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In case of consideration for using Automotive equipment / device which demand high reliability, kindly contact our sales window correspondents.

| APPLICABLE STANDARD | | | | | |
|---|--|------------------------------------|--|---|---|
| RATING | Operating temperature range | -55 °C to 125 °C (<i>note 1</i>) | Storage temperature range | -10°C TO 60°C(Packed condition) | |
| | Voltage | 50V AC / DC | Operating or storage humidity range | Relative humidity 90 % MAX(Not dewed) | |
| | Current | 0.50 A | Applicable cable (FPC/FFC) | t=0.3±0.05mm, Gold plating (Ground plate : Tin plating) | |
| SPECIFICATIONS | | | | | |
| ITEM | TEST METHOD | | REQUIREMENTS | QT | AT |
| CONSTRUCTION | | | | | |
| General examination | Visually and by measuring instrument. | | According to drawing. (<i>note 2</i>) | × | × |
| Marking | Confirmed visually. | | | × | × |
| ELECTRICAL CHARACTERISTICS | | | | | |
| Voltage proof | 150 V AC for 1 min. | | No flashover or breakdown. | × | — |
| Insulation resistance | 100 V DC. | | 500 MΩ MIN. | × | — |
| Contact resistance | AC 20 mV MAX , 1 mA . | | 100 mΩ MAX. Including FPC/FFC bulk resistance (L=8mm(FPC) , 20mm(FFC)) | × | — |
| MECHANICAL CHARACTERISTICS | | | | | |
| Vibration | Frequency 10 to 55 Hz, half amplitude 0.75 mm, for 10 cycles in 3 axial directions. | | ① No electrical discontinuity of 1 μs. ② Contact resistance: 100 mΩ MAX. ③ No damage, crack and looseness of parts. | × | — |
| Shock | 981 m/s ² , duration of pulse 6 ms at 3 times in 3 both axial directions. | | | × | — |
| Mechanical operation | 10 times insertions and extractions. | | ① Contact resistance: 100 mΩ MAX. ② No damage, crack and looseness of parts. | × | — |
| FPC/FFC insertion/extraction force | Measured by applicable FPC/FFC. (Thickness of FPC/FFC shall be t=0.3mm at initial condition.) | | Insertion force : Direction of insertion (n : Number of contacts) 4+0.3×n N MAX (FPC/FFC) (<i>note 3</i>) 4+0.39×n N MAX (Shielded FFC) (<i>note 3</i>) Extraction force : Direction of extraction (n : Number of contacts) 8.5+0.16×n N MAX (FPC/FFC) (<i>note 3</i>) 8.5+0.2×n N MAX (Shielded FFC) (<i>note 3</i>) | × | — |
| FPC/FFC retention force | Measured by applicable FPC/FFC. (Thickness of FPC/FFC shall be t=0.3mm at initial condition.) | | Direction of extraction (n : Number of contacts) 18+0.05×n N MIN (FPC/FFC) (<i>note4</i>) 7+0.11×n N MIN (Shielded FFC) (<i>note4</i>) | × | — |
| ENVIRONMENTAL CHARACTERISTICS | | | | | |
| Rapid change of temperature | Temperature -40→+15TO+35→+125→+15TO+35°C Time 30→ 2 to 3 → 30 → 2 to 3 min Under 5 cycles. | | ① Contact resistance: 100 mΩ MAX. ② Insulation resistance: 50 MΩ MIN. ③ No damage, crack and looseness of parts. | × | — |
| Damp heat (Steady state) | Exposed at 60±2 °C, Relative humidity 90 to 95 %, 96 h. | | | × | — |
| Damp heat,cyclic | Exposed at -10 to +65 °C, Relative humidity 90 to 96 %, 10 cycles, TOTAL 240 h. | | ① Contact resistance: 100 mΩ MAX. ② Insulation resistance: 1 MΩ MIN. (At high humidity) ③ Insulation resistance: 50 MΩ MIN. (At dry) ④ No damage, crack and looseness of parts | × | — |
| | COUNT | DESCRIPTION OF REVISIONS | DESIGNED | CHECKED | DATE |
|  | 1 | DIS-F-00006186 | KN. KOBAYASHI | HS. HIRAHARA | 20200615 |
| REMARK | | | APPROVED | HS. SAKAMOTO | 20190409 |
| | | | CHECKED | HS. SAKAMOTO | 20190409 |
| | | | DESIGNED | RT. IKEDA | 20190409 |
| Unless otherwise specified, refer to IEC 60512. | | | DRAWN | NM. YONEYAMA | 20190409 |
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test | | | DRAWING NO. | | ELC-388109-00-00 |
|  | SPECIFICATION SHEET | | PART NO. | FH63S-**S-0.5SH | |
| | HIROSE ELECTRIC CO., LTD. | | CODE NO. | CL580 |  1/2 |

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SPECIFICATIONS

| ITEM | TEST METHOD | REQUIREMENTS | QT | AT |
|---------------------------------------|--|--|----|----|
| Dry heat | Exposed at 125±2°C, 96 h. | ① Contact resistance: 100 mΩ MAX. | × | — |
| Cold | Exposed at -55±3°C, 96 h. | ② No damage, crack and looseness of parts | × | — |
| Sulphur dioxide [JIS C 60068-2-42] | Exposed at 40±2 °C, Relative humidity 80±5% 25±5 ppm for 96 h. | ① Contact resistance: 100 mΩ MAX. | × | — |
| Solderability | Soldered at solder temperature, 245±3°C for immersion duration,3±0.3 sec. | A new uniform coating of solder shall cover a minimum of 95 % of the surface being immersed. | × | — |
| Resistance to soldering heat | 1) Reflow soldering : Peak TMP. 250 °C MAX . Reflow TMP. over 220 °C 60 to 90 sec. Number of reflow : 2 times 2) Soldering irons : TMP. 350±10 °C for 5±1 sec . | No deformation of case of excessive looseness of the terminals. (note 5) | × | — |

(note 1)



The heat resistant temperature when using FFC is 105°C.

When the heat resistant temperature of FPC/FFC is less than 125°C/105°C, the heat resistant temperature of FPC/FFC is applied.

(note 2)

This product features bottom-contact point.

"One Action Lock" completes FPC/FFC lock just by inserting the FPC/FFC.

Do not operate the actuator when inserting the FPC/FFC.

(note 3)

Do not insert the FPC/FFC to this product at an angle.

(note 4)

Stabilize the FPC/FFC to PCB or something fixed, if pull-up or pull-down force is expected to be applied to the FPC/FFC.

There's a case with FPC/FFC retention force doesn't fulfill the value, because FPC/FFC specification affects the result of FPC/FFC retention force.

(note 5)

Blisters which may be generated on the housing do not affect product performance.

(note 6)

The occurrence and the length of whisker, and the performance deterioration caused by it are out of the scope of this specification

| | | | | | |
|--|---------------------------|-------------|----------|------------------|-----|
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