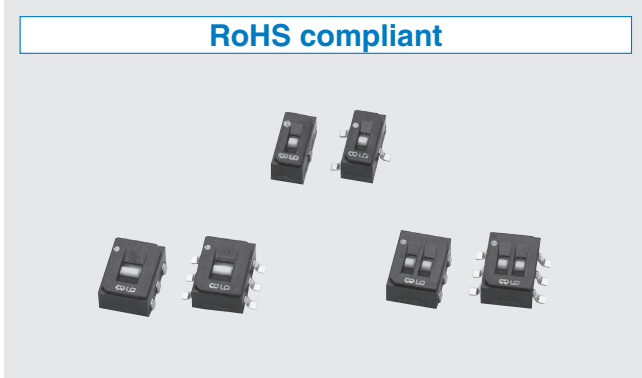


# SLIDE SWITCHES (SMD)



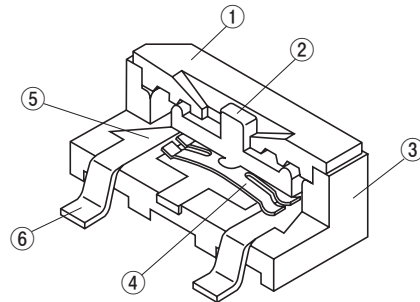
## RoHS compliant



## FEATURES

- RoHS compliant
- Compatible with most automatic pick & place machinery
- Compact and space saving SMD type
- Excellent contact stability by twin Gold-plated contact
- Low profile design of 2.5 mm

## 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 A S - 1 2 0 T B 1**

Series name

No. of poles

1 : (SPDT) 1 pole, 2 : (2PDT) 2 poles  
D : (Dual SPDT) Dual

No. of contacts

2 : 2 contacts

Setting position

0 : Top setting

Form of packaging

T : Taping (Reel)  
Blank : Bulk in plastic bag

Structure

1 : Non-washable type (Without seal tape)  
Standard type  
2 : Non-washable type (With seal tape)  
Blank : Washable type (With seal tape)

Shape of terminal

A : J-hook  
B : Gull wing

SPDT : Single Pole Double Throw    2PDT : Two Poles Double Throw

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

# CAS

## SLIDE SWITCHES (SMD)

### LIST OF PART NUMBERS

| No. of poles | No. of contacts | Setting position | Form of packaging | Non-washable type (Without seal tape) |                 | Non-washable type (With seal tape) |                 | Pieces in package |
|--------------|-----------------|------------------|-------------------|---------------------------------------|-----------------|------------------------------------|-----------------|-------------------|
|              |                 |                  |                   | A ( J-hook )                          | B ( Gull wing ) | A ( J-hook )                       | B ( Gull wing ) |                   |
| 1            | 2               | Top setting      | Taping            | CAS-120TA1                            | CAS-120TB1      | CAS-120TA2                         | CAS-120TB2      | 1000pcs./reel     |
|              |                 |                  | Plastic bag       | CAS-120A1                             | CAS-120B1       | CAS-120A2                          | CAS-120B2       | 100pcs./pack      |
| 2            |                 |                  | Taping            | CAS-220TA1                            | CAS-220TB1      | CAS-220TA2                         | CAS-220TB2      | 1000pcs./reel     |
|              |                 |                  | Plastic bag       | CAS-220A1                             | CAS-220B1       | CAS-220A2                          | CAS-220B2       | 100pcs./pack      |
| Dual         |                 |                  | Taping            | CAS-D20TA1                            | CAS-D20TB1      | CAS-D20TA2                         | CAS-D20TB2      | 1000pcs./reel     |
|              |                 |                  | Plastic bag       | CAS-D20A1                             | CAS-D20B1       | CAS-D20A2                          | CAS-D20B2       | 100pcs./pack      |

| No. of poles | No. of contacts | Setting position | Form of packaging | Washable type (With seal tape) |                 | Pieces in package |
|--------------|-----------------|------------------|-------------------|--------------------------------|-----------------|-------------------|
|              |                 |                  |                   | A ( J-hook )                   | B ( Gull wing ) |                   |
| 1            | 2               | Top setting      | Taping            | CAS-120TA                      | CAS-120TB       | 1000pcs./reel     |
|              |                 |                  | Plastic bag       | CAS-120A                       | CAS-120B        | 100pcs./pack      |
| 2            |                 |                  | Taping            | CAS-220TA                      | CAS-220TB       | 1000pcs./reel     |
|              |                 |                  | Plastic bag       | CAS-220A                       | CAS-220B        | 100pcs./pack      |
| Dual         |                 |                  | Taping            | CAS-D20TA                      | CAS-D20TB       | 1000pcs./reel     |
|              |                 |                  | Plastic bag       | CAS-D20A                       | CAS-D20B        | 100pcs./pack      |

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

## STANDARD SPECIFICATIONS

|                       |  |
|-----------------------|--|
| Operating temp. range | - 40 ~ 85 °C   |
| Storage temp. range   |  |
| Sealing               | Washable type available with seal tape                 |
| Net weight            | Approx. 0.05g (CAS-120)<br>Approx. 0.08g (CAS-220/D20) |

## ELECTRICAL CHARACTERISTICS

|   |   |
|---|---|
| Contact rating<br>Non-switching<br>Switching<br>Minimum | DC50 V 100 mA<br>DC6 V, 100 mA DC24 V, 25 mA<br>DC20 mV 1 $\mu$ A |
| Contact resistance                                      | 50 m $\Omega$ maximum   |
| Insulation resistance                                   | 1000 M $\Omega$ (DC100 V) minimum                                 |
| Dielectric strength                                     | AC500 V, 60 s   |

## MECHANICAL CHARACTERISTICS

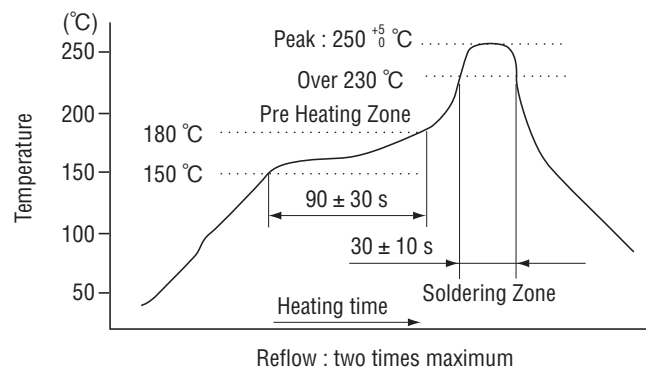
|                   |   |
|-------------------|---|
| Operating force   | 0.5 ~ 5 N {0.05 ~ 0.51 kgf}   |
| Stop strength     | 10 N {1.02 kgf}, 60 s   |
| Solderability     | 245 $\pm$ 3 °C, 2 ~ 3 s   |
| Soldering heat    | Reflow : 255 °C (Peak temperature)<br>(Please refer to the profile below) |
|                   | Manual soldering : 350 $\pm$ 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 mmor (Acceleration) 98 m/s <sup>2</sup> ,<br>10-500 Hz, 3 directions for 10 cycles each |
| Shock               | 490 m/s <sup>2</sup> , 11 ms<br>6 directions for 3 times each   |
| Load life           | Continuous load 2000 cycles,<br>DC6 $\pm$ 0.5 V, 100 $\pm$ 10 mA  |
| Humidity            | - 10 ~ 65 °C, Relative humidity 0 ~ 96 %,<br>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>



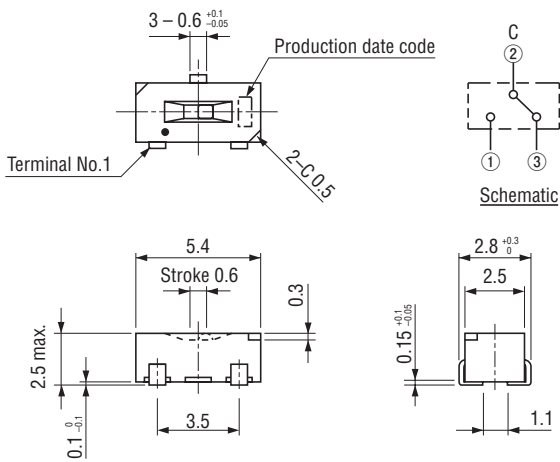
# CAS

## SLIDE SWITCHES (SMD)

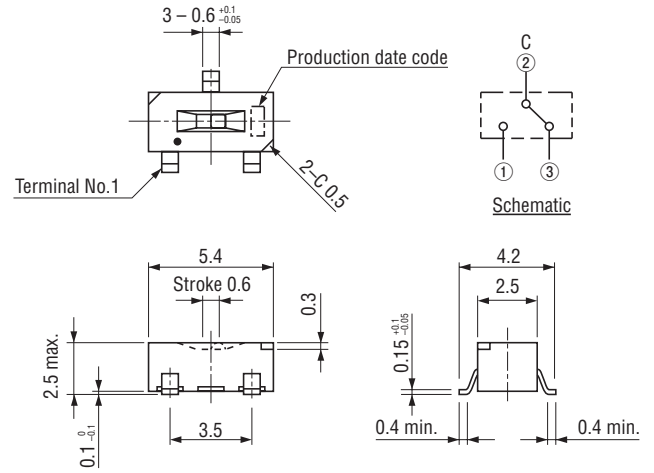
### OUTLINE DIMENSIONS

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

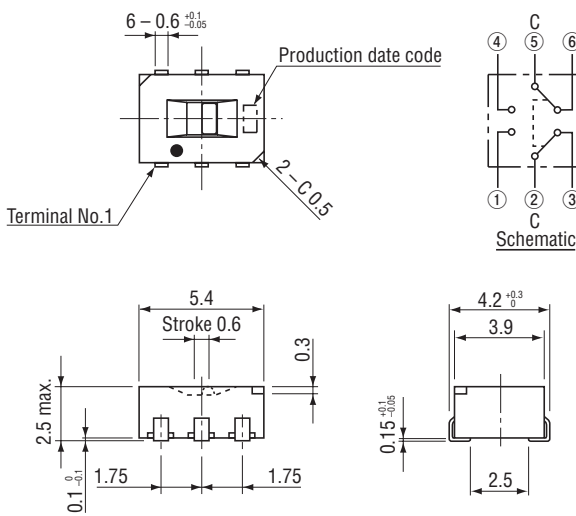
#### CAS-120A1



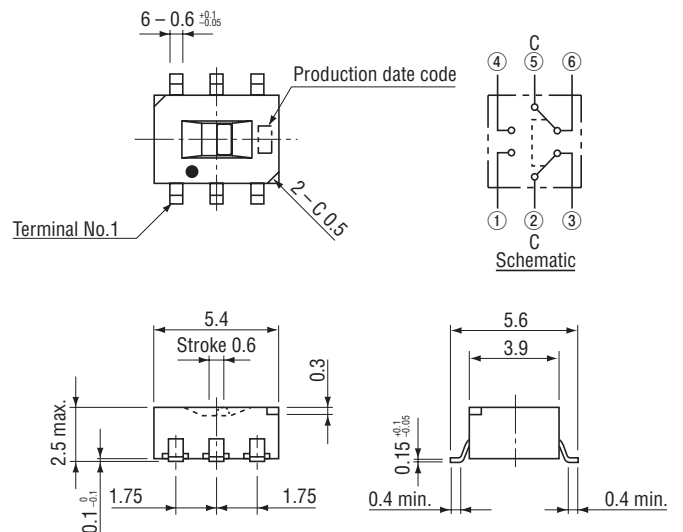
#### CAS-120B1



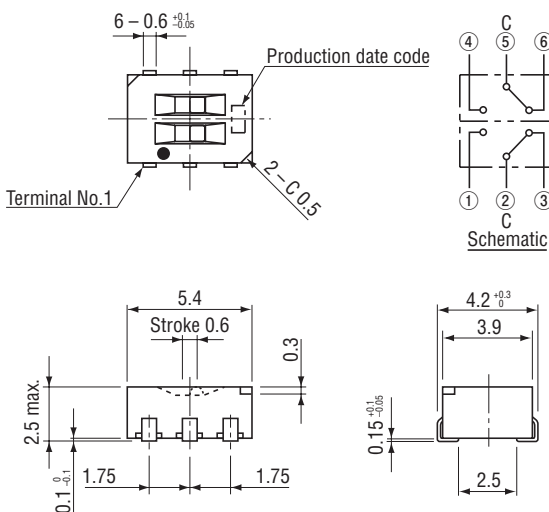
#### CAS-220A1



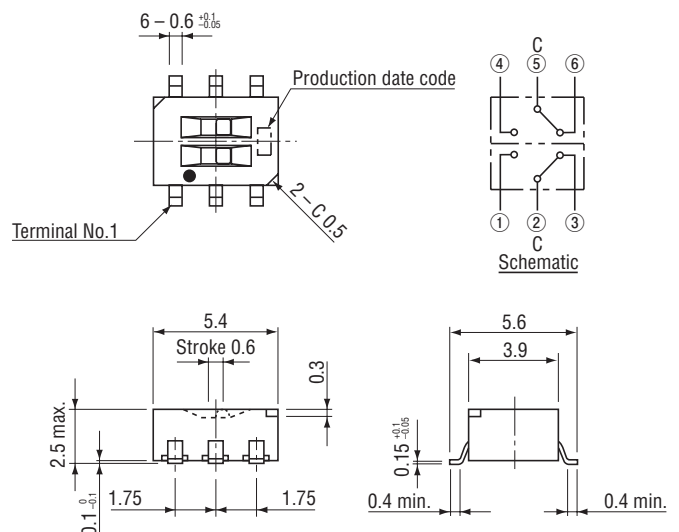
#### CAS-220B1



#### CAS-D20A1



#### CAS-D20B1

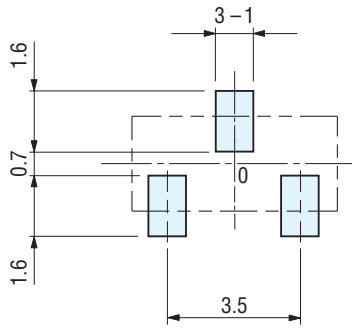


**RECOMMENDED P.C.B. PAD OUTLINE DIMENSIONS**

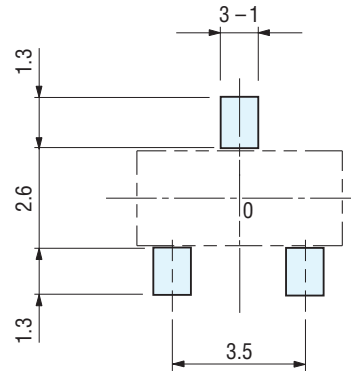
● CAS-120

(Unit : mm)

A type

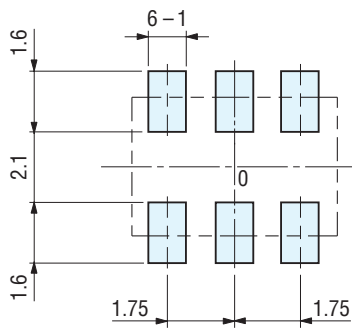


B type

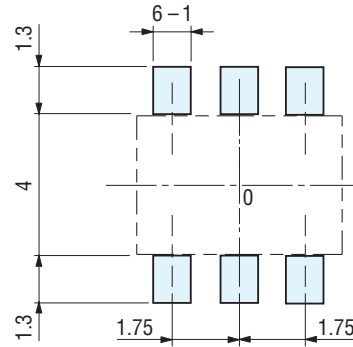


● CAS-220 • D20

A type



B type



Note) The zero point is the center of mounting.

# CAS

## SLIDE SWITCHES (SMD)

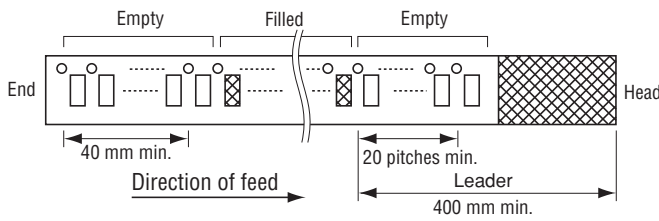
### PACKAGING SPECIFICATIONS

#### <Taping packaging specifications>

- Taping version is packaged in 1000 pcs. per reel.  
Orders will be accepted for units of 1000 pcs., i.e., 1000, 2000, 3000 pcs., etc.
- Taping version is boxed with two reels (2000 pcs.).

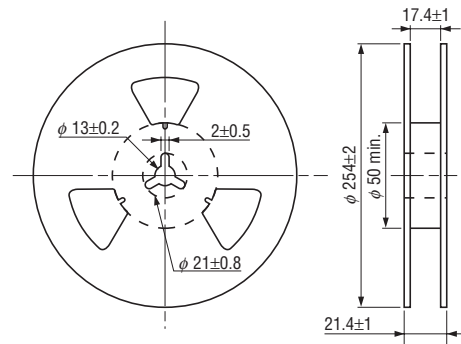
Maximum number of consecutive missing pieces=2  
Leader length and reel dimension are shown in the diagrams below:

#### ● Embossed tape dimensions

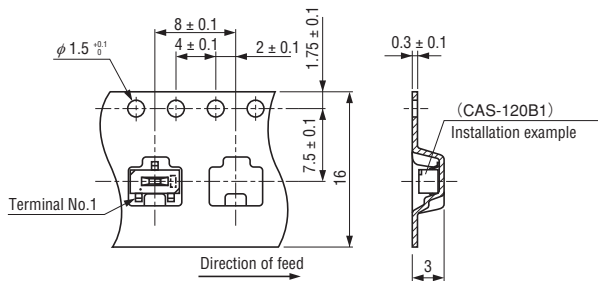


#### ● Reel dimensions

(Unit: mm)  
(Conforms to JIS C 0806-3)



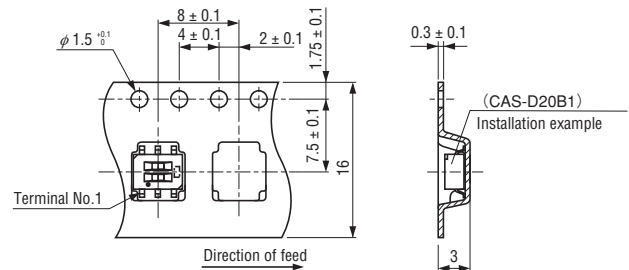
#### ● CAS-120TA, TB



#### ● CAS-220TA, TB • D20TA, TB

(Conforms to JIS C 0806-3)  
(In accordance with EIAJ ET-7200A)

(Unit: mm)



#### <Bulk pack specifications>

- Boxing of bulk pack in a plastic bag is performed with 100 pcs. (standard 500 pcs.) per box.

# Mouser Electronics

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## [Nidec:](#)

[CAS-120TA1](#) [CAS-220TA1](#) [CAS-220TB1](#) [CAS-220TB2](#) [CAS-D20TA1](#) [CAS-D20TA2](#) [CAS-D20TB](#) [CAS-D20TB1](#)  
[CAS-D20TB2](#) [CAS-120TB1](#) [CAS-120TB2](#) [CAS-120A1](#) [CAS-220B](#) [CAS-D20B](#) [CAS-120B1](#) [CAS-220TA](#) [CAS-](#)  
[220TB](#) [CAS-120A](#) [CAS-120TA](#) [CAS-D20TA](#) [CAS-120TB](#) [CAS-120B](#) [CAS-220A2](#) [CAS-D20B1](#) [CAS-D20A1](#) [CAS-](#)  
[220A1](#) [CAS-220B1](#) [CAS-120A2](#) [CAS-120B2](#) [CAS-120TA2](#) [CAS-220A](#) [CAS-220B2](#) [CAS-220TA2](#) [CAS-D20A](#) [CAS-](#)  
[D20A2](#) [CAS-D20B2](#)