

# COMPACT SLIDE SWITCHES

# CSS

## RoHS compliant



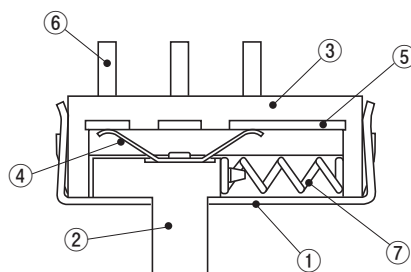
## FEATURES

- Low-profile of 2 mm
- Self-return type available
- RoHS compliant

## APPLICATIONS

- Mobile stereo · LCD TV · Camcorder

## INTERNAL STRUCTURE



|   | Part name      | Material                  | Flammability |
|---|----------------|---------------------------|--------------|
| ① | Cover          | Stainless steel (SUS 304) | —            |
| ② | Slider         | Liquid Crystal polymer    | UL94V-0      |
| ③ | Housing        |                           |              |
| ④ | Slider contact | Copper alloy, Gold-plated | —            |
| ⑤ | Fixed contact  |                           |              |
| ⑥ | Terminal pin   |                           |              |
| ⑦ | Return spring  | SWP                       |              |

## PART NUMBER DESIGNATION

|                                                         |       |   |   |   |   |   |   |   |                                                                     |
|---------------------------------------------------------|-------|---|---|---|---|---|---|---|---------------------------------------------------------------------|
| Series name                                             | C S S | - | 1 | 2 | 1 | 1 | T | B | Shape of terminal<br>B : Gull wing<br>C : Through hole pins         |
| No. of poles<br>1 : 1 pole                              |       |   |   |   |   |   |   |   |                                                                     |
| No. of contacts<br>2 : 2 contacts<br>3 : 3 contacts     |       |   |   |   |   |   |   |   | Form of packaging<br>T : Taping<br>M : Magazine                     |
| Setting position<br>0 : Top setting<br>1 : Side setting |       |   |   |   |   |   |   |   | Self-return function<br>0 : No function<br>1 : Single<br>2 : Double |

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

# CSS

## COMPACT SLIDE SWITCHES

### LIST OF PART NUMBERS

| No. of contacts | Setting position | Self-return function | Shape of terminal     | Form of packaging | Part number | Pieces in package |
|-----------------|------------------|----------------------|-----------------------|-------------------|-------------|-------------------|
| 2               | Side setting     | No function          | B (Gull wing)         | Taping            | CSS-1210TB  | 1,900 pcs./reel   |
|                 |                  |                      | C (Through hole pins) | Magazine          | CSS-1210MC  | 53 pcs./stick     |
|                 |                  | Single               | B (Gull wing)         | Taping            | CSS-1211TB  | 1,900 pcs./reel   |
|                 |                  |                      | C (Through hole pins) | Magazine          | CSS-1211MC  | 53 pcs./stick     |
| 3               | Side setting     | No function          | B (Gull wing)         | Taping            | CSS-1310TB  | 1,900 pcs./reel   |
|                 |                  |                      | C (Through hole pins) | Magazine          | CSS-1310MC  | 38 pcs./stick     |
|                 |                  | Single               | B (Gull wing)         | Taping            | CSS-1311TB  | 1,900 pcs./reel   |
|                 |                  |                      | C (Through hole pins) | Magazine          | CSS-1311MC  | 38 pcs./stick     |
|                 |                  | Double               | B (Gull wing)         | Taping            | CSS-1312TB  | 1,900 pcs./reel   |
|                 |                  |                      | C (Through hole pins) | Magazine          | CSS-1312MC  | 38 pcs./stick     |
|                 | Top setting      | No function          | C (Through hole pins) | Magazine          | CSS-1300MC  | 38 pcs./stick     |
|                 |                  | Double               | C (Through hole pins) | Magazine          | CSS-1302MC  | 38 pcs./stick     |

### STANDARD SPECIFICATIONS

|                       |                                                  |
|-----------------------|--------------------------------------------------|
| Operating temp. range | - 20 ~ 70 °C                                     |
| Storage temp. range   | - 40 ~ 85 °C                                     |
| Sealing               | Non washable                                     |
| Net weight            | Approx. 0.11 g (CSS-12), Approx. 0.15 g (CSS-13) |

### MECHANICAL CHARACTERISTICS

|                   |                                                                                 |
|-------------------|---------------------------------------------------------------------------------|
| No. of positions  | 2, 3                                                                            |
| Stroke            | 2 mm                                                                            |
| Operating force   | 1 ~ 3.5 N {0.1 ~ 0.36 kgf}                                                      |
| Stop strength     | 10 N {1.02 kgf} 15 s                                                            |
| Solderability     | 245 ± 3 °C 2 ~ 3 s<br>Sn-3Ag-0.5Cu                                              |
| Soldering heat    | Reflow : 250 ~ 255 °C (Peak temperature)<br>(Please refer to the profile below) |
|                   | Manual soldering : 350 ± 10 °C, 3 ~ 4 s                                         |
| Shear (Adhesion)  | 5 N {0.5 kgf} 10 s                                                              |
| Substrate bending | Width 90 mm, bend 3 mm, 5 s, 1 time                                             |
| Pull-off strength | 5 N {0.5 kgf} 10 s                                                              |

{ } : Reference only

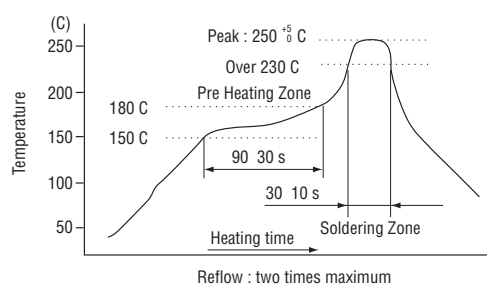
### ELECTRICAL CHARACTERISTICS

|                       |                                                                                      |
|-----------------------|--------------------------------------------------------------------------------------|
| Contact rating        | Non-switching : DC50 V 100 mA<br>Switching : DC12 V 100 mA<br>Minimum : DC20 mV 1 µA |
| Contact timing        | Non-shorting                                                                         |
| Contact resistance    | 70 mΩ maximum                                                                        |
| Insulation resistance | 100 MΩ minimum (DC 500 V)                                                            |
| Dielectric strength   | AC500 V 60 s                                                                         |

### ENVIRONMENTAL CHARACTERISTICS

|                     |                                                                                                         |
|---------------------|---------------------------------------------------------------------------------------------------------|
| Vibration           | Amplitude 1.5 mm or Acceleration 98 m/s <sup>2</sup> ,<br>10-500-10 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 10000 cycles,<br>DC12 ± 0.5 V, 100 ± 10 mA                                              |
| Humidity            | 40 °C, Relative humidity 90 ~ 95 %, 240 h, No load                                                      |
| High temp. exposure | 85 °C, 96 h, No load                                                                                    |
| Low temp. 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>



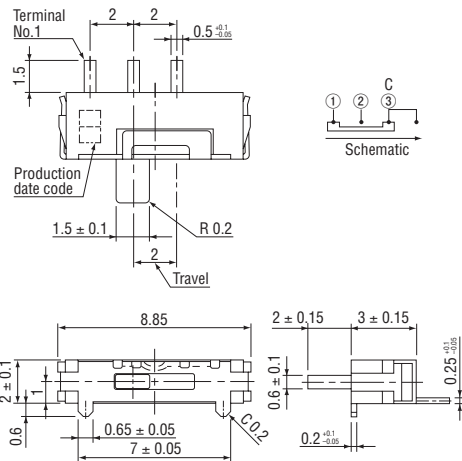
# CSS

## COMPACT SLIDE SWITCHES

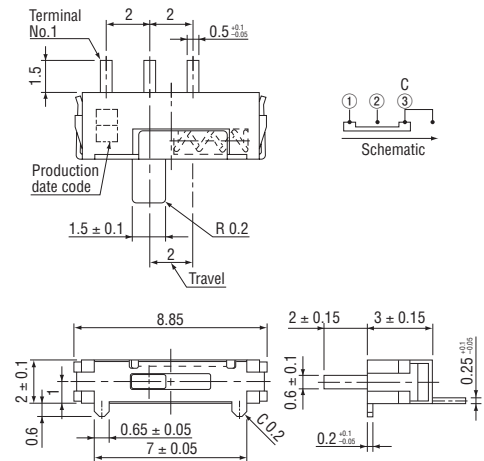
### OUTLINE DIMENSIONS

Unless otherwise specified, tolerance :  $\pm 0.2$  (Unit : mm)

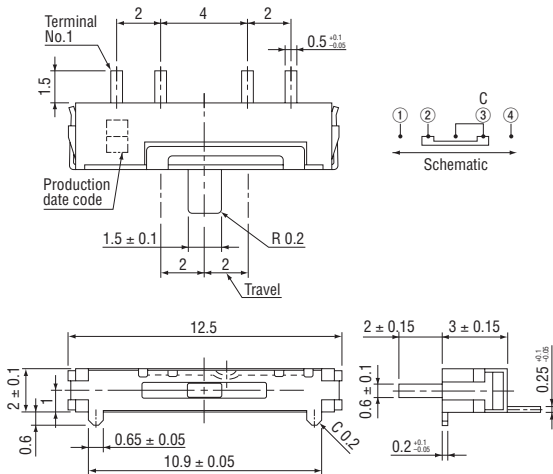
#### ● CSS-1210B



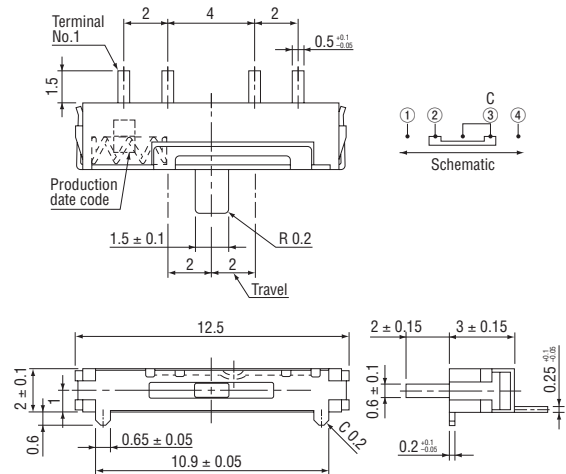
#### ● CSS-1211B



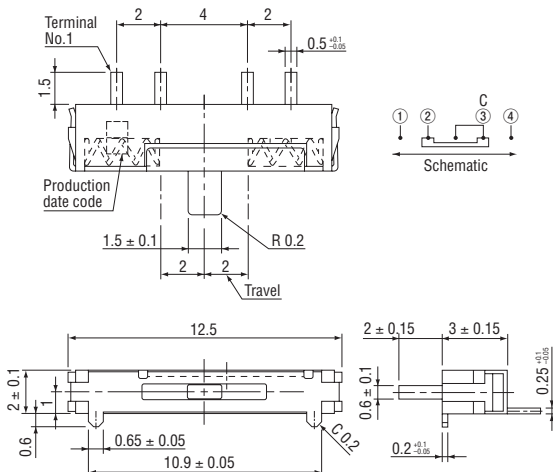
#### ● CSS-1310B



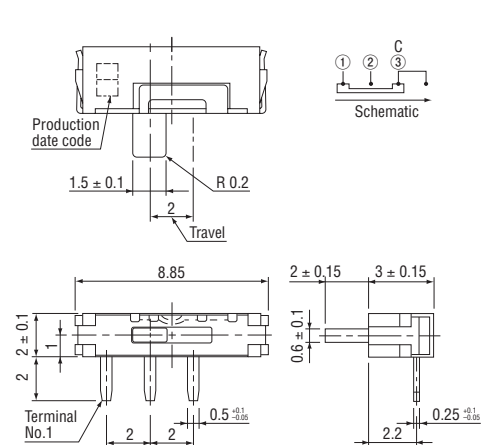
#### ● CSS-1311B



#### ● CSS-1312B



#### ● CSS-1210C



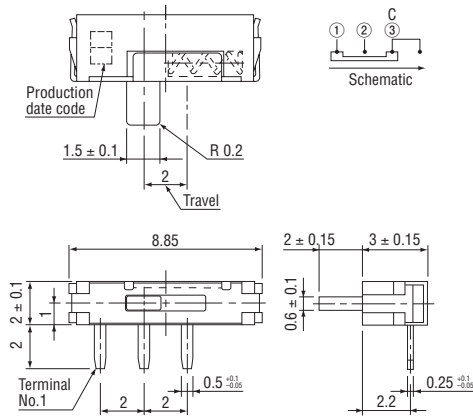
# CSS

## COMPACT SLIDE SWITCHES

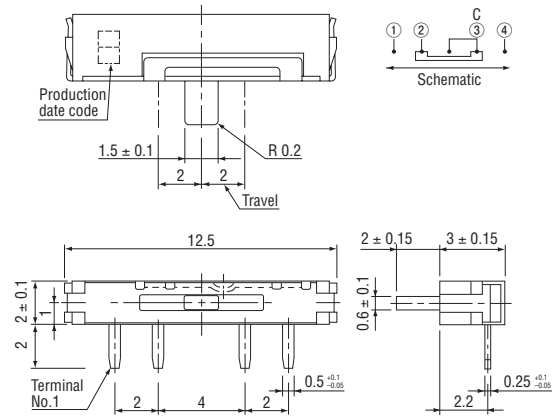
### OUTLINE DIMENSIONS

Unless otherwise specified, tolerance :  $\pm 0.2$  (Unit : mm)

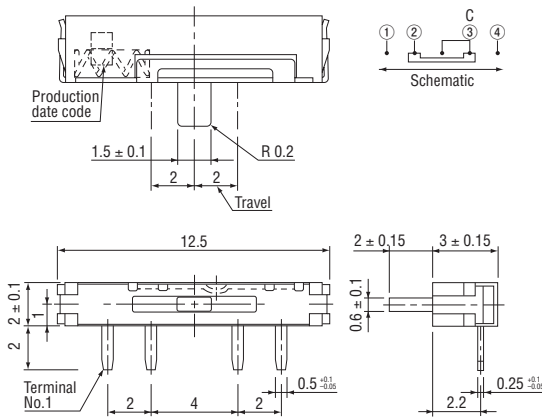
#### ● CSS-1211C



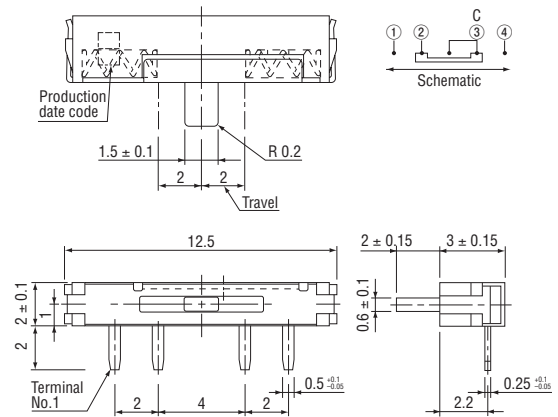
#### ● CSS-1310C



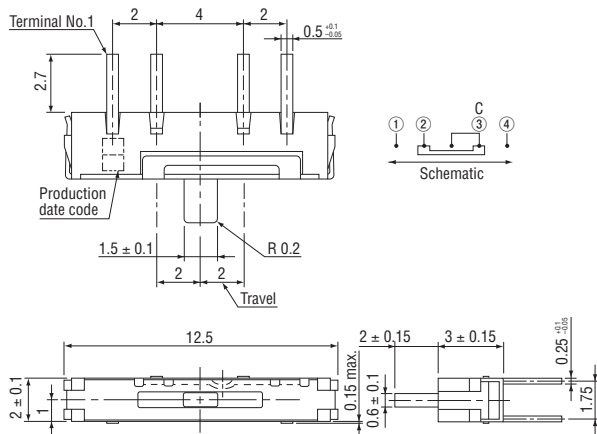
#### ● CSS-1311C



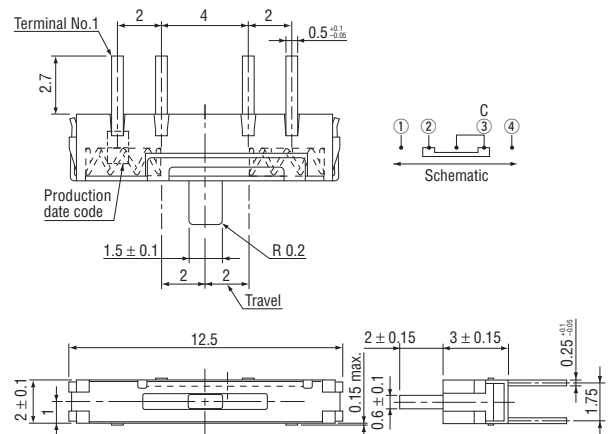
#### ● CSS-1312C



#### ● CSS-1300C



#### ● CSS-1302C

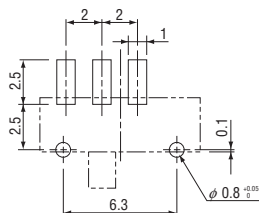


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## COMPACT SLIDE SWITCHES

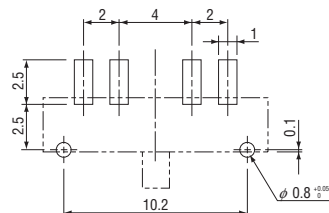
### RECOMMENDED P.C.B. PAD OUTLINE DIMENSIONS

#### ● CSS-121 □ B



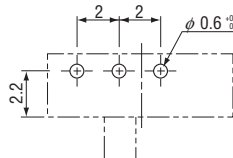
#### ● CSS-131 □ B

(Unit : mm)

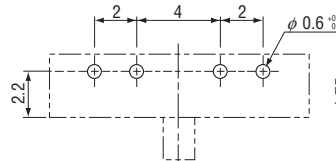


### SIZE OF P.C.B. PROCESSING

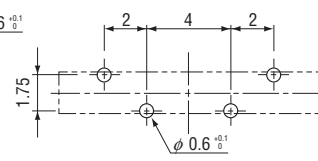
#### ● CSS-121 □ C



#### ● CSS-131 □ C



#### ● CSS-130 □ C



### PACKAGING SPECIFICATIONS

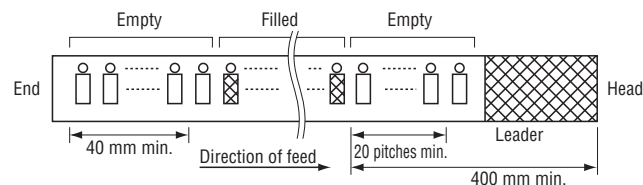
Taping version is packaged in 1900 pcs. per reel.

Taping version is boxed with 1 reel (1900 pcs.).

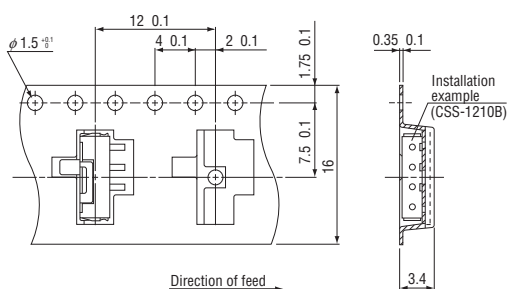
Maximum number of consecutive missing pieces = 2.

Leader length and reel dimension are shown in the diagrams below.

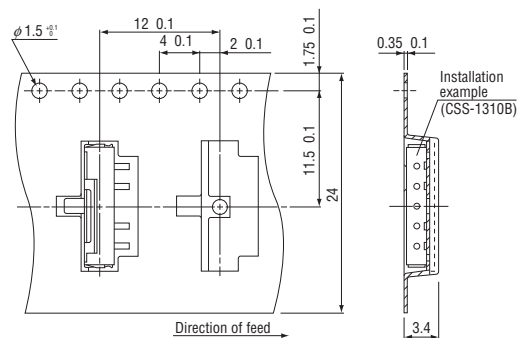
#### Embossed tape dimensions



#### ● CSS-121 □ TB

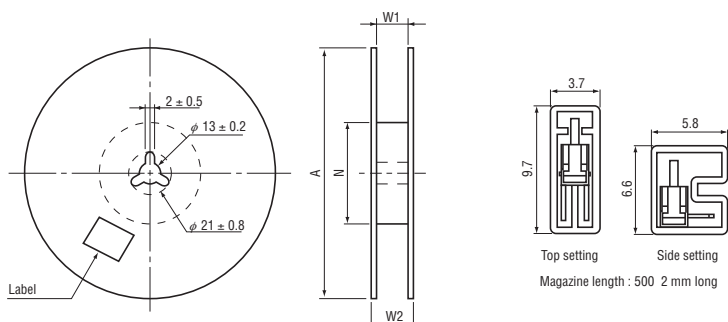


#### ● CSS-131 □ TB



#### ● Reel dimensions

(Unit: mm)



| Part number | A         | W <sub>1</sub> | W <sub>2</sub> | N        | Packing quantity of magazine |                  |
|-------------|-----------|----------------|----------------|----------|------------------------------|------------------|
| 121 □ TB    | φ 330 ± 2 | 17.4 ± 1       | 21.4 ± 1       | φ 80 ± 1 | Part number                  | Quantity / Stick |
| 131 □ TB    | φ 330 ± 2 | 25.4 ± 1       | 29.4 ± 1       | φ 80 ± 1 | 12 □□                        | 53               |
|             |           |                |                |          | 13 □□                        | 38               |