 | 10.60 |
| ◆20605-035E-02 | 35P | 12.00 | 9.60 | 10.20 | 10.85 | 6.85 | 11.20 |
| ◆20605-037E-02 | 37P | 12.60 | 10.20 | 10.80 | 11.45 | 7.45 | 11.80 |
| ◆20605-039E-02 | 39P | 13.20 | 10.80 | 11.40 | 12.05 | 8.05 | 12.40 |
| ◆20605-041E-02 | 41P | 13.80 | 11.40 | 12.00 | 12.65 | 8.65 | 13.00 |
| ◆20605-043E-02 | 43P | 14.40 | 12.00 | 12.60 | 13.25 | 9.25 | 13.60 |
| ◆20605-045E-02 | 45P | 15.00 | 12.60 | 13.20 | 13.85 | 9.85 | 14.20 |
| ◆20605-047E-02 | 47P | 15.60 | 13.20 | 13.80 | 14.45 | 10.45 | 14.80 |
| ◆20605-049E-02 | 49P | 16.20 | 13.80 | 14.40 | 15.05 | 11.05 | 15.40 |
| ◆20605-051E-02 | 51P | 16.80 | 14.40 | 15.00 | 15.65 | 11.65 | 16.00 |
| ◆20605-053E-02 | 53P | 17.40 | 15.00 | 15.60 | 16.25 | 12.25 | 16.60 |
| ◆20605-055E-02 | 55P | 18.00 | 15.60 | 16.20 | 16.85 | 12.85 | 17.20 |
| ◆20605-057E-02 | 57P | 18.60 | 16.20 | 16.80 | 17.45 | 13.45 | 17.80 |
| ◆20605-059E-02 | 59P | 19.20 | 16.80 | 17.40 | 18.05 | 14.05 | 18.40 |
| ◆20605-061E-02 | 61P | 19.80 | 17.40 | 18.00 | 18.65 | 14.65 | 19.00 |
| ◆20605-071E-02 | 71P | 22.80 | 20.40 | 21.00 | 21.65 | 16.65 | 22.00 |

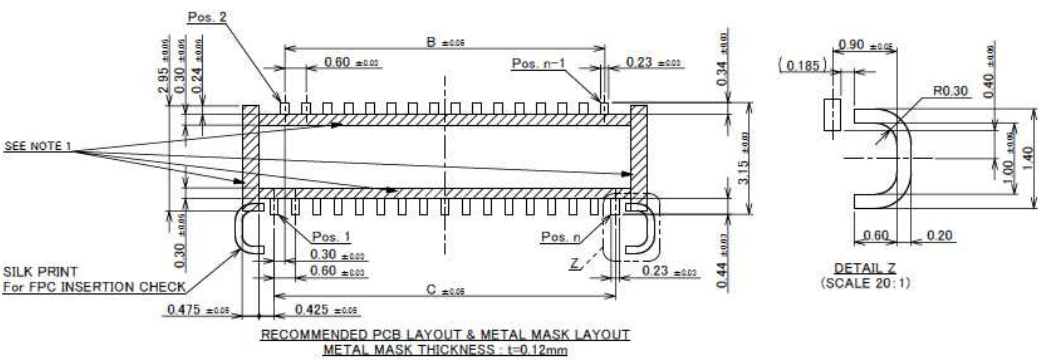
◆ MARK MEANS NOT AVAILABLE

NOTES.
1. THIS DENT SHAPE IS PURPOSED FOR GOOD INJECTION QUALITY.
THIS DENT SHAPE WILL NOT AFFECT CONNECTOR FUNCTION.
DENT SHAPE SHOWN ON DRAWING IS JUST FOR REFERENCE.
DENT SHAPE AND QUANTITY MIGHT CHANGE FROM DIFFERENT
PIN COUNT AND DIFFERENT TOOLING.
2. CONTACT POINT: TOP AND BOTTOM CONTACT

| NO. | DISCRIPTION | MATERIAL | REMARKS |
|-----|-----------------|-----------------|---|
| 5 | ACTUATOR HOLDER | NICKEL SILVER | |
| 4 | CONTACT(B) | PHOSPHOR BRONZE | CONTACT AREA : Au 0.1 μm MIN. OVER Ni 1.0 μm MIN. SOLDERING AREA : Au 0.03 μm MIN. OVER Ni 1.0 μm MIN. |
| 3 | CONTACT(A) | PHOSPHOR BRONZE | CONTACT AREA : Au 0.1 μm MIN. OVER Ni 1.0 μm MIN. SOLDERING AREA : Au 0.03 μm MIN. OVER Ni 1.0 μm MIN. |
| 2 | ACTUATOR | LCP | UL94V-0, BEIGE |
| 1 | HOUSING | LCP | UL94V-0, BEIGE |

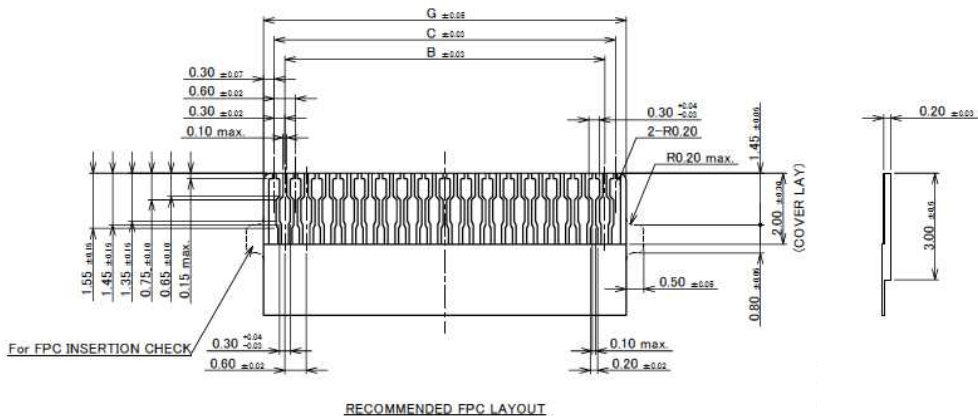
Rev.11

Connector Assembly



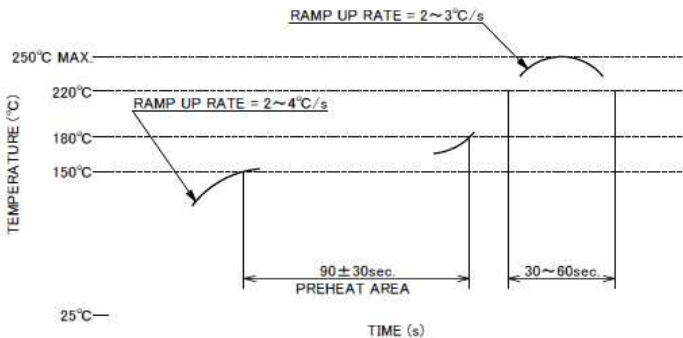
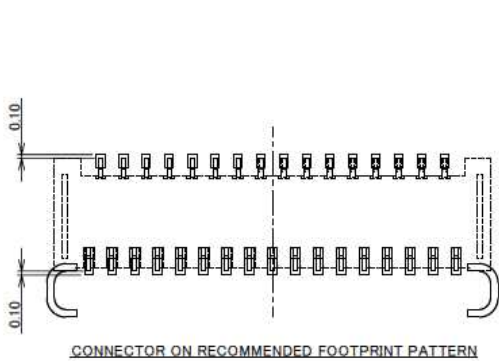
| PART No. | Pos. | B | C | G |
|----------------|------|-------|-------|-------|
| ◆20605-033E-02 | 33P | 9.00 | 9.60 | 10.20 |
| ◆20605-035E-02 | 35P | 9.60 | 10.20 | 10.80 |
| ◆20605-037E-02 | 37P | 10.20 | 10.80 | 11.40 |
| ◆20605-039E-02 | 39P | 10.80 | 11.40 | 12.00 |
| ◆20605-041E-02 | 41P | 11.40 | 12.00 | 12.60 |
| ◆20605-043E-02 | 43P | 12.00 | 12.60 | 13.20 |
| ◆20605-045E-02 | 45P | 12.60 | 13.20 | 13.80 |
| ◆20605-047E-02 | 47P | 13.20 | 13.80 | 14.40 |
| ◆20605-049E-02 | 49P | 13.80 | 14.40 | 15.00 |
| ◆20605-051E-02 | 51P | 14.40 | 15.00 | 15.60 |
| ◆20605-053E-02 | 53P | 15.00 | 15.60 | 16.20 |
| ◆20605-055E-02 | 55P | 15.60 | 16.20 | 16.80 |
| ◆20605-057E-02 | 57P | 16.20 | 16.80 | 17.40 |
| ◆20605-059E-02 | 59P | 16.80 | 17.40 | 18.00 |
| ◆20605-061E-02 | 61P | 17.40 | 18.00 | 18.60 |
| ◆20605-071E-02 | 71P | 20.40 | 21.00 | 21.60 |

◆MARK MEANS NOT AVAILABLE.



NOTE
1. SOLDER RESIST MUST BE APPLIED TO THIS AREA.

Rev.11



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

Rev.11

Connector Assembly

| ITEMS | SPECIFICATION |
|--|---|
| RATING VOLTAGE | 50V AC/DC (PER CONTACT PIN) |
| RATING AMPERAGE | 0.3A DC (PER CONTACT PIN) |
| OPERATING TEMPERATURE | 233~358K(-40°C~+85°C) |
| OPERATING HUMIDITY | 85% MAX (NON-CONDENSING) |
| CONTACT RESISTANCE | INITIAL : 60mohm MAX. / AFTER TEST : \triangle 40mohm MAX. |
| INSULATION RESISTANCE | 100Mohm MIN. |
| DIELECTRIC WITHSTANDING VOLTAGE | AC250V 1min |
| DURABILITY | 20TH CYCLES |
| ACTUATOR LOCKING FORCE (INITIAL / 20TH CYCLES) | INITIAL : 0.245N (24.5gf) \times n MAX. / 20TH CYCLES : 0.245N (24.5gf) \times n MAX. |
| ACTUATOR UNLOCKING FORCE (INITIAL / 20TH CYCLES) | INITIAL : 0.014N (1.4gf) \times n MIN. / 20TH CYCLES : 0.014N (1.4gf) \times n MIN. |
| FPC RETENTION FORCE (INITIAL / AFTER TEST) | INITIAL : 0.13N (13gf) \times n MIN. / AFTER TEST : 0.10N (10gf) \times n MIN. |
| COPLANARITY | 0.10 MAX. |
| PRODUCT SPECIFICATION | PRS-1920 |
| TEST REPORT | TR-14022 |
| PACKING STANDARD | PST-14013 |
| INSTRUCTION MANUAL | HIM-14004 |
| APPEARANCE CRITERIA | QLS-A*** |

※ "n" IS THE NUMBER OF PIN



PLEASE BE SURE TO READ AND UNDERSTAND "INSTRUCTION MANUAL" BEFORE YOU USE OUR PRODUCTS.

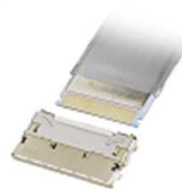
Board to
Board



High-Density



Autolocking
FPC/FFC



High-Density



FPC/FFC



Micro-Coaxial
/ Discrete Cable



High-Speed



RF



High-Frequency



Optical
Module



High-Speed



Power



High-Power



I/O
(Input/Output)



Quick charge



Effector



Custom
Connectors
Available

Inquiry



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Contact your sales representative
or more detailed information.

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