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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 $\Delta$	-55 °C to 105 °C ( <b>note 1</b> )	Storage temperature range -10 °C to 50°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. ( <b>note 2</b> )	×	×	
Marking	Confirmed visually.		×	×	
ELECTRICAL CHARACTERISTICS					
Voltage proof	150 V AC for 1 min.	No 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.	×	—	
Shock	981 m/s <sup>2</sup> , duration of pulse 6ms at 3 times in 3 both axial directions.	③ No damage, crack and looseness of parts.	×	—	
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) ( <b>note 3</b> ) 4+0.39×n N MAX (Shielded FFC) ( <b>note 3</b> ) Extraction force : Direction of extraction (n : Number of contacts) 8.5+0.16×n N MAX (FPC/FFC) ( <b>note 3</b> ) 8.5+0.2×n N MAX (Shielded FFC) ( <b>note 3</b> )	×	—	
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) ( <b>note 4</b> ) 7+0.11×n N MIN (Shielded FFC) ( <b>note 4</b> )	×	—	
ENVIRONMENTAL CHARACTERISTICS					
Rapid change of temperature $\Delta$	Temperature -55→+15 to +35→+105→+15 to +35°C Time 30→ 2 to 3 → 30 → 2 to 3 min Under 1000 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 %, 1000 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
$\Delta$	3	DIS-F-00020408	NT. MATSUKAWA	HY. YAMAZAKI	20240510
REMARK			APPROVED	KN. SHIBUYA	20231207
			CHECKED	HS. HIRAHARA	20231207
			DESIGNED	TA. SUZUKI	20231207
Unless otherwise specified, refer to IEC 60512.			DRAWN	TA. SUZUKI	20231207
Note QT:Qualification Test AT:Assurance Test X:Applicable Test			DRAWING NO.	ELC-388109-01-00	
<b>HRS</b>	SPECIFICATION SHEET		PART NO.	FH63S-**S-0.5SH(01)	
	HIROSE ELECTRIC CO., LTD.		CODE NO.	CL0580	$\Delta$ 1/2

SPECIFICATIONS					
ITEM	TEST METHOD	REQUIREMENTS	QT	AT	
Dry heat	Exposed at 105±2 °C, 1000 h.	① Contact resistance: 100 mΩ MAX.	×	—	
Cold 	Exposed at -55±3 °C, 1000 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. ( <b>note 5</b> )	×	—	
<p><b>(note 1)</b> When the heat resistant temperature of FPC/FFC is less than 105°C, the heat resistant temperature of FPC/FFC is applied.</p> <p><b>(note 2)</b> 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.</p> <p><b>(note 3)</b> Do not insert the FPC/FFC to this product at an angle.</p> <p><b>(note 4)</b> 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 which FPC/FFC retention force doesn't fulfill the value, because FPC/FFC specification affects the result of FPC/FFC retention force.</p> <p><b>(note 5)</b> Blisters which may be generated on the housing do not affect product performance.</p> <p><b>(note 6)</b> The occurrence and the length of whisker, and the performance deterioration caused by it are out of the scope of this specification.</p>					
Note QT:Qualification Test AT:Assurance Test X:Applicable Test		DRAWING NO.	ELC-388109-01-00		
	SPECIFICATION SHEET		PART NO.	FH63S-***S-0. 5SH (01)	
	HIROSE ELECTRIC CO., LTD.		CODE NO	CL0580	 2/2