

DATA SHEET

SUNGMUN CODE : NSI-20S-TR

DESCRIPTION : SLIDE SWITCH

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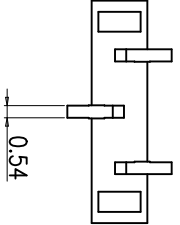
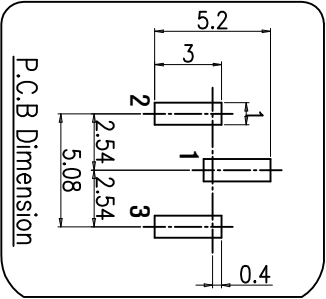
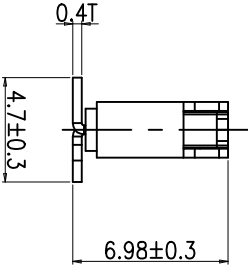
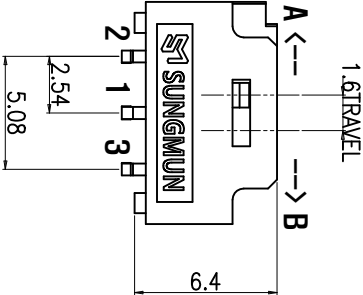
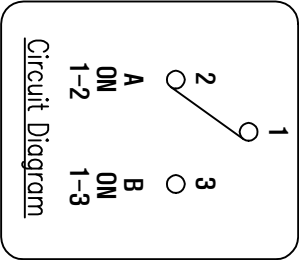
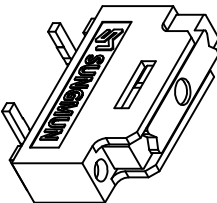
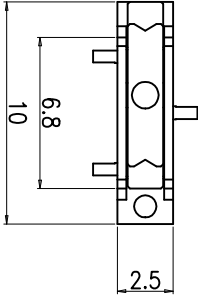
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Website www.sungmun.com

REV. NO.	DATE	REVISION	DR	CH	APP
△	22.12.16	CHANGE THE MARKING	H.S LEE	K.N KIM	W.J LEE
△	23.10.13	DIM ISO-2768-1m tolerance applied	H.S LEE	K.N KIM	W.J LEE

SPECIFICATION

1. Rating : DC12V 0.5A~24V 0.3A.
2. Contact Resistance : 30mΩ Max.
3. Travel : 1.6mm.
4. Operating Force : 250gf ± 150gf.
5. Life Cycle : 2,000 Cycle (with load).
6. Packing : 200pcs Vinyl Bag / 700pcs Reel Packing



BEFORE		AFTER	
NSI20KOREA		SUNGUMUN	

MINI SLIDE SWITCH									
DRAW/DESIGNED		CHECKED		APPROVED			G.TOL ±0.1	TITLE	REV.
J.S YANG		W.J LEE		K.I LEE			±0.1		
2021-11-17		2021-11-17		2021-11-17		UNIT mm	SCALE N/S	MODEL NO.	
							SIZE A4	DRAW NO.	05
SUNGUMUN ELECTRONICS CO.,LTD									
Dim ISO-2768-1m									
Ranges		0.5-3	3-6	6-30	30-120	120-400			
Tolerance		±0.1	±0.1	±0.2	±0.3	±0.5			



1. Electrical Characteristics :

- 1.1 Rating : AC, DC 12V 0.5A~24V 0.3A (Minimum current: 1mA)
- 1.2 Contact Resistance : Max 30 mΩ
- 1.3 Insulation Resistance : Min 10,000 MΩ at DC 500V
- 1.4 Withstanding Voltage : 1min at AC 500V

2. Mechanical Characteristics :

- 2.1 Operating Force : 250gf ± 150gf
- 2.2 Travel : 1.6mm
- 2.3 Insulator :
 - 2.3.1 Case : Glass Fiber resin
 - 2.3.2 Slide : Glass Fiber resin
- 2.4 Terminal : Nickel, Gold Plate

3. Life Test :

- 3.1 Test Condition : Operations at a rate of 15-20 cycles in 1 minute
 - 3.1.1 With load : 2,000 cycles
 - 3.1.2 Without load : 10,000 cycles
- 3.2 Operating Force : With +40%, -40% of Initial Value
- 3.3 Contact Resistance : Max 200mΩ

4. Environmental Characteristics :

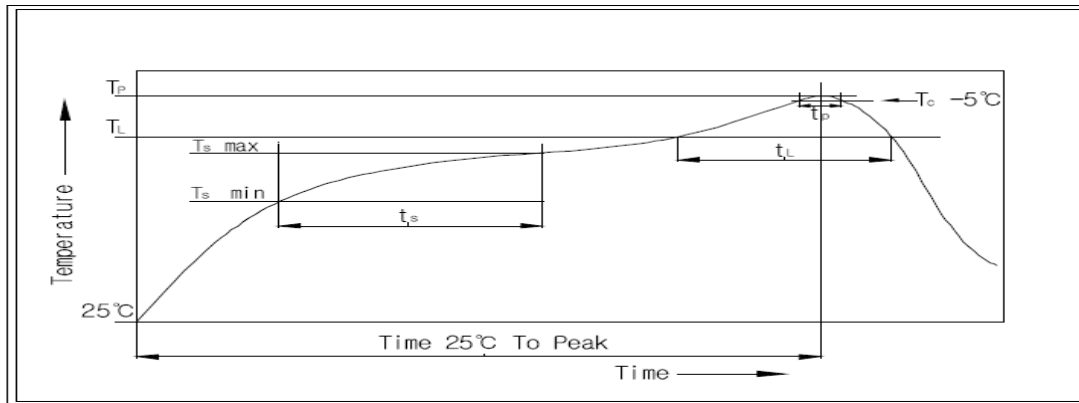
- 4.1 Operating Temperature : -40°C to +85°C
- 4.2 Storage Temperature : -40°C to +85°C
- 4.3 Humidity Test :
 - 4.3.1 Test Conditions : Measured 1hour after exposure to ambient
After 96hours exposure at 40±2°C, 90-95% R.H
 - 4.3.2 Insulation Resistance : Min 100MΩ, at DC 500V
 - 4.3.3 Withstanding Voltage : 1min at AC 250V

5. Solder Conditions :

5.1 Hand Solder : 3~4 sec. at 350°C (Dipping type)

5.2 Wave Solder : 5 sec. at 260°C (Dipping type)

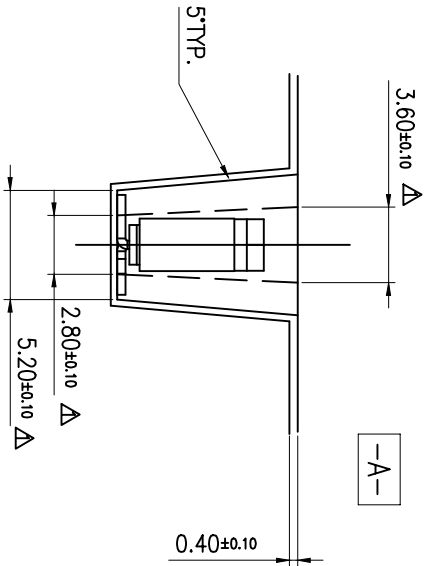
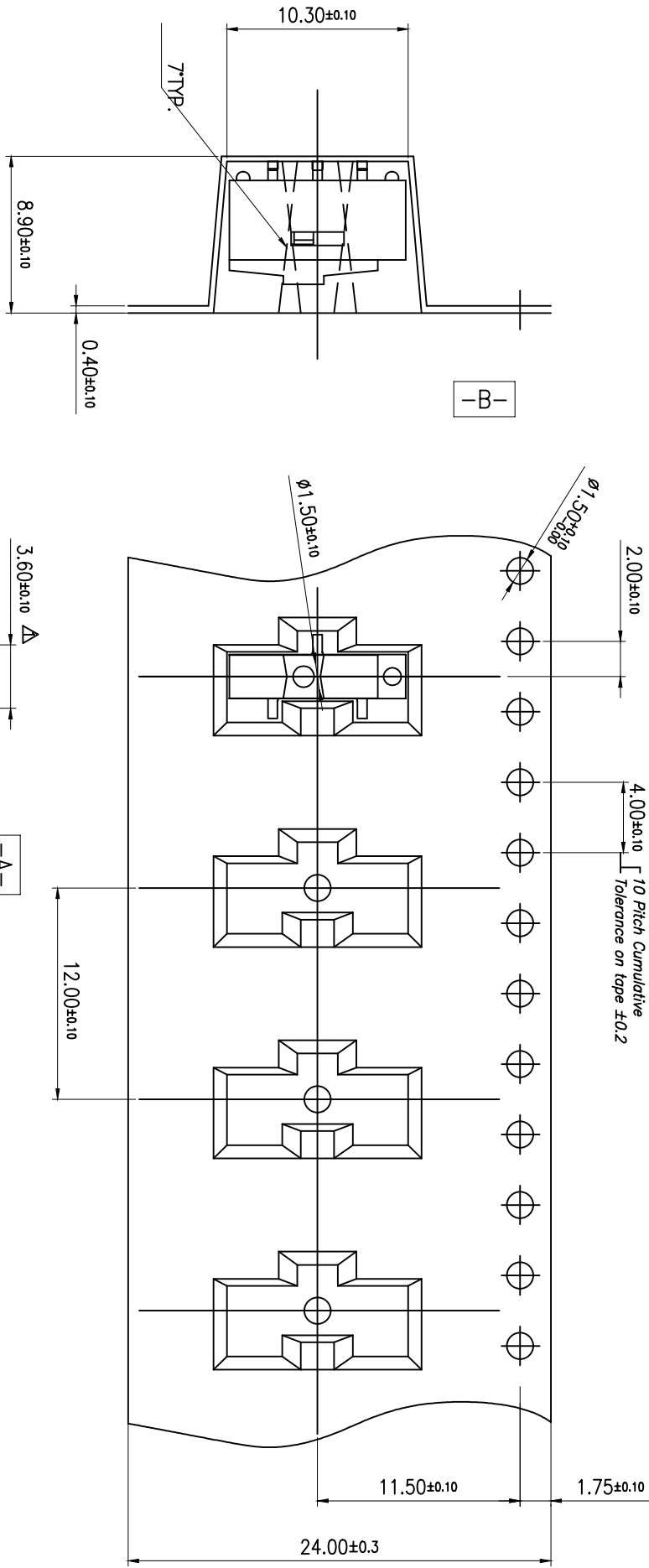
5.3 Reflow Solder (SMD type)



5.3.1 Condition for Soldering

Profile Feature	Pb-Free Assembly
Average Ramp-UP Rate(Ts max to TP)	3°C/second max
Preheat	
- Temperature Min(Ts min)	150°C
- Temperature Max(Ts max)	200°C
- Time (ts min to ts max)	60-180seconds
Time maintained above:	
- Temperature (TL)	217°C
- Time (tL)	60-150seconds
Peak/Classification Temperature(TP)	260°C +0°C/ -5°C
Time within 5°C of actual Peak Temperature(TP)	5~10 seconds
Ramp-Down Rate	6°C/sec max
Time 25°C to Peak Temperature	8 minutes max

REV. NO.	DATE	REVISION	DR	CH	APP
Δ	23.10.13	Recreation of drawings for unification of drawing formats	H.S LEE	K.M KIM	W.J LEE



REEL	TYPE	COLOR	HUB	SIZE
	PLASTIC	BLACK	80	330
SHEET	BLACK 24MMX0.4	PACKING QUANTITY	700/REEL	

- NOTES: (UNLESS OTHERWISE SPECIFIED)
1. 10 SPROCKET HOLE PITCH CUMULATIVE TOL ±0.2
 2. CAMBER NOT TO EXCEED 1mm IN 250mm.
 3. MATERIAL : BLACK CONDUCTIVE POLYSTYRENE.
 4. KO MEASURED FROM A PLANE ON THE INSIDE BOTTOM OF THE POCKET TO THE TOP SURFACE OF THE CARRIER.
 5. POCKET POSITION RELATIVE TO SPROCKET HOLE MEASURED AS TRUE POSITION OF POCKET, NOT POCKET HOLE.
 6. ALL DIMENSIONS ARE IN MILLIMETERS.

DECIMALS ANGULAR
X.X ±0.13 ± 1°
X.XX ±0.10

DRAW/DESIGNED	CHECKED	APPROVED	UNIT	SCALE	MODEL NO.	TITLE
W.J LEE	J.P ROH	K.I LEE	mm	N:S	NSIX-XDS-REEL	MSI Series SMD Reel Packing
2019-04-12	2019-04-12	2019-04-12	SIZE	DRAW NO.	TR-MS10-00S-02	REV.
SUNGJUN ELECTRONICS CO.,LTD			A4	TR-MS10-00S-02		