



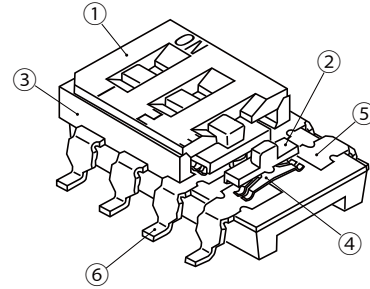
# SLIDE SWITCHES (FULL PITCH)

# CWS

RoHS compliant



INTERNAL STRUCTURE



## FEATURES

- RoHS compliant
- Excellent contact stability by twin Gold-plated contact
- Cost effective

## APPLICATIONS

- Communication devices, Air-conditioning equipment, Vending machines and various control equipment

Part name	Material	Flammability
① Cover	Polyphenylenesulphide	UL94V-0
② Slider	Polyamide	
③ Housing	Polyphenylenesulphide	-
④ Slider contact	Copper alloy, Gold-plated	
⑤ Fixed contact		
⑥ Terminal pin		

## 型式表示 PART NUMBER DESIGNATION

**C W S - 1 0 0 1 T B**

Series name

No. of bits

01 : 1 bits    02 : 2 bits    03 : 3 bits  
 04 : 4 bits    05 : 5 bits    06 : 6 bits  
 08 : 8 bits    10 : 10 bits

Structure

01 : Flat knob • non-washable type (Without seal tape)  
 02 : Convex knob of 0.6 mm • non-washable type (Without seal tape)  
 03 : Convex knob of 1 mm • non-washable type (Without seal tape)

Shape of terminal

B : Gull wing  
 C : Through hole pin

Form of packaging

T : Taping (Reel)  
 M : Magazine

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

# CWS

## SLIDE SWITCHES (FULL PITCH)

### LIST OF PART NUMBERS

No. of bits	Form of packaging	Structure		Pieces in package
		Flat knob · non-washable type (Without seal tape)		
		B (Gull wing)	C (Through hole pin)	
1	Taping	CWS-0101TB	/	1000 pcs./reel
	Magazine	CWS-0101MB	CWS-0101MC	118 pcs./stick
2	Taping	CWS-0201TB	/	1000 pcs./reel
	Magazine	CWS-0201MB	CWS-0201MC	72 pcs./stick
3	Taping	CWS-0301TB	/	1000 pcs./reel
	Magazine	CWS-0301MB	CWS-0301MC	52 pcs./stick
4	Taping	CWS-0401TB	/	1000 pcs./reel
	Magazine	CWS-0401MB	CWS-0401MC	40 pcs./stick
5	Taping	CWS-0501TB	/	1000 pcs./reel
	Magazine	CWS-0501MB	CWS-0501MC	32 pcs./stick
6	Taping	CWS-0601TB	/	1000 pcs./reel
	Magazine	CWS-0601MB	CWS-0601MC	28 pcs./stick
8	Taping	CWS-0801TB	/	1000 pcs./reel
	Magazine	CWS-0801MB	CWS-0801MC	20 pcs./stick
10	Taping	CWS-1001TB	/	1000 pcs./reel
	Magazine	CWS-1001MB	CWS-1001MC	16 pcs./stick

No. of bits	Form of packaging	Structure				Pieces in package
		Convex knob of 0.6 mm · non-washable type (Without seal tape)		Convex knob of 1 mm · non-washable type (Without seal tape)		
		B (Gull wing)	C (Through hole pin)	B (Gull wing)	C (Through hole pin)	
1	Taping	CWS-0102TB	/	CWS-0103TB	/	800 pcs./reel
	Magazine	CWS-0102MB	CWS-0102MC	CWS-0103MB	CWS-0103MC	118 pcs./stick
2	Taping	CWS-0202TB	/	CWS-0203TB	/	800 pcs./reel
	Magazine	CWS-0202MB	CWS-0202MC	CWS-0203MB	CWS-0203MC	72 pcs./stick
3	Taping	CWS-0302TB	/	CWS-0303TB	/	800 pcs./reel
	Magazine	CWS-0302MB	CWS-0301MC	CWS-0303MB	CWS-0303MC	52 pcs./stick
4	Taping	CWS-0402TB	/	CWS-0403TB	/	800 pcs./reel
	Magazine	CWS-0402MB	CWS-0402MC	CWS-0403MB	CWS-0403MC	40 pcs./stick
5	Taping	CWS-0502TB	/	CWS-0503TB	/	800 pcs./reel
	Magazine	CWS-0502MB	CWS-0502MC	CWS-0503MB	CWS-0503MC	32 pcs./stick
6	Taping	CWS-0602TB	/	CWS-0603TB	/	800 pcs./reel
	Magazine	CWS-0602MB	CWS-0602MC	CWS-0603MB	CWS-0603MC	28 pcs./stick
8	Taping	CWS-0802TB	/	CWS-0803TB	/	800 pcs./reel
	Magazine	CWS-0802MB	CWS-0802MC	CWS-0803MB	CWS-0803MC	20 pcs./stick
10	Taping	CWS-1002TB	/	CWS-1003TB	/	800 pcs./reel
	Magazine	CWS-1002MB	CWS-1002MC	CWS-1003MB	CWS-1003MC	16 pcs./stick

☐: Not manufactured

※ Verify the above part numbers when placing orders.

Taping and magazine version can be supplied only in reel or stick units.

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## SLIDE SWITCHES (FULL PITCH)

### STANDARD SPECIFICATIONS

Operating temp. range	- 40 ~ 85 °C
Storage temp. range	
Sealing	Non-washable
Net weight	Approx. 0.15 g (CWS-01), Approx. 0.24 g (CWS-02), Approx. 0.33 g (CWS-03), Approx. 0.42 g (CWS-04), Approx. 0.51 g (CWS-05), Approx. 0.61 g (CWS-06), Approx. 0.82 g (CWS-08), Approx. 0.98 g (CWS-10)

### ELECTRICAL CHARACTERISTICS

Contact rating Non-switching Switching Minimum	DC50 V 100 mA DC6 V, 100 mA DC20 mV 1 μA
Contact resistance	100 mΩ (1.5 mA 1 kHz 20 mV maximum) maximum
Insulation resistance	1000 MΩ (DC100 V) minimum
Dielectric strength	AC500 V, 60 s

### MECHANICAL CHARACTERISTICS

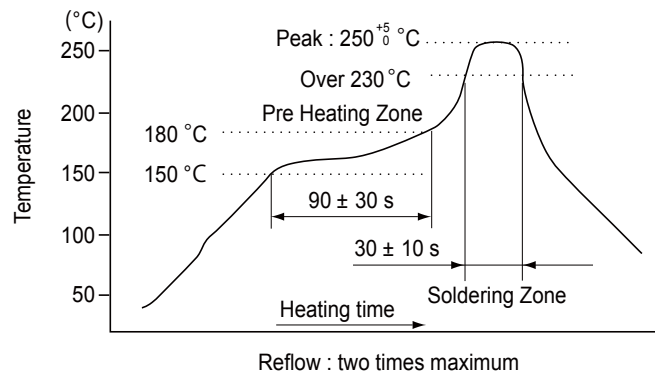
Stroke	1 mm
Operation force	0.5 ~ 7 N {0.05 ~ 0.71 kgf}
Stop strength	10 N {1.02 kgf} 60 s
Solderability	245 ± 3 °C, 2 ~ 3 s
Soldering heat	Flow : 260 ± 3 °C, 5 ~ 6 s, two times maximum Reflow : 255 °C (Peak temperature) (Please refer to the profile below) Manual soldering : 350 ± 10 °C, 3 ~ 4 s
Shear (Adhesion)	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} 10 s

{ } Reference only

### ENVIRONMENTAL CHARACTERISTICS

Vibration	(Amplitude) 1.5 mm (Acceleration) 98 m/s <sup>2</sup> , 10-500 Hz, 3 directions for 10 cycles each
Shock	490 m/s <sup>2</sup> , 11 ms, 6 directions for 3 times each
Load life	Continuous load 1000 cycles, DC6 ± 0.5 V, 100 ± 10 mA
Humidity	-10 ~ 65 °C, Relative humidity 0 ~ 96 %, 24 h for 10 cycles
High temp. exposure	85 °C, 96 h
Low temp. exposure	-40 °C, 96 h
Thermal shock	-40 (0.5 h) ~ 85 °C (0.5 h), 5 cycles

### < Reflow profile for soldering heat evaluation >



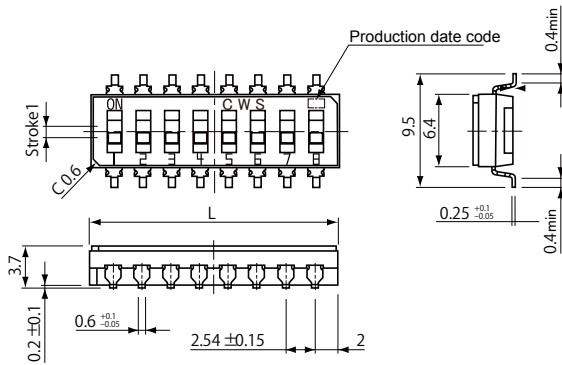
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## SLIDE SWITCHES (FULL PITCH)

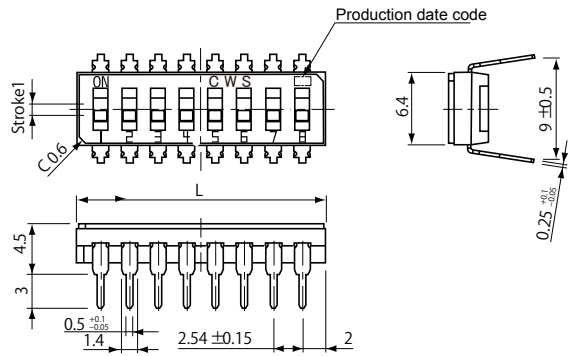
### OUTLINE DIMENSIONS

Unless otherwise specified, tolerance :  $\pm 0.3$  (Unit : mm)

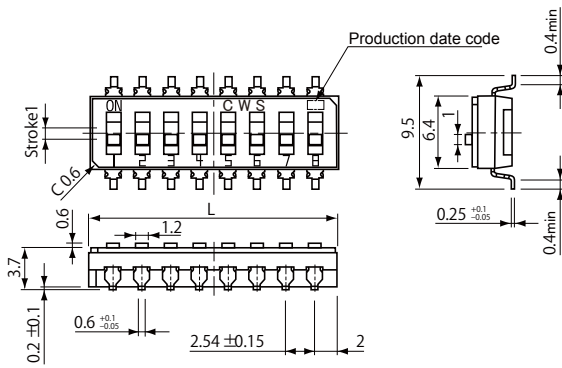
#### Flat knob, Gull wing



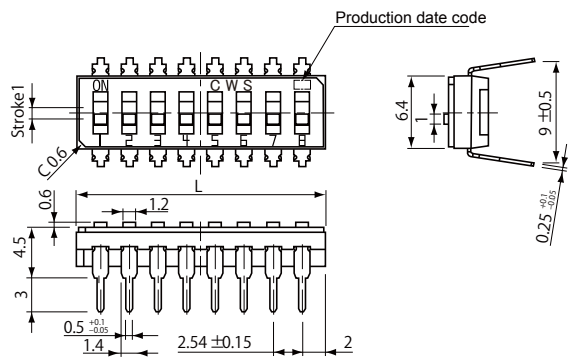
#### Flat knob, Through hole pin



#### Convex knob of 0.6 mm, Gull wing



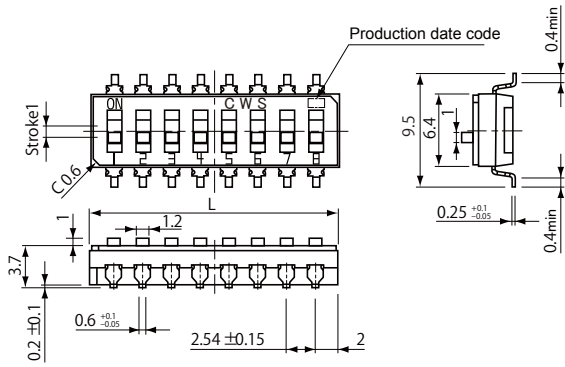
#### Convex knob of 0.6 mm, Through hole pin



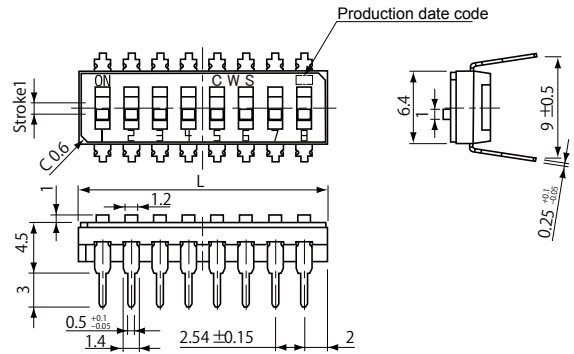
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## SLIDE SWITCHES (FULL PITCH)

● Convex knob of 1 mm, Gull wing



● Convex knob of 1 mm, Through hole pin



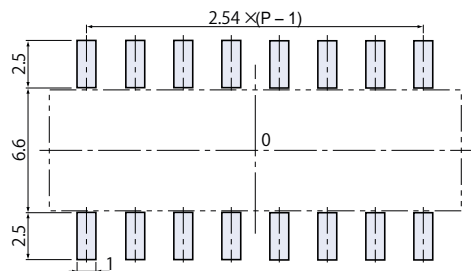
Part number	Schematic	No. of bits.	L dimension	Part number	Schematic	No. of bits.	L dimension
CWS-01		1	3.95	CWS-05		5	14.15
CWS-02		2	6.5	CWS-06		6	16.7
CWS-03		3	9.05	CWS-08		8	21.8
CWS-04		4	11.6	CWS-10		10	26.9

### RECOMMENDED P.C.B. PAD DIMENSIONS

(Unit : mm)

● CWS-□□□□B

P : No. of bits

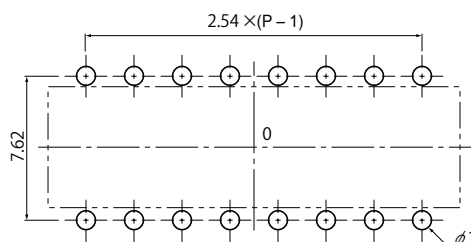


### SIZE OF P.C.B. PROCESSING

(Unit : mm)

● CWS-□□□□C

P : No. of bits

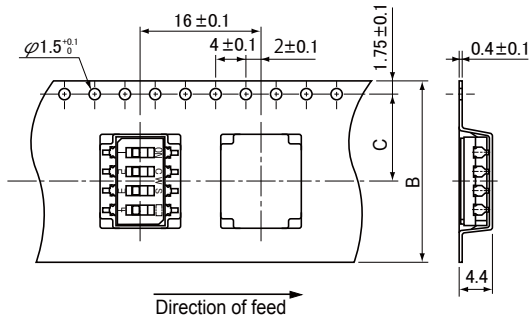




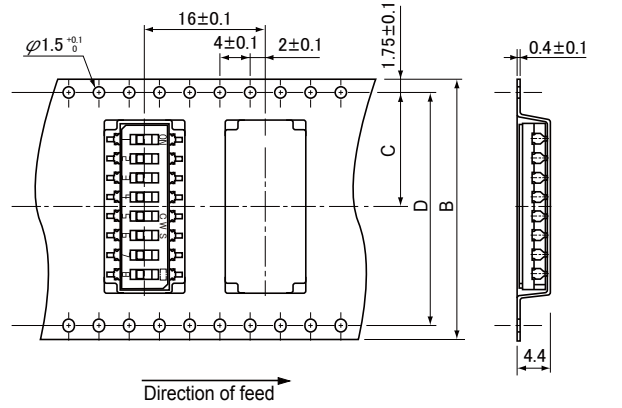
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## SLIDE SWITCHES (FULL PITCH)

### ● Flat knob 1 ~ 6 bits



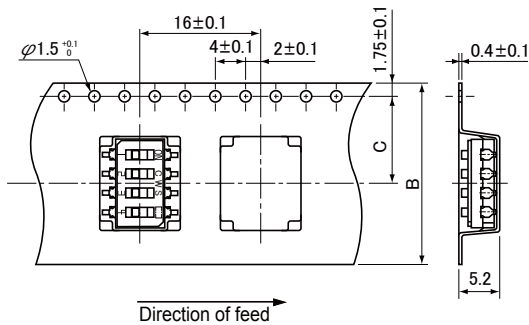
### 8, 10 bits



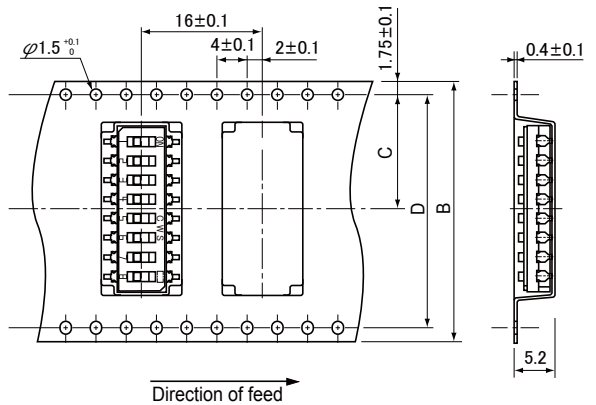
(Unit : mm)

No. of bits	B	C	D
1 ~ 6	24	11.5 ± 0.1	—
8	32	14.2 ± 0.1	28.4 ± 0.1
10	44	20.2 ± 0.1	40.4 ± 0.1

### ● Convex knob 1 ~ 6 bits



### 8, 10 bits



No. of bits	B	C	D
1 ~ 6	24	11.5 ± 0.1	—
8, 10	44	20.2 ± 0.1	40.4 ± 0.1

### <Magazine packaging specifications>

- Packing quantities of magazines are different depending on the bit number of the switches.

Please order the multiple numbers of the specific packing quantities.  
(e.g. 40 pcs., 80 pcs., 120 pcs., etc., in case of 4 bits version)

Pieces in package :

- 1 bits, 118 pcs./stick
- 2 bits, 72 pcs./stick
- 3 bits, 52 pcs./stick
- 4 bits, 40 pcs./stick
- 5 bits, 32 pcs./stick
- 6 bits, 28 pcs./stick
- 8 bits, 20 pcs./stick
- 10 bits, 16 pcs./stick

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