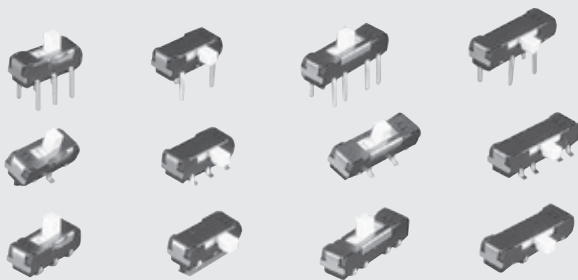


SLIDE SWITCHES

CL-SB

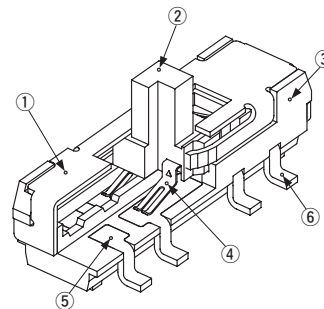
RoHS compliant



FEATURES

- Wide variety
(circuit composition, operating direction, terminal shape: J-hook, Gull wing, Through hole pins)
- Standardization of the silver contacts as well as gold contacts
- Stroke is 2mm
- Using heat-resistant resin to support reflow soldering mounting
- Adopted Twin-contacts mechanism

INTERNAL STRUCTURE



Part name	Material	Flammability
① Cover	Stainless steel (SUS 304)	—
② Slider	Polyamido	UL94V-0
③ Housing	Polyphenylenesulphide	UL94V-0
④ Moving contact	Copper alloy, gold or silver plate	—
⑤ Fixed contact	Copper alloy, gold or silver plate	—
⑥ Terminal pin	Copper alloy, gold or silver plate	—

PART NUMBER DESIGNATION

Series name	CL - SB	- 2 3	B - 0	2	T	Form of packaging
No. of poles						T : Taping Blank : Bulk in plastic bag
1 : 1 pole 2 : 2 poles						Contact material
No. of positions						1 : Silver 2 : Gold
2 : 2 positions 3 : 3 positions						Setting position
Shape of terminal						0 : Top setting 1 : Side setting
A : J-hook B : Gull wing C : Through hole pins C1 : PC terminals with one on the operation side and others on the opposite side ※ 1 C4 : Terminals aligned laterally on one side ※ 1						

※ 1: Please check the following LIST OF PART NUMBERS.

※ Please refer to the LIST OF PART NUMBERS when placing orders.

LIST OF PART NUMBERS

Setting position	No. of poles	No. of positions	Contact material		Shape of terminal	Form of packaging	Pieces in package
			Silver	Gold			
Top setting	1	2	CL-SB-12A-01T	CL-SB-12A-02T	A(J-hook)	Taping	500pcs. / reel
			CL-SB-12A-01	CL-SB-12A-02		Plastic bag	50pcs. / pack
			CL-SB-12B-01T	CL-SB-12B-02T	B(Gull wing)	Taping	500pcs. / reel
			CL-SB-12B-01	CL-SB-12B-02		Plastic bag	50pcs. / pack
			CL-SB-12C-01	CL-SB-12C-02	C(Through hole pins)	Plastic bag	50pcs. / pack
		3	CL-SB-13A-01T	CL-SB-13A-02T	A(J-hook)	Taping	500pcs. / reel
			CL-SB-13A-01	CL-SB-13A-02		Plastic bag	50pcs. / pack
			CL-SB-13B-01T	CL-SB-13B-02T	B(Gull wing)	Taping	500pcs. / reel
			CL-SB-13B-01	CL-SB-13B-02		Plastic bag	50pcs. / pack
			CL-SB-13C-01	CL-SB-13C-02	C(Through hole pins)	Plastic bag	50pcs. / pack
	2	2	CL-SB-22A-01T	CL-SB-22A-02T	A(J-hook)	Taping	500pcs. / reel
			CL-SB-22A-01	CL-SB-22A-02		Plastic bag	50pcs. / pack
			CL-SB-22B-01T	CL-SB-22B-02T	B(Gull wing)	Taping	500pcs. / reel
			CL-SB-22B-01	CL-SB-22B-02		Plastic bag	50pcs. / pack
			CL-SB-22C-01	CL-SB-22C-02	C(Through hole pins)	Plastic bag	50pcs. / pack
		3	CL-SB-23A-01T	CL-SB-23A-02T	A(J-hook)	Taping	500pcs. / reel
			CL-SB-23A-01	CL-SB-23A-02		Plastic bag	50pcs. / pack
			CL-SB-23B-01T	CL-SB-23B-02T	B(Gull wing)	Taping	500pcs. / reel
			CL-SB-23B-01	CL-SB-23B-02		Plastic bag	50pcs. / pack
			CL-SB-23C-01	CL-SB-23C-02	C(Through hole pins)	Plastic bag	50pcs. / pack
Side Setting	1	2	CL-SB-12A-11T	CL-SB-12A-12T	A(J-hook)	Taping	500pcs. / reel
			CL-SB-12A-11	CL-SB-12A-12		Plastic bag	50pcs. / pack
			CL-SB-12B-11T	CL-SB-12B-12T	B(Gull wing)	Taping	500pcs. / reel
			CL-SB-12B-11	CL-SB-12B-12		Plastic bag	50pcs. / pack
			CL-SB-12C-11	CL-SB-12C-12	C(Through hole pins)	Plastic bag	50pcs. / pack
		3	CL-SB-13A-11T	CL-SB-13A-12T	A(J-hook)	Taping	500pc s. / reel
			CL-SB-13A-11	CL-SB-13A-12		Plastic bag	50pcs. / pack
			CL-SB-13B-11T	CL-SB-13B-12T	B(Gull wing)	Taping	500pcs. / reel
			CL-SB-13B-11	CL-SB-13B-12		Plastic bag	50pcs. / pack
			CL-SB-13C-11	CL-SB-13C-12	C(Through hole pins)	Plastic bag	50pcs. / pack
	2	2	CL-SB-22A-11T	CL-SB-22A-12T	A(J-hook)	Taping	500pcs. / reel
			CL-SB-22A-11	CL-SB-22A-12		Plastic bag	50pcs. / pack
			CL-SB-22B-11T	CL-SB-22B-12T	B(Gull wing)	Taping	500pcs. / reel
			CL-SB-22B-11	CL-SB-22B-12		Plastic bag	50pcs. / pack
			CL-SB-22C-11	CL-SB-22C-12	C(Through hole pins)	Plastic bag	50pcs. / pack
		3	CL-SB-23A-11T	CL-SB-23A-12T	A(J-hook)	Taping	500pcs. / reel
			CL-SB-23A-11	CL-SB-23A-12		Plastic bag	50pcs. / pack
			CL-SB-23B-11T	CL-SB-23B-12T	B(Gull wing)	Taping	500pcs. / reel
			CL-SB-23B-11	CL-SB-23B-12		Plastic bag	50pcs. / pack
			CL-SB-23C-11	CL-SB-23C-12	C(Through hole pins)	Plastic bag	50pcs. / pack
	1	2	CL-SB-12C1-11	—	C1(Through hole pins)	Plastic bag	50pcs. / pack
			CL-SB-12C4-11	—	C4(Through hole pins)	Plastic bag	50pcs. / pack

※Verify the above part numbers when placing orders.
Taping version can be supplied only in reel unit.

CL-SB

SLIDE SWITCHES

STANDARD SPECIFICATIONS

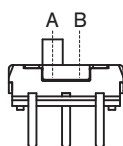
Operating temperature range	-40 ~ 85 °C
Storage temperature range	
Sealing	Non- Washable
Net weight	0.21 g (CL-SB-12 ⁺ -0 [*]) 0.21 g (CL-SB-12 ⁺ -1 [*]) 0.22 g (CL-SB-22 ⁺ -0 [*]) 0.23 g (CL-SB-22 ⁺ -1 [*]) 0.26 g (CL-SB-13 ⁺ -0 [*]) 0.27 g (CL-SB-13 ⁺ -1 [*]) 0.28 g (CL-SB-23 ⁺ -0 [*]) 0.29 g (CL-SB-23 ⁺ -1 [*]) 0.21 g (CL-SB-12C1-11) 0.19 g (CL-SB-12C4-11)

MECHANICAL CHARACTERISTICS

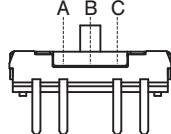
No. of positions	2, 3
Stroke	2 mm
Operation force	2 Contacts (CL-SB-*2*-**) A ↔ B ※ 1 1.5 ± 1.0 N {0.153 ± 0.102kgf} 3 Contacts (CL-SB-*3*-**) A→B / C→B ※ 2 1.5 ± 1.0 N {0.153 ± 0.102kgf} B→A / B→C 2.5 ± 1.5 N {0.255 ± 0.153kgf}
Stop strength	20 N {2.04 kgf} 15 s
Solderability	245 ± 3 °C, 2 ~ 3 s
Soldering heat	Reflow : 255 °C (Peak temperature) (Please refer to the profile below) Flow : 260 ± 3 °C, 5 ~ 6 s Manual soldering : 350 ± 10 °C, 3 ~ 4 s
Shear	5 N {0.51 kgf} 10 s
Substrate bending	Width 90 mm, bend 3 mm, 5 s, 1 time
Pull-off strength	5 N {0.51 kgf} 10s

{ } : Reference only

※ 1



※ 2



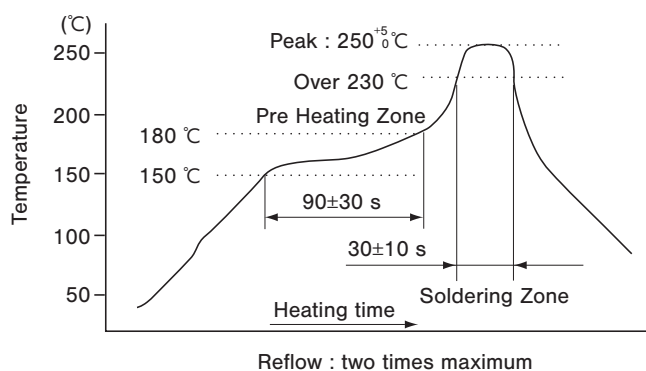
ELECTRICAL CHARACTERISTICS

Contact rating Non-switching Switching Minimum	DC50 V 200 mA DC12 V 200 mA DC20 mV 1 μA (Gold contacts) DC5 V 10 mA (Silver contacts)	
Contact timing	Non-shorting	
Contact resistance	70mΩ maximum (Gold contacts) 50mΩ maximum (Silver contacts)	1.5 mA 1 kHz 20 mV maximum
Insulation resistance	100 MΩ minimum (DC500 V)	
Dielectric strength	AC500 V, 60 s	

ENVIRONMENTAL CHARACTERISTICS

Vibration	(Amplitude) 1.5 mm or (Acceleration) 98 m/s ² , 10-500-10 Hz, 3 directions for 2 h each
Shock	490 m/s ² , 11 ms 6 directions for 3 times each
Load life	10000 cycles, DC12 ± 0.5V, 200 ± 10mA
Humidity	40 °C, Relative humidity 90 ~ 95 %, 240 h, No load
High temperature exposure	85 °C, 96 h, No load
Low temperature exposure	-40 °C, 96 h, No load
Thermal shock	-40 (0.5 h) ~ 85 °C (0.5 h), 5 cycles

Reflow profile for soldering heat evaluation>



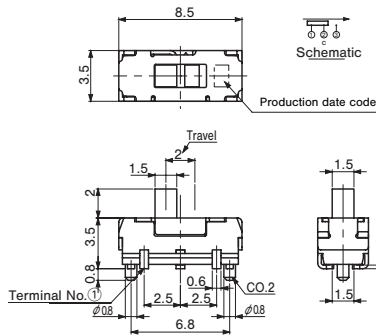
CL-SB

SLIDE SWITCHES

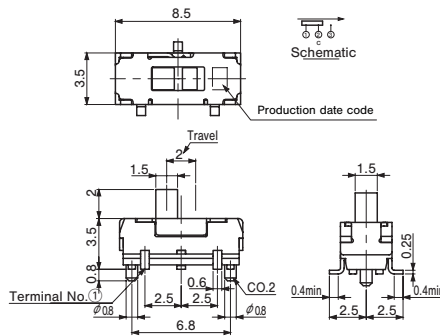
OUTLINE DIMENSIONS

Unless otherwise specified, tolerance: ± 0.3 (Unit: mm)

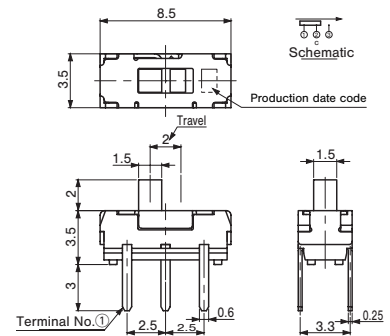
CL-SB-12A-01 CL-SB-12A-02



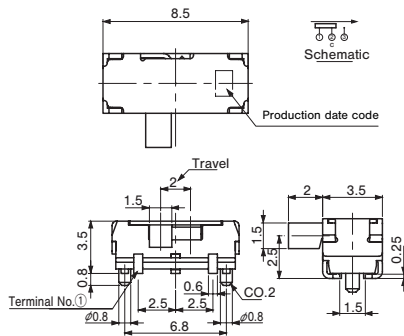
CL-SB-12B-01 CL-SB-12B-02



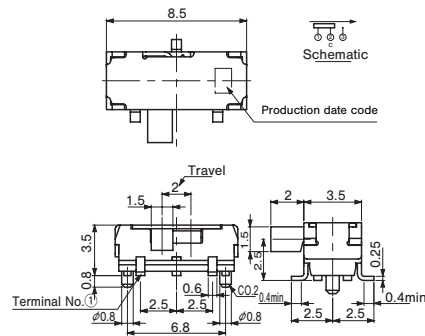
CL-SB-12C-01 CL-SB-12C-02



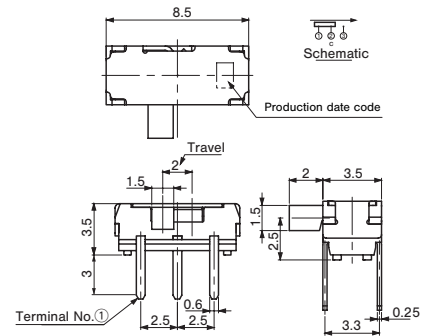
CL-SB-12A-11 CL-SB-12A-12



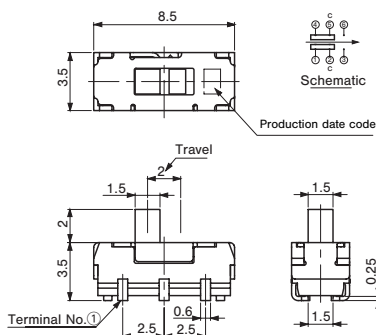
CL-SB-12B-11 CL-SB-12B-12



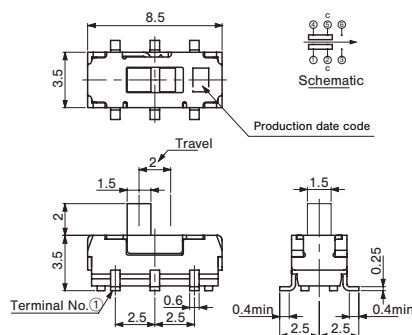
CL-SB-12C-11 CL-SB-12C-12



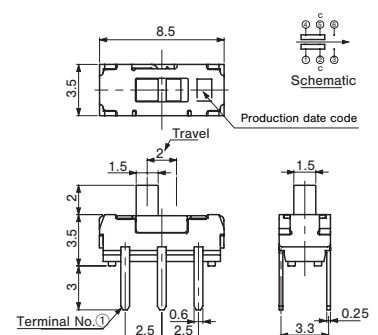
CL-SB-22A-01 CL-SB-22A-02



CL-SB-22B-01 CL-SB-22B-02



CL-SB-22C-01 CL-SB-22C-02



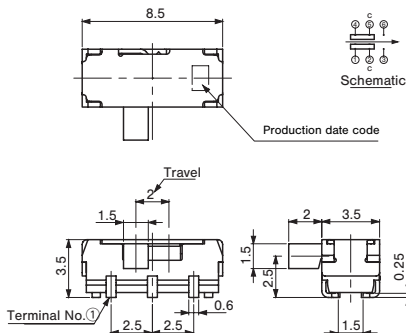
CL-SB

SLIDE SWITCHES

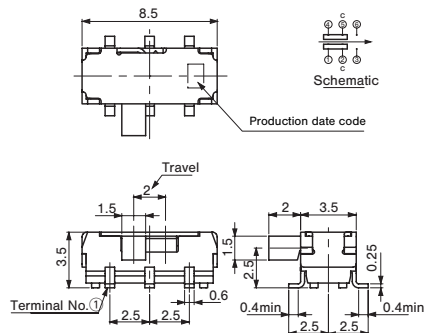
OUTLINE DIMESIONS

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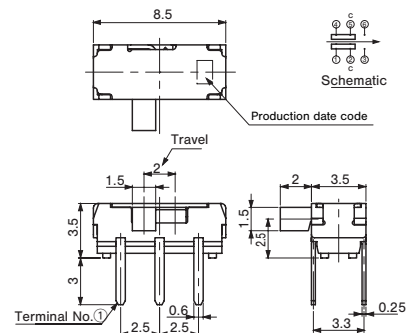
- CL-SB-22A-11
- CL-SB-22A-12



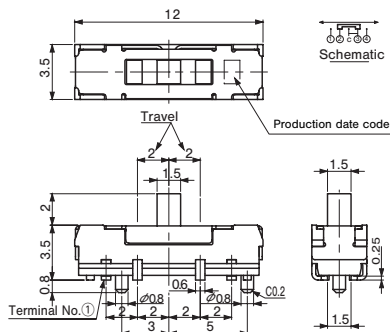
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- CL-SB-22B-12



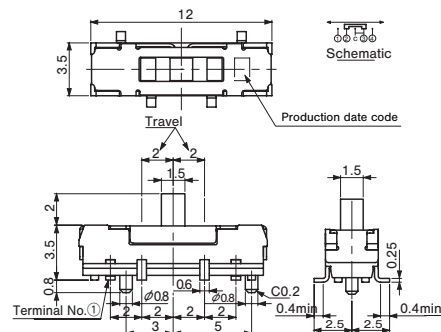
- CL-SB-22C-11
- CL-SB-22C-12



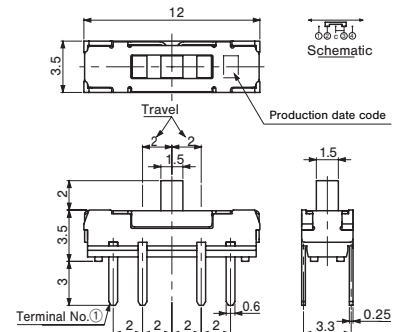
- CL-SB-13A-01
- CL-SB-13A-02



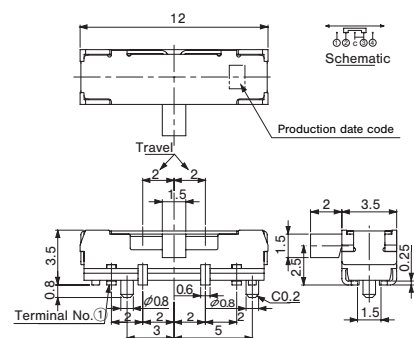
- CL-SB-13B-01
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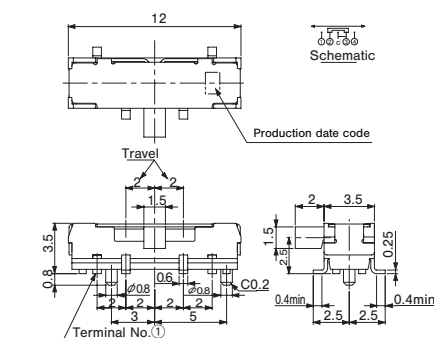
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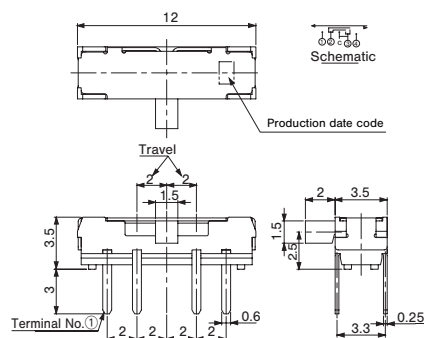
- CL-SB-13A-11
- CL-SB-13A-12



- CL-SB-13B-11
- CL-SB-13B-12



- CL-SB-13C-11
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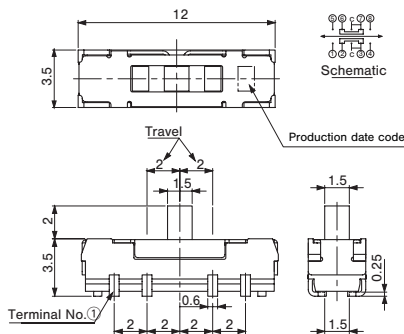


CL-SB

SLIDE SWITCHES

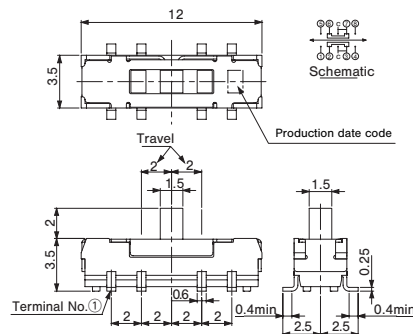
● CL-SB-23A-01

● CL-SB-23A-02



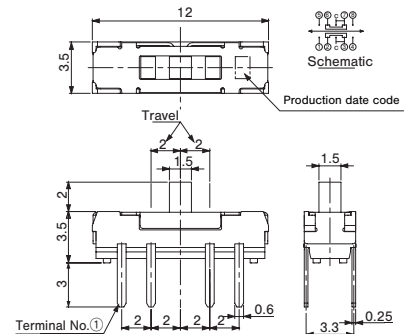
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● CL-SB-23B-02



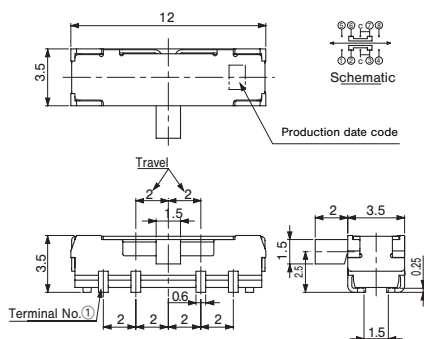
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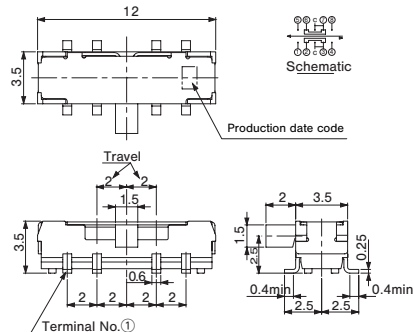
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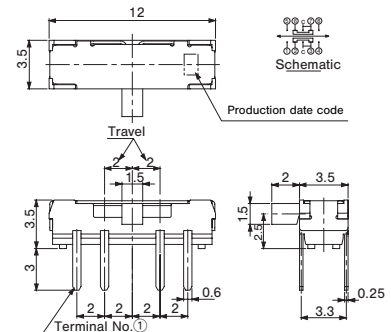
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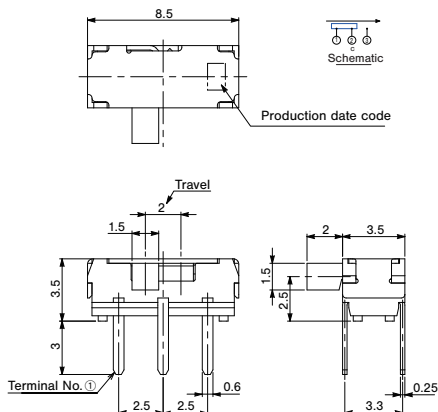


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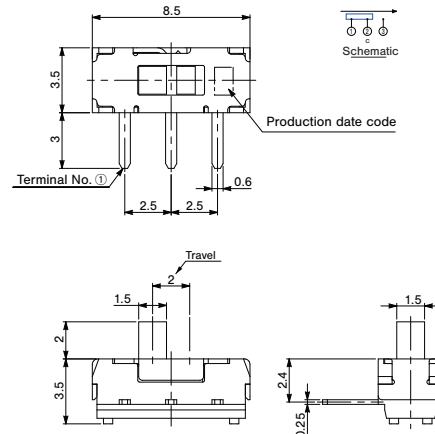
● CL-SB-23C-12



● CL-SB-12C1-11



● CL-SB-12C4-11



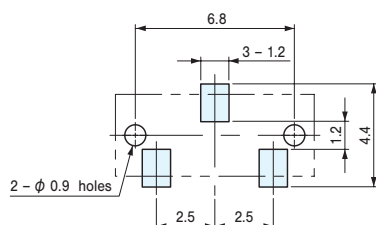
CL-SB

SLIDE SWITCHES

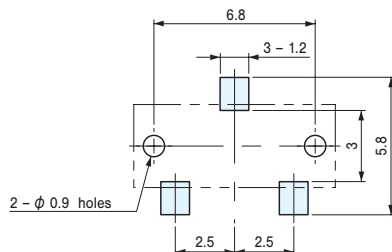
RECOMMENDED P.C.B. PAD OUTLINE DIMENSIONS

(Unit:mm)

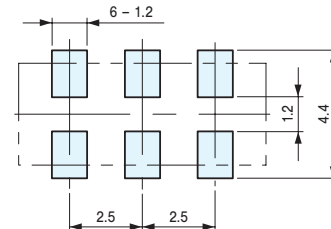
CL-SB-12A-□□



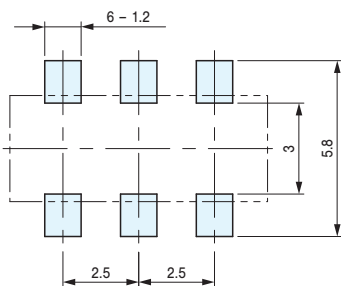
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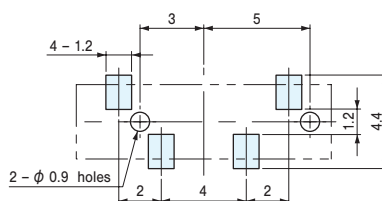
CL-SB-22A-□□



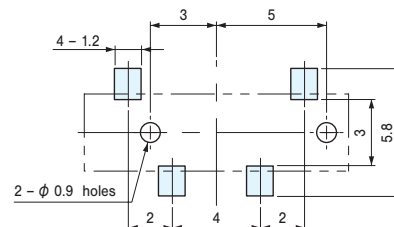
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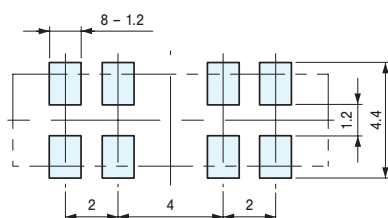
CL-SB-13A-□□



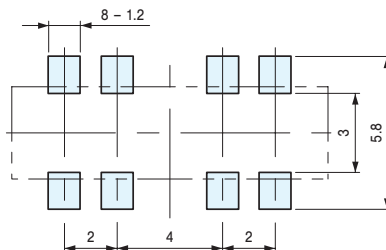
CL-SB-13B-□□



CL-SB-23A-□□



CL-SB-23B-□□

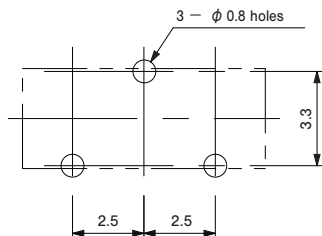


SIZE OF P.C.B. PROCESSING

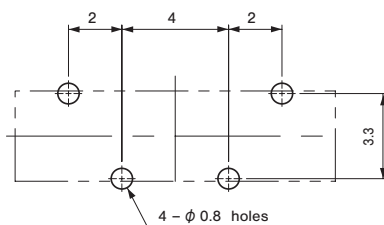
(Unit: mm)

CL-SB-12C-□□

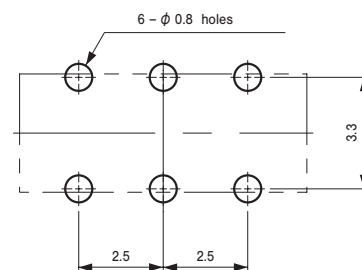
CL-SB-12C1-11



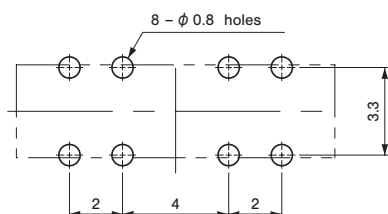
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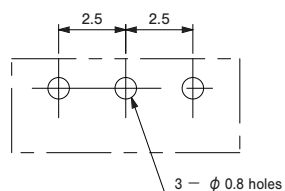
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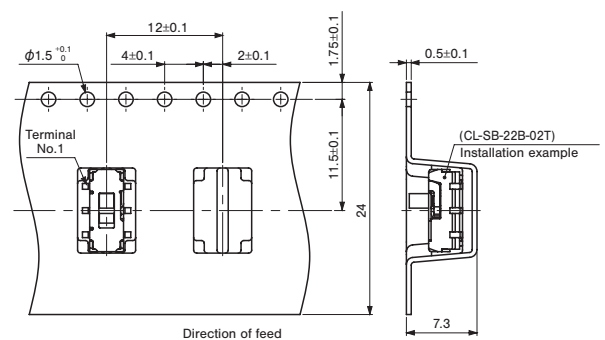


CL-SB-23C-□□



CL-SB-12C4-11





CL-SB

SLIDE SWITCHES

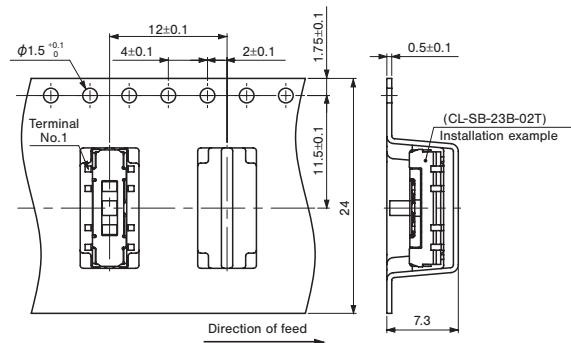
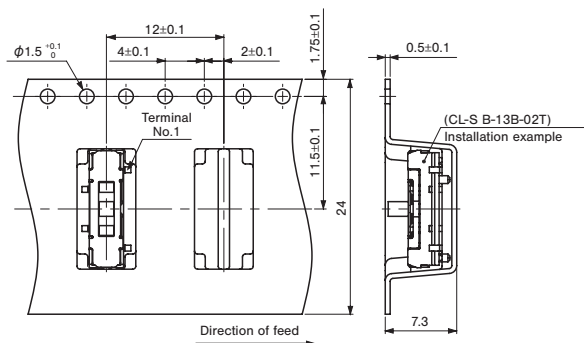
〈Tape dimensions〉

Unless otherwise specified, tolerance: ± 0.3 (Unit: mm)

● CL-SB-13A/13B-0□T

● CL-SB-23A/23B-0□T

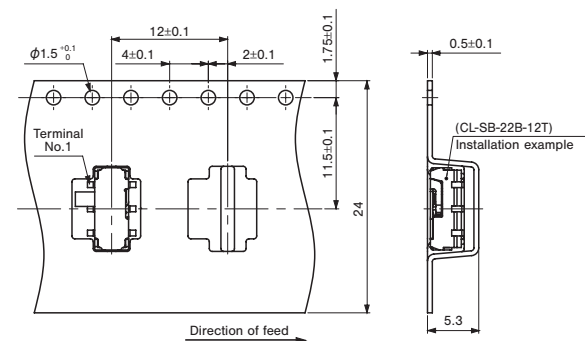
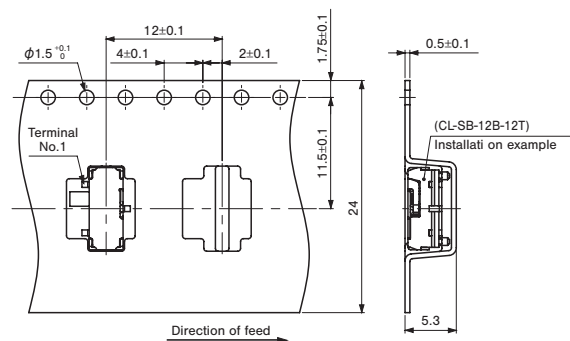
(Conforms to JIS C 0806)



● CL-SB-12A/12B-1□T

● CL-SB-22A/22B-1□T

(Conforms to JIS C 0806)



● CL-SB-13A/13B-1□T

● CL-SB-23A/23B-1□T

(JIS C 0806 に一致 Conforms to JIS C 0806)

