

Customer:

No. SW945497 A

ALPS ELECTRIC EUROPA GMBH

Date: Mar. 14 '94

Attention:

Your ref. No.: 15 1058

Your Part No.: STSSS2121

SPECIFICATIONS

ALPS:

STSSS2121

00

MODEL:

F.E.C. No. 733-568

Sample No.: F3711036M
SSSS21382A

RECEIPT STATUS
RECEIVED
By. Date _____
Signature _____
Name _____
Title _____

ALPS ELECTRIC CO., LTD.

DSG' D M. Kishi

APP' D T. Maruyama
ENG. DEPT. DIVISION

HEAD OFFICE
1-7, YUKIGAYA-OHTSUKA-CHO,
OHTA-KU, TOKYO 145 JAPAN

Sales

SSSS2-S-801		PRODUCT SPECIFICATIONS												
		Test conditions		Criterion										
5.8	Solderability	Switch shall be checked after following test. (1) Solder : H83A (JIS Z 3282) (2) Flux : Rosin flux (JIS K 5902) having a nominal composition of 25% solids by weight of water white rosin in methyl alcohol (JIS K 1501)solution. (3) Soldering temperature : 230±5°C Immersing time : 3±0.5 s Flux immersing time shall be 5~10 seconds in normal temperature (4) Immersion depth : Immersion depth shall be at copper plating portion for P.C.B. terminal after mounting. Thickness of P.C. board : 1.6 mm Immersion depth shall be at wiring portion of lead wire for lead wire terminal.												
5.9	Soldering heat resistance	Switch shall be measured after following test. (1) Solder : H83A (JIS Z 3282) (2) Flux : Rosin flux (JIS K 5902) having a nominal composition of 10% solids by weight of water white rosin in methyl alcohol (JIS K 1501)solution. (3) Temperature and immersing time <table border="1" style="margin: 5px auto;"> <thead> <tr> <th></th> <th>Temperature (°C)</th> <th>Time (s)</th> </tr> </thead> <tbody> <tr> <td>Dip soldering</td> <td>260±5</td> <td>5.9</td> </tr> <tr> <td>Manual soldering</td> <td>350±10</td> <td>4 MAX</td> </tr> </tbody> </table> (4) Immersion depth : Immersion depth shall be at copper plating portion for P.C.B. terminal after mounting. Thickness of P.C. board (Single sided copper clad P.C.B.) : 1.6mm					Temperature (°C)	Time (s)	Dip soldering	260±5	5.9	Manual soldering	350±10	4 MAX
	Temperature (°C)	Time (s)												
Dip soldering	260±5	5.9												
Manual soldering	350±10	4 MAX												
6. Durability														
		Test conditions		Criterion										
6.1	Operating life without load	Switch shall be operated 10,000 cycles at 15~20 cycles/minute without load.												
6.2	Operating life with load	Switch shall be operated 10,000 cycles at 15~20 cycles/minute with <u>6</u> V DC <u>0.3</u> A. (Resistive load)												
7. Weather proof														
		Test conditions		Criterion										
7.1	Cold proof	After testing at -10±2°C for 98 hours, the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour, and then measurement shall be made within 1 hour. Water drops shall be removed.												
		APPD.	CHKD.	DSGD.	TITLE									
		M.	S.	Jun 7. '93										
		Kinya Takahashi Yumura			DRAWING NO.									
PAGE	SYMB	DATE	APPD	CHKD	DSGD									

SSSS2-S-801 PRODUCT SPECIFICATIONS

	Items	Test conditions	Criterion
7.2	Dry heat	After testing at $65 \pm 2^\circ\text{C}$ for 96 hours, the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour, and then measurement shall be made within 1 hour.	Contact resistance (Item 4.1) : <u>100</u> $\text{m}\Omega$ MAX Insulation resistance (Item 4.2) : <u>10</u> $\text{M}\Omega$ MIN Voltage proof (Item 4.3) : Apply <u>500</u> V AC for 1 minute. No dielectric breakdown shall occur. Operating force (Item 5.1) : Within $\frac{+10}{-30}$ % of specified value. No abnormalities shall be recognized in appearance and construction.
7.3	Damp heat	After testing at $40 \pm 2^\circ\text{C}$ and 90~95%RH for 96 hours, the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour, and measurement shall be made within 1 hour after that. Water drops shall be removed.	Contact resistance (Item 4.1) : <u>100</u> $\text{m}\Omega$ MAX Insulation resistance (Item 4.2) : <u>10</u> $\text{M}\Omega$ MIN Voltage proof (Item 4.3) : Apply <u>100</u> V AC for 1 minute. No dielectric breakdown shall occur. Operating force (Item 5.1) : Within $\frac{+10}{-30}$ % of specified value. No abnormalities shall be recognized in appearance and construction.
7.4	Salt mist	Switch shall be checked after following test. (1) Temperature : $35 \pm 2^\circ\text{C}$ (2) Salt solution : $5 \pm 1\%$ (Solids by weight) (3) Duration : 24 ± 1 h After the test, salt deposit shall be removed in running water.	No remarkable corrosion shall be recognized in metal part.
7.5	Temperature cycling	After 5 cycles of following conditions, the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour, and measurement shall be made within 1 hour after that. Water drops shall be removed. <div style="text-align: center;"> <p>70±2°C</p> <p>Normal temperature</p> <p>-25±3°C</p> <p>30 min 30 min</p> <p>10~15 min 10~15 min</p> <p>1 cycle</p> </div>	Contact resistance (Item 4.1) : <u>100</u> $\text{m}\Omega$ MAX Insulation resistance (Item 4.2) : <u>10</u> $\text{M}\Omega$ MIN Voltage proof (Item 4.3) : Apply <u>100</u> V AC for 1 minute. No dielectric breakdown shall occur. Operating force (Item 5.1) : Within $\frac{+10}{-30}$ % of specified value. No abnormalities shall be recognized in appearance and construction.
7.6	Damp heat with load (Silver migration)	DC voltage 1.5 times as much as rated voltage shall be applied continuously between adjacent terminal at $60 \pm 2^\circ\text{C}$ and 90~95%RH. After 500 hours testing, switch shall be allowed to stand under normal temperature and humidity condition for 1 hour, and measurement shall be made within 1 hour after that. Water drops shall be removed.	Insulation resistance (50V DC) : <u>10</u> $\text{M}\Omega$ min. Voltage proof : Apply 100V AC for 1 minute. No dielectric breakdown shall occur.

Precaution in use

1. Note that if the load is applied to the terminals during soldering they might suffer deformation and defects in electrical performance.
2. Use of water-soluble soldering flux shall be avoided because it may cause corrosion of the switch.
3. For series SSSS212, operation may be heavy if the switch is used with a case fixed or 2 pcs in a line. When 2 pcs of switches are used in a line, please detach them 1mm. at least.
4. For series SSSS212, Knob horizontal type, soldering flux might be flowed in the switch in case of auto-dip soldering. Therefore manual soldering shall be available.
5. The knob of slider shall be moved to first contact or second contact completely when soldering.
6. The soldering condition of series SSSS shall be as follows. The deformation or defects in electrical performance might be occurred if the time or temperature exceed this specification.

• Auto-dip soldering

Temperature : $260 \pm 5^{\circ}\text{C}$, Time $5 - 1^{\circ}$ sec.
 Thickness of P.C. board : 0.8, 1.0, 1.2, 1.6

• Manual soldering

Temperature Thickness of iron of P.C. board	(Sec. max.)		
	260 ± 10	300 ± 10	350 ± 10
0.8	5	5	3
1.0	5	5	3
1.2	5	5	4
1.6	5	5	4

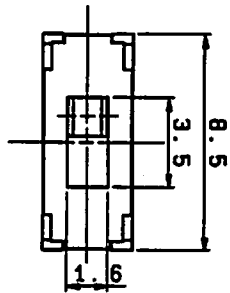
* Abnormal pressure shall not be applied to the terminal.

Notes) (1) P.C. board shall be single sided copper clad P.W.B.

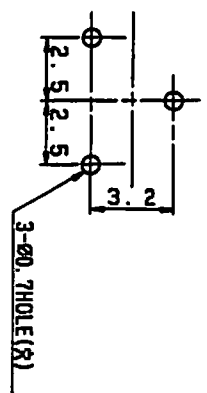
(2) This test shall be performed up to twice.

After first test, temperature shall be back to normal.

						APPD. M.	CHKD. S.	DSGD. Jun 7 '93 m.	TITLE
PAGE	SYHB	DATE	APPD	CHKD	DSGD	Kiso	Ishikawa	Yumura	DRAWING NO.

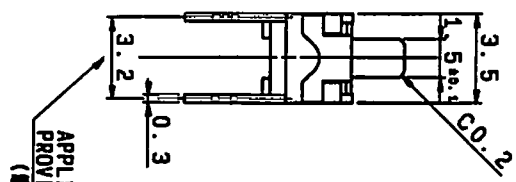
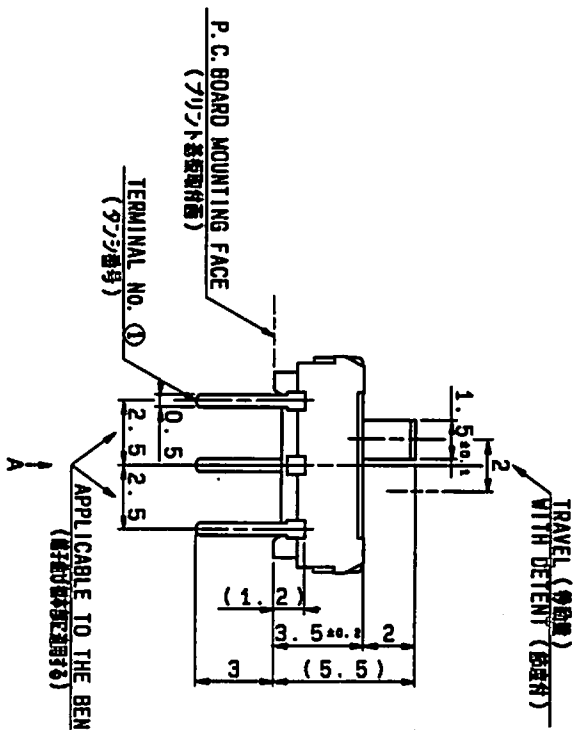
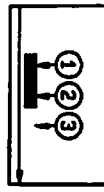


TERMINAL GAUGE (7722314-348)
ALL TOLERANCES (27088): ±0.05



TYPE
BACK GROUND
243JC017

CIRCUIT DIAGRAM (電路図)
SEE DIRECTION "A" (方向) (26)



APPLICABLE TO THE BENT TERMINAL BASE
PROVIDED THAT THE TERMINAL TIP IS (3.2)
(端子部分が適用される。但、端子先端(3.2)である)

3. OPERATING FORCE: 211.5N (204115391)

(作動力)
MEASURE AT THE BOTTOM OF KNOB
(ノブの底面にて測定する)

2. CHANGE OVER TIMING OF CONTACTS: NONSHORTING
(接点の切換タイミング: ノンショート)

1. PRODUCT SPECIFICATIONS NO. SSS52-5-801
(適用製品仕様番号)

NOTES
(注記)

1 2

TOLERANCES UNLESS OTHERWISE SPEC.	
BASIC DIMENSIONS	
UP TO 10	±0.3
ABOVE 10 TO 100	±0.5
ABOVE 100	±0.8

TOLERANCES UNLESS OTHERWISE SPEC.
ANGULAR DIMENSIONS
±3°

ALPS ELECTRIC CO., LTD.

UNIT: MM
SCALE: 1/2

MODEL NO. (番号): SSS521
TITLE: PRODUCT DRAWING (製品図)

DATE: Dec. 27 '93
DRAWN BY: M. Umecaki
CHECKED BY: K. I. S. G.
APPROVED BY: M. Umecaki
FURUKAWA DIV. SSS521382A