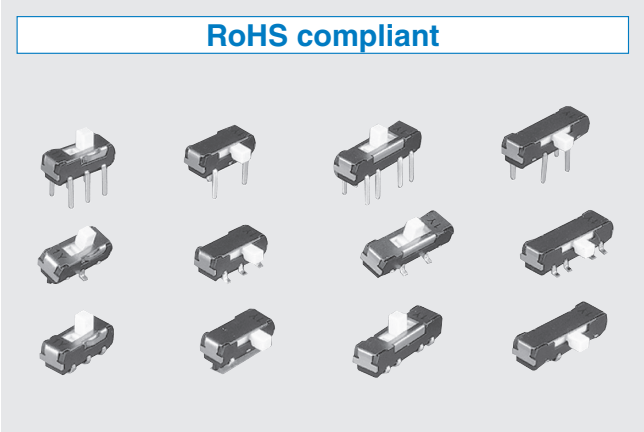


SLIDE SWITCHES

CL-SB



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

CL - SB - 2 3 B - 0 2 T

Series name

No. of poles
1 : 1 pole
2 : 2 poles

No. of positions
2 : 2 positions
3 : 3 positions

Shape of terminal
A : J-hook
B : Gull wing
C : Through hole pins

Form of packaging
T : Taping
Blank : Bulk in plastic bag

Contact material
1 : Silver
2 : Gold

Setting position
0 : Top setting
1 : Side setting

※ 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	500pcs. / 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

※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*)

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



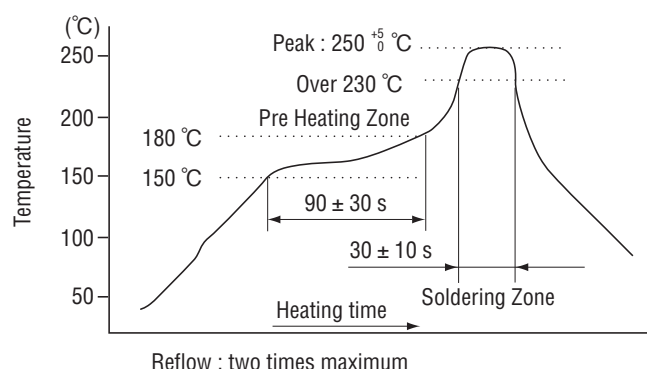
ELECTRICAL CHARACTERISTICS

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

ENVIRONMENTAL CHARACTERISTICS

Vibration	(Amplitude) 1.5 mmor (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

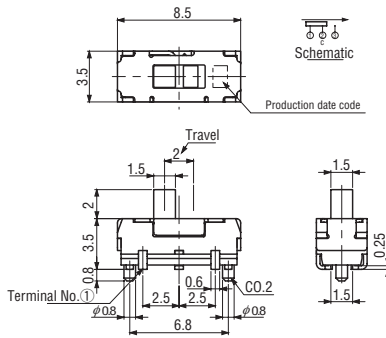
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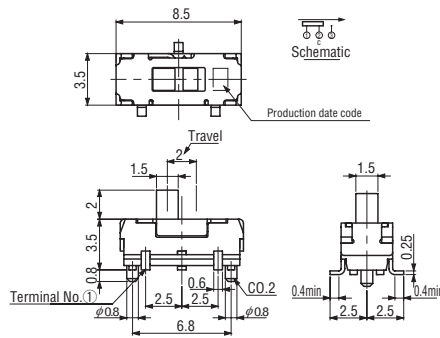
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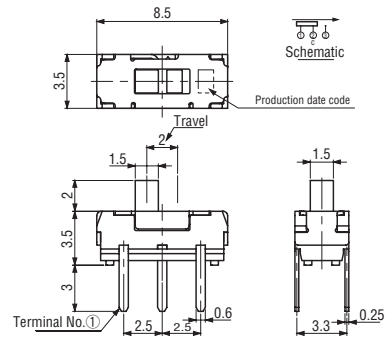
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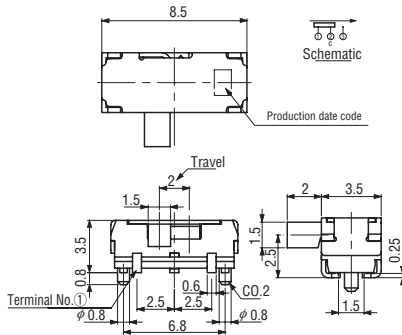
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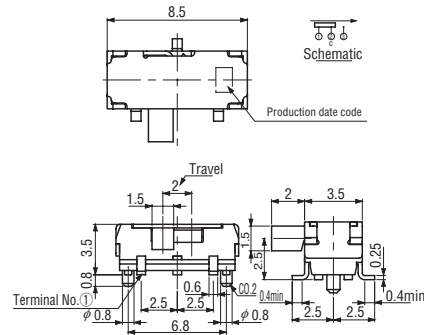
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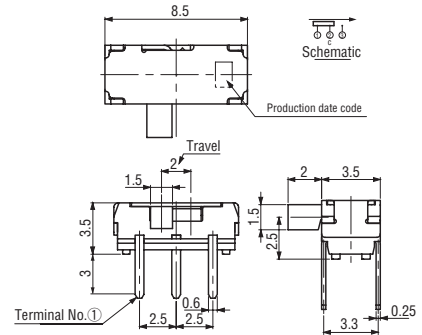
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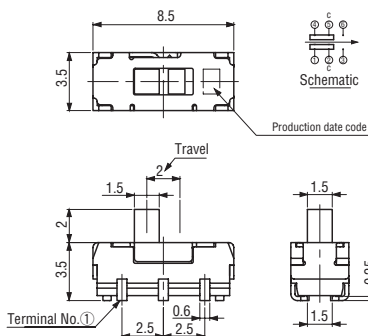
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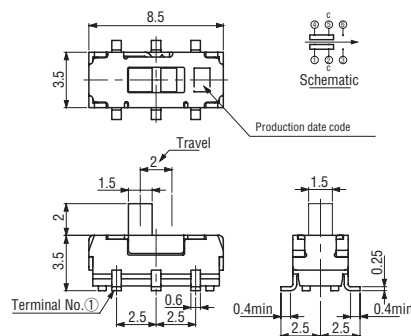
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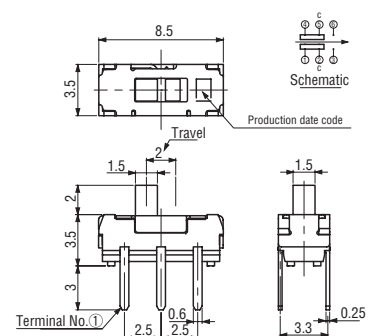
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CL-SB-22C-01 CL-SB-22C-02



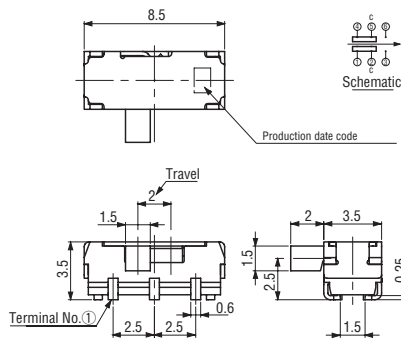
CL-SB

SLIDE SWITCHES

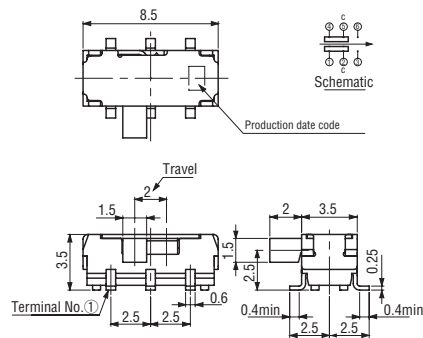
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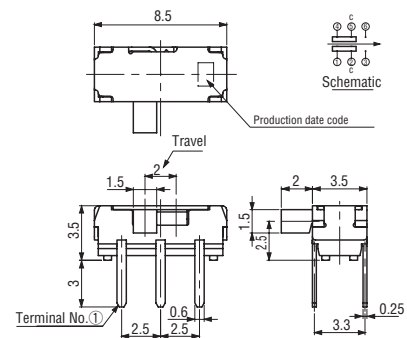
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- CL-SB-22A-12



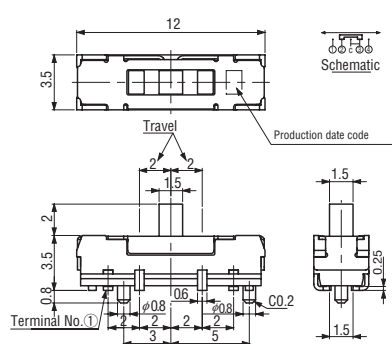
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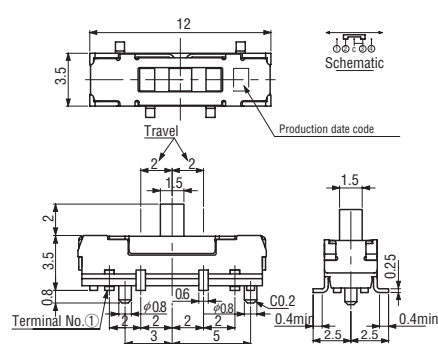
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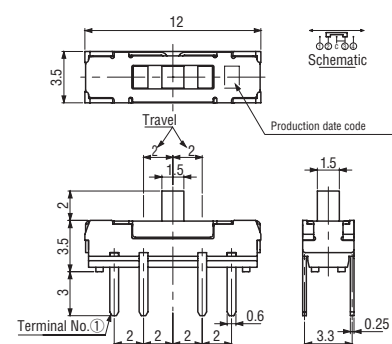
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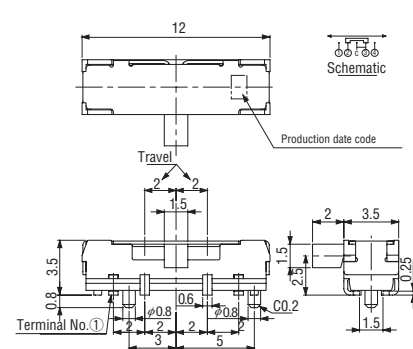
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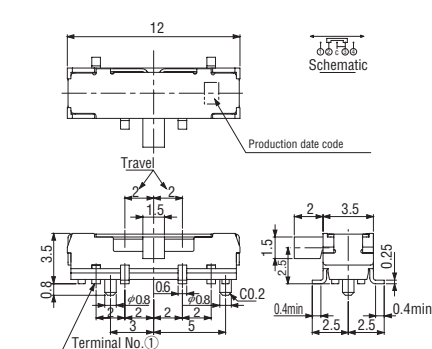
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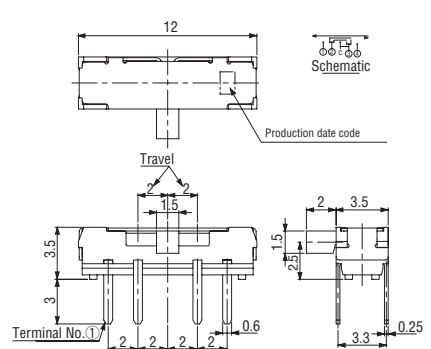
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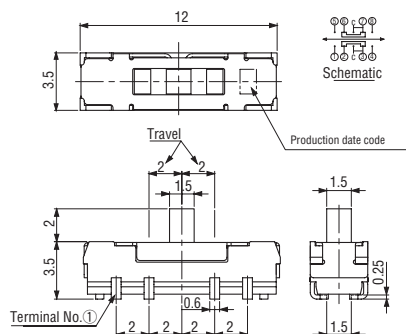
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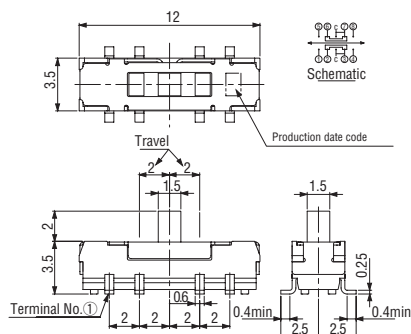
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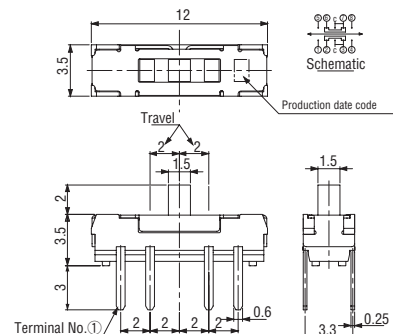
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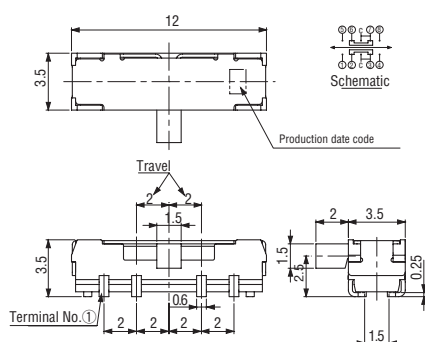
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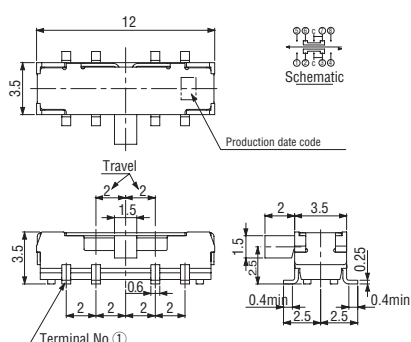
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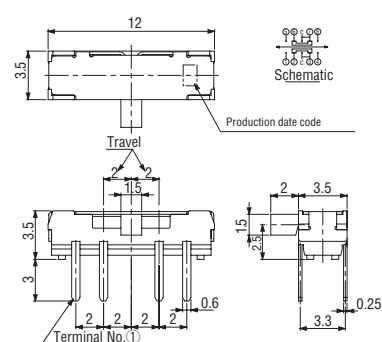
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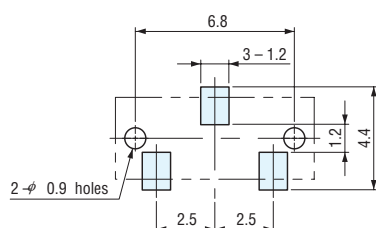
CL-SB

SLIDE SWITCHES

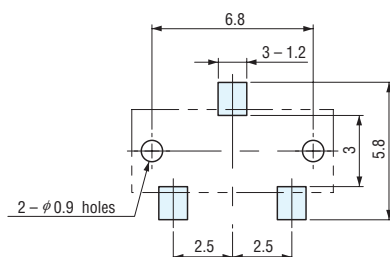
RECOMMENDED P.C.B. PAD OUTLINE DIMENSIONS

(Unit: mm)

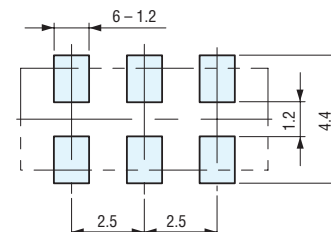
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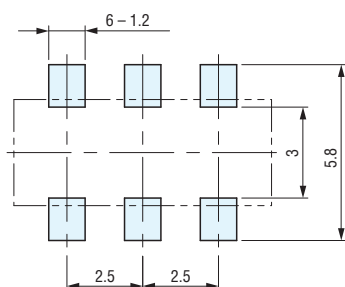
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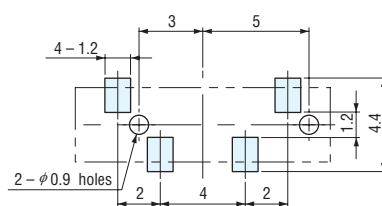
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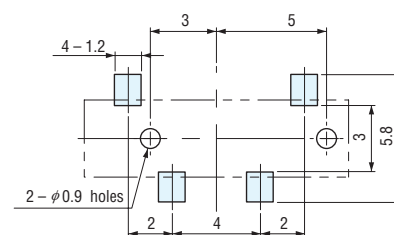
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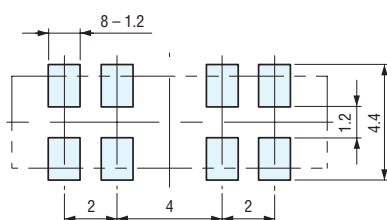
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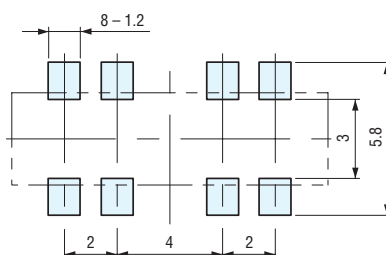
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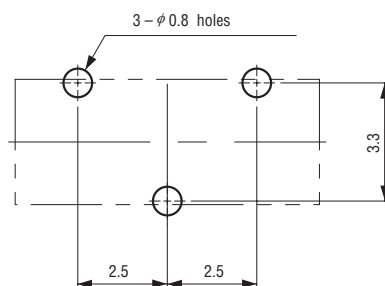
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CL-SB-23B-□□



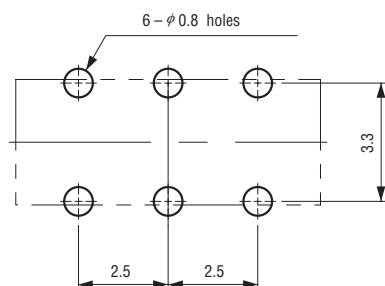
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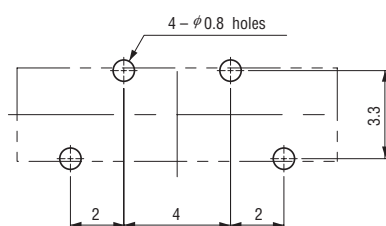
SIZE OF P.C.B. PROCESSING

(Unit: mm)

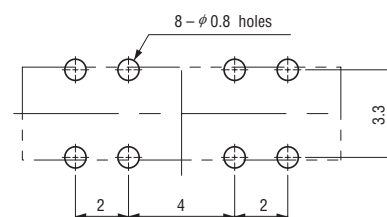
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CL-SB-13C-□□



CL-SB-23C-□□



CL-SB

SLIDE SWITCHES

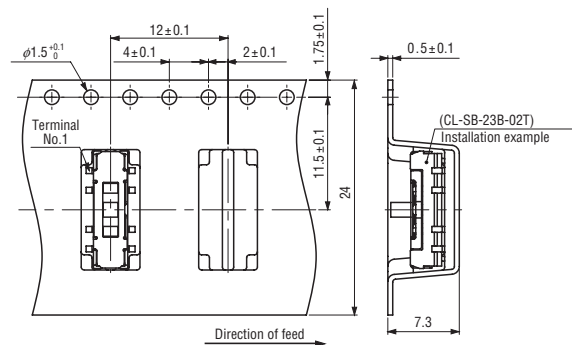
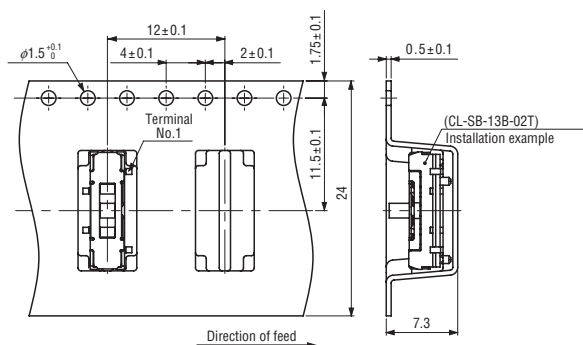
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Unless otherwise specified, tolerance: ± 0.3 (Unit: mm)

● CL-SB-13A/13B-0 □ T

● CL-SB-23A/23B-0 □ T

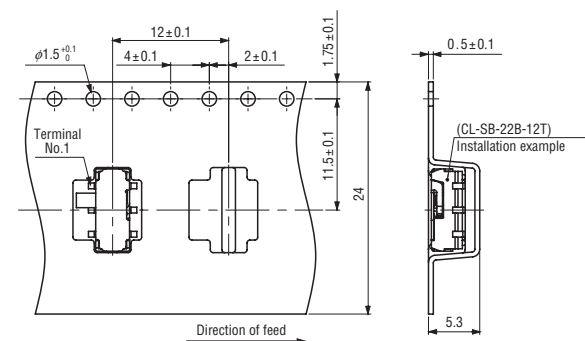
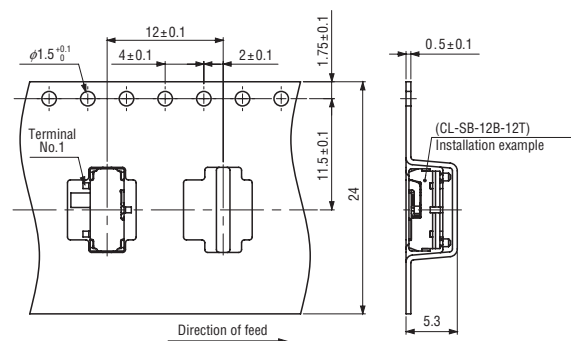
(Conforms to JIS C 0806)



● 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

(Conforms to JIS C 0806)

