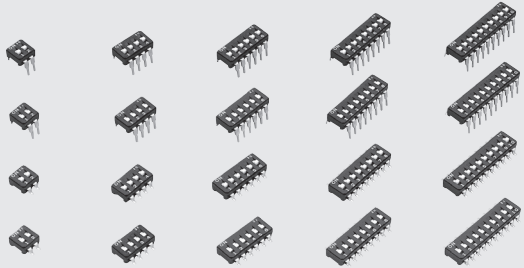


SLIDE SWITCHES (FULL PITCH)



RoHS compliant



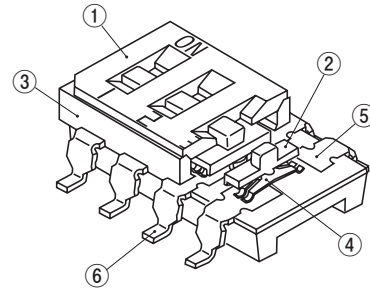
FEATURES

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

APPLICATIONS

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

INTERNAL STRUCTURE



| 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 | | |

PART NUMBER DESIGNATION

C F S - 0 4 0 1 T B

Series name

No. of bits

01 : 1 bit 02 : 2 bits 03 : 3 bits
 04 : 4 bits 05 : 5 bits 06 : 6 bits
 07 : 7 bits 08 : 8 bits 09 : 9 bits
 10 : 10 bits

Structure

00 : Flat knob • washable type (With seal tape)
 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) ^{*1}

* 1 : J-hook type is not available

Shape of terminal

A : J-hook
 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.

LIST OF PART NUMBERS

| No. of bits | Form of packaging | Structure | | | | | | Pieces in package |
|-------------|-------------------|---------------------------------------------------|-----------------|------------------------|--------------------------------------------|-----------------|------------------------|-------------------|
| | | Flat knob · non-washable type (Without seal tape) | | | Flat knob · washable type (With seal tape) | | | |
| | | A (J-hook) | B (Gull wing) | C (Through hole pin) | A (J-hook) | B (Gull wing) | C (Through hole pin) | |
| 1 | Taping | CFS-0101TA | CFS-0101TB | | CFS-0100TA | CFS-0100TB | | 1000 pcs./reel |
| | Magazine | CFS-0101MA | CFS-0101MB | CFS-0101MC | CFS-0100MA | CFS-0100MB | CFS-0100MC | 118 pcs./stick |
| 2 | Taping | CFS-0201TA | CFS-0201TB | | CFS-0200TA | CFS-0200TB | | 1000 pcs./reel |
| | Magazine | CFS-0201MA | CFS-0201MB | CFS-0201MC | CFS-0200MA | CFS-0200MB | CFS-0200MC | 72 pcs./stick |
| 3 | Taping | CFS-0301TA | CFS-0301TB | | CFS-0300TA | CFS-0300TB | | 1000 pcs./reel |
| | Magazine | CFS-0301MA | CFS-0301MB | CFS-0301MC | CFS-0300MA | CFS-0300MB | CFS-0300MC | 52 pcs./stick |
| 4 | Taping | CFS-0401TA | CFS-0401TB | | CFS-0400TA | CFS-0400TB | | 1000 pcs./reel |
| | Magazine | CFS-0401MA | CFS-0401MB | CFS-0401MC | CFS-0400MA | CFS-0400MB | CFS-0400MC | 40 pcs./stick |
| 5 | Taping | CFS-0501TA | CFS-0501TB | | CFS-0500TA | CFS-0500TB | | 1000 pcs./reel |
| | Magazine | CFS-0501MA | CFS-0501MB | CFS-0501MC | CFS-0500MA | CFS-0500MB | CFS-0500MC | 32 pcs./stick |
| 6 | Taping | CFS-0601TA | CFS-0601TB | | CFS-0600TA | CFS-0600TB | | 1000 pcs./reel |
| | Magazine | CFS-0601MA | CFS-0601MB | CFS-0601MC | CFS-0600MA | CFS-0600MB | CFS-0600MC | 28 pcs./stick |
| 7 | Taping | CFS-0701TA | CFS-0701TB | | CFS-0700TA | CFS-0700TB | | 1000 pcs./reel |
| | Magazine | CFS-0701MA | CFS-0701MB | CFS-0701MC | CFS-0700MA | CFS-0700MB | CFS-0700MC | 24 pcs./stick |
| 8 | Taping | CFS-0801TA | CFS-0801TB | | CFS-0800TA | CFS-0800TB | | 1000 pcs./reel |
| | Magazine | CFS-0801MA | CFS-0801MB | CFS-0801MC | CFS-0800MA | CFS-0800MB | CFS-0800MC | 20 pcs./stick |
| 9 | Taping | CFS-0901TA | CFS-0901TB | | CFS-0900TA | CFS-0900TB | | 1000 pcs./reel |
| | Magazine | CFS-0901MA | CFS-0901MB | CFS-0901MC | CFS-0900MA | CFS-0900MB | CFS-0900MC | 18 pcs./stick |
| 10 | Taping | CFS-1001TA | CFS-1001TB | | CFS-1000TA | CFS-1000TB | | 1000 pcs./reel |
| | Magazine | CFS-1001MA | CFS-1001MB | CFS-1001MC | CFS-1000MA | CFS-1000MB | CFS-1000MC | 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) | | |
| | | A (J-hook) | B (Gull wing) | C (Through hole pin) | B (Gull wing) | C (Through hole pin) | |
| 1 | Taping | CFS-0102TA | CFS-0102TB | | CFS-0103TB | | 800 pcs./reel |
| | Magazine | CFS-0102MA | CFS-0102MB | CFS-0102MC | CFS-0103MB | CFS-0103MC | 118 pcs./stick |
| 2 | Taping | CFS-0202TA | CFS-0202TB | | CFS-0203TB | | 800 pcs./reel |
| | Magazine | CFS-0202MA | CFS-0202MB | CFS-0202MC | CFS-0203MB | CFS-0203MC | 72 pcs./stick |
| 3 | Taping | CFS-0302TA | CFS-0302TB | | CFS-0303TB | | 800 pcs./reel |
| | Magazine | CFS-0302MA | CFS-0302MB | CFS-0302MC | CFS-0303MB | CFS-0303MC | 52 pcs./stick |
| 4 | Taping | CFS-0402TA | CFS-0402TB | | CFS-0403TB | | 800 pcs./reel |
| | Magazine | CFS-0402MA | CFS-0402MB | CFS-0402MC | CFS-0403MB | CFS-0403MC | 40 pcs./stick |
| 5 | Taping | CFS-0502TA | CFS-0502TB | | CFS-0503TB | | 800 pcs./reel |
| | Magazine | CFS-0502MA | CFS-0502MB | CFS-0502MC | CFS-0503MB | CFS-0503MC | 32 pcs./stick |
| 6 | Taping | CFS-0602TA | CFS-0602TB | | CFS-0603TB | | 800 pcs./reel |
| | Magazine | CFS-0602MA | CFS-0602MB | CFS-0602MC | CFS-0603MB | CFS-0603MC | 28 pcs./stick |
| 7 | Taping | CFS-0702TA | CFS-0702TB | | CFS-0703TB | | 800 pcs./reel |
| | Magazine | CFS-0702MA | CFS-0702MB | CFS-0702MC | CFS-0703MB | CFS-0703MC | 24 pcs./stick |
| 8 | Taping | CFS-0802TA | CFS-0802TB | | CFS-0803TB | | 800 pcs./reel |
| | Magazine | CFS-0802MA | CFS-0802MB | CFS-0802MC | CFS-0803MB | CFS-0803MC | 20 pcs./stick |
| 9 | Taping | CFS-0902TA | CFS-0902TB | | CFS-0903TB | | 800 pcs./reel |
| | Magazine | CFS-0902MA | CFS-0902MB | CFS-0902MC | CFS-0903MB | CFS-0903MC | 18 pcs./stick |
| 10 | Taping | CFS-1002TA | CFS-1002TB | | CFS-1003TB | | 800 pcs./reel |
| | Magazine | CFS-1002MA | CFS-1002MB | CFS-1002MC | CFS-1003MB | CFS-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.

STANDARD SPECIFICATIONS

| | |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating temp. range | - 40 ~ 85 °C |
| Storage temp. range | |
| Sealing | Washable type available with seal tape |
| Net weight | Approx. 0.15 g (CFS-01), Approx. 0.24 g (CFS-02), Approx. 0.33 g (CFS-03), Approx. 0.42 g (CFS-04), Approx. 0.51 g (CFS-05), Approx. 0.61 g (CFS-06), Approx. 0.70 g (CFS-07), Approx. 0.82 g (CFS-08), Approx. 0.90 g (CFS-09), Approx. 0.98 g (CFS-10) |

ELECTRICAL CHARACTERISTICS

| | |
|---------------------------------------------------------|--------------------------------------------------------------|
| Contact rating Non-switching Switching Minimum | DC50 V 100 mA DC6 V, 100 mA DC24 V, 25 mA DC20 mV 1 μA |
| Contact resistance | 50 m Ω maximum |
| Insulation resistance | 1000 M Ω (DC100 V) minimum |
| Dielectric strength | AC500 V, 60 s |

MECHANICAL CHARACTERISTICS

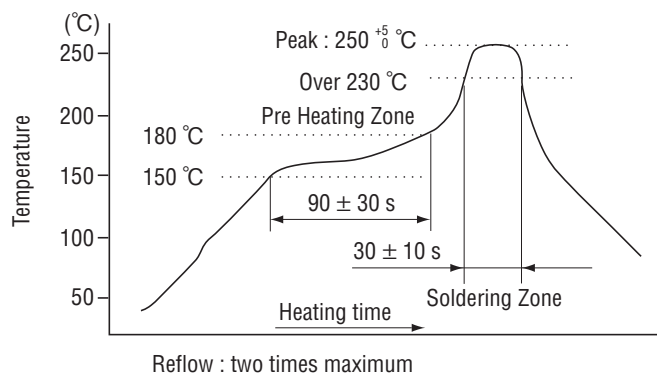
| | |
|-------------------|----------------------------------------------------------------------------------------------------------------------------|
| Stroke | 1 mm |
| Operation force | 0.5 ~ 7 N {0.05 ~ 0.71 kgf} |
| Stop strength | 10 N {1.02 kgf} 60 s |
| Solderability | 245 ± 3 °C, 2 ~ 3 s |
| Soldering heat | Reflow : 255 °C (Peak temperature) Flow : 260 ± 3 °C, 5 ~ 6 s, two times maximum (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 or (Acceleration) 98 m/s ² , 10-500 Hz, 3 directions for 10 cycles each |
| Shock | 490 m/s ² , 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>



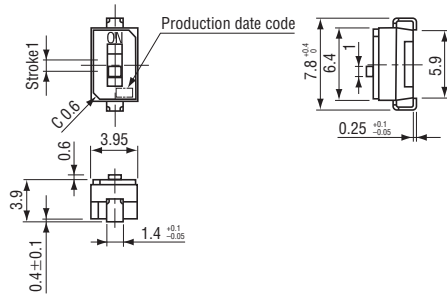
CFS

SLIDE SWITCHES (FULL PITCH)

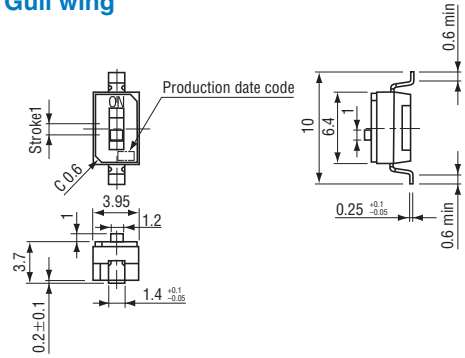
OUTLINE DIMENSIONS

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

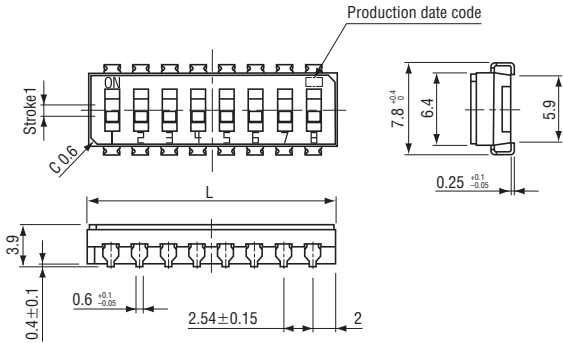
● 1 bit, J-hook



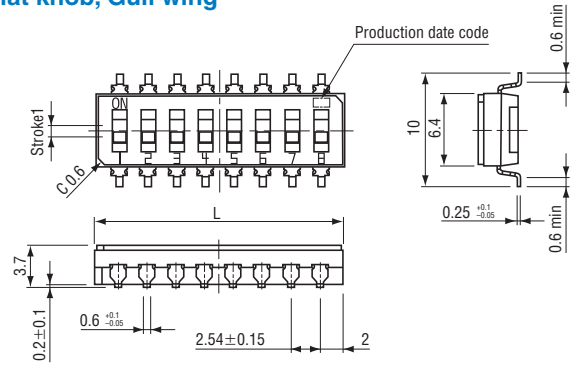
● 1 bit, Gull wing



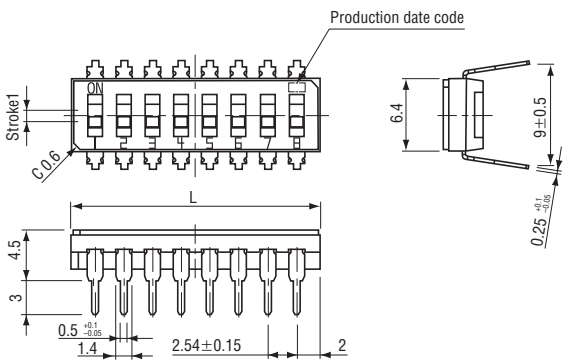
● Flat knob, J-hook



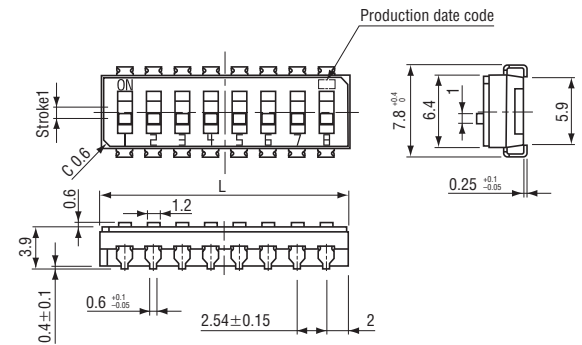
● Flat knob, Gull wing



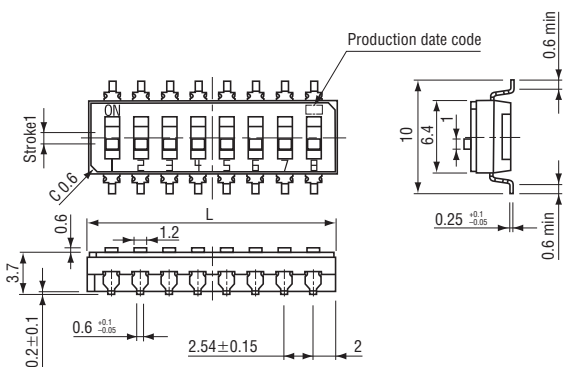
● Flat knob, Through hole pin



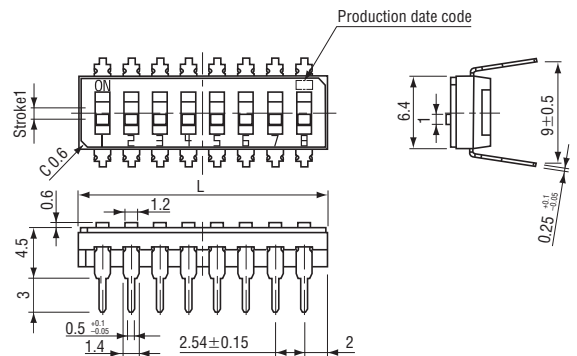
● Convex knob of 0.6 mm, J-hook



● Convex knob of 0.6 mm, Gull wing

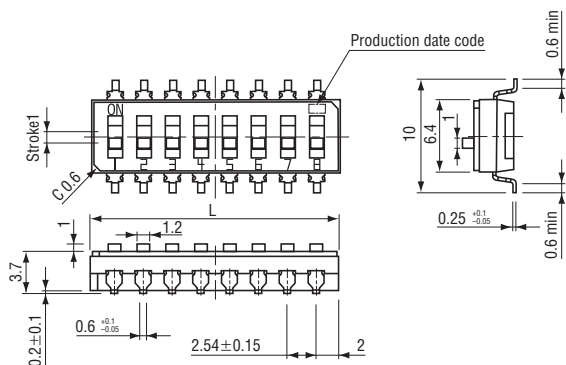


● Convex knob of 0.6 mm, Through hole pin

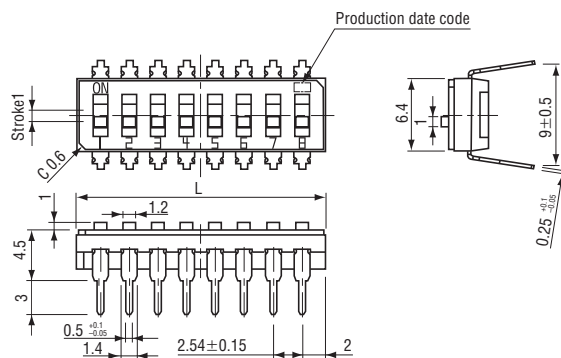


SLIDE SWITCHES (FULL PITCH)

● Convex knob of 1 mm , Gull wing



● Convex knob of 1 mm , Through hole pin



| Part number | Schematic | No. of bits. | L dimension |
|-------------|-----------|--------------|-------------|
| CFS-01 | | 1 | 3.95 |
| CFS-02 | | 2 | 6.5 |
| CFS-03 | | 3 | 9.05 |
| CFS-04 | | 4 | 11.6 |
| CFS-05 | | 5 | 14.15 |

| Part number | Schematic | No. of bits. | L dimension |
|-------------|-----------|--------------|-------------|
| CFS-06 | | 6 | 16.7 |
| CFS-07 | | 7 | 19.25 |
| CFS-08 | | 8 | 21.8 |
| CFS-09 | | 9 | 24.35 |
| CFS-10 | | 10 | 26.9 |

RECOMMENDED P.C.B. PAD DIMENSIONS

(Unit : mm)

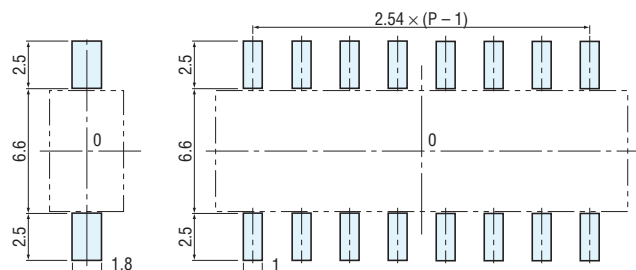
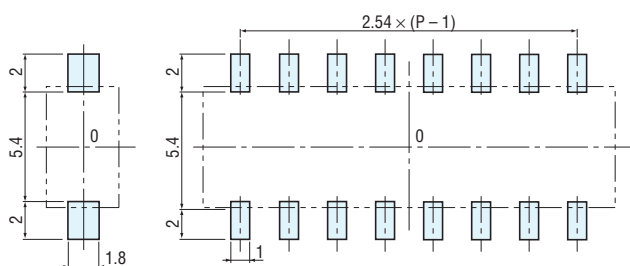
● CFS-01□□□A

● CFS-□□□□A

● CFS-01□□□B

● CFS-□□□□B

P : No. of bits

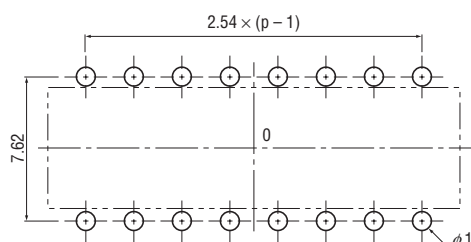


SIZE OF P.C.B. PROCESSING

(Unit : mm)

● CFS-□□□□C

P : No. of bits



CFS

SLIDE SWITCHES (FULL PITCH)

PACKAGING SPECIFICATIONS

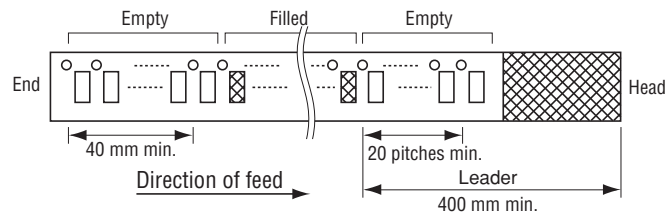
<Taping packaging specifications>

● Taping version is packaged in 1000 pcs. (Flat knob) or 800 pcs. (Convex knob) per reel. Orders will be accepted for units of 1000 or 800 pcs., i.e., 1000, 2000, 3000 pcs., or 800, 1600, 2400 pcs., etc.

● Taping version is boxed with 1 reel.

Maximum number of consecutive missing pieces = 2
 Leader length and reel dimension are shown in the diagrams below:

● Embossed tape dimensions

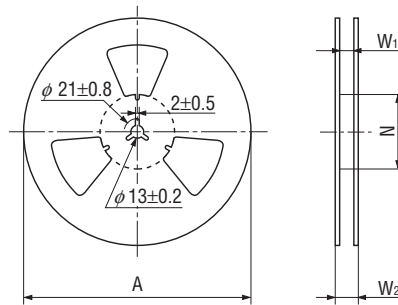


● Reel dimensions

(Unit: mm)

(Conforms to JIS C 0806-3)

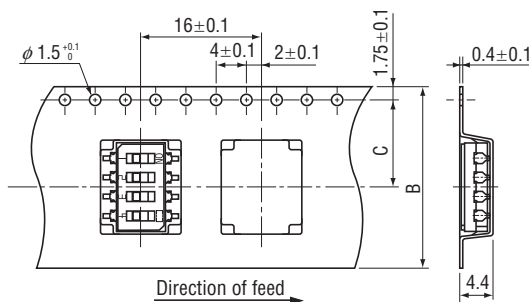
(In accordance with EIAJ ET-7200A)



| Flat knob | | | | |
|------------------|-------------------------|----------------|----------------|------------------------|
| No. of bits | A | W ₁ | W ₂ | N |
| 1, 2, 3, 4, 5, 6 | $\varnothing 330 \pm 2$ | 25.4 ± 1 | 29.4 ± 1 | $\varnothing 80 \pm 1$ |
| 7, 8 | | 33.4 ± 1 | 37.4 ± 1 | |
| 9, 10 | | 45.4 ± 1 | 49.4 ± 1 | |

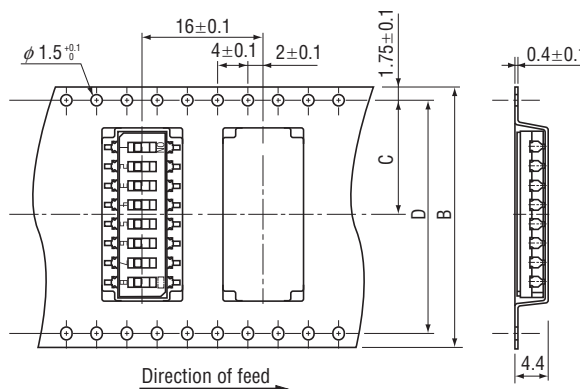
| Convex knob | | | | |
|------------------|-------------------------|----------------|----------------|------------------------|
| No. of bits | A | W ₁ | W ₂ | N |
| 1, 2, 3, 4, 5, 6 | $\varnothing 330 \pm 2$ | 25.4 ± 1 | 29.4 ± 1 | $\varnothing 80 \pm 1$ |
| 7 | | 33.4 ± 1 | 37.4 ± 1 | |
| 8, 9, 10 | | 45.4 ± 1 | 49.4 ± 1 | |

● Flat knob
1, 2, 3, 4, 5, 6 bits



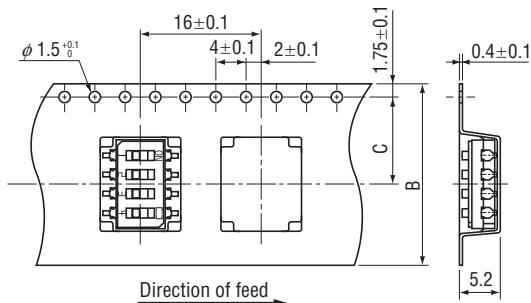
7, 8, 9, 10 bits

(Unit : mm)

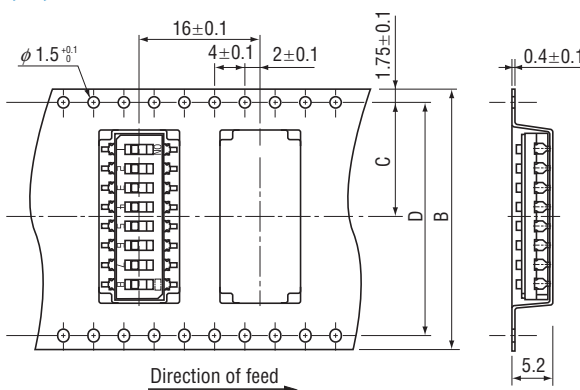


| 極数 No. of bits | B | C | D |
|------------------|----|------------|------------|
| 1, 2, 3, 4, 5, 6 | 24 | 11.5 ± 0.1 | — |
| 7, 8 | 32 | 14.2 ± 0.1 | 28.4 ± 0.1 |
| 9, 10 | 44 | 20.2 ± 0.1 | 40.4 ± 0.1 |

● Convex knob
1, 2, 3, 4, 5, 6 bits



7, 8, 9, 10 bits



| No. of bits | B | C | D |
|------------------|----|------------|------------|
| 1, 2, 3, 4, 5, 6 | 24 | 11.5 ± 0.1 | — |
| 7 | 32 | 14.2 ± 0.1 | 28.4 ± 0.1 |
| 8, 9, 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 bit, 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
- 7 bits, 24 pcs./stick
- 8 bits, 20 pcs./stick
- 9 bits, 18 pcs./stick
- 10 bits, 16 pcs./stick

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