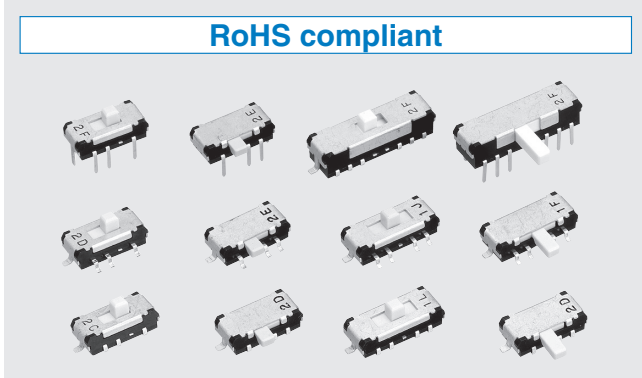


SLIDE SWITCHES (SMD)



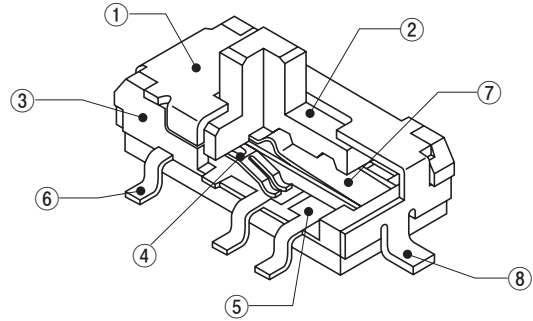
RoHS compliant



FEATURES

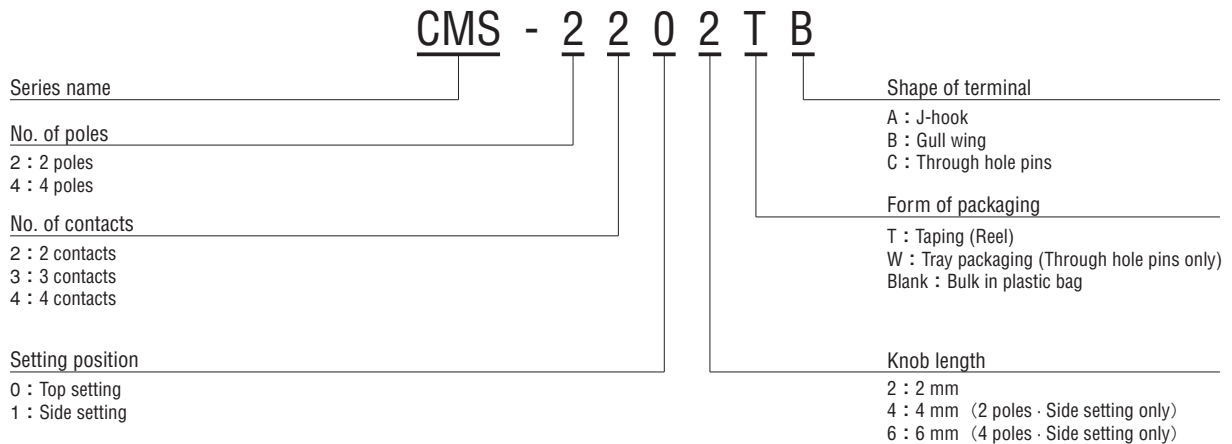
- RoHS compliant
- Excellent contact stability by twin Gold-plated contact mechanism
- Load life of 30,000 cycles
- Compatible with automatic mounting
- Withstands high soldering temperature

INTERNAL STRUCTURE



| Part name | Material | Flammability |
|-------------------|---------------------------|--------------|
| ① Cover | Steel (SPCC), Tin-plated | — |
| ② Slider | Polyamide | UL94V-0 |
| ③ Housing | | |
| ④ Slider contact | Copper alloy, Gold-plated | — |
| ⑤ Fixed contact | | |
| ⑥ Terminal pin | | |
| ⑦ Click spring | Copper alloy | — |
| ⑧ Ground terminal | Steel (SPCC), Tin-plated | |

PART NUMBER DESIGNATION



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

LIST OF PART NUMBERS

● 2 poles

| Setting position | Shape of terminals | Knob length | Form of packaging | No. of contacts | | | Pieces in package |
|------------------|-----------------------|-------------|-------------------|-----------------|------------|------------|-------------------|
| | | | | 2 | 3 | 4 | |
| Top setting | A (J-hook) | 2 mm | Taping | CMS-2202TA | CMS-2302TA | CMS-2402TA | 900 pcs./reel |
| | | | Plastic bag | CMS-2202A | CMS-2302A | CMS-2402A | 50 pcs./pack |
| | B (Gull wing) | | Taping | CMS-2202TB | CMS-2302TB | CMS-2402TB | 900 pcs./reel |
| | | | Plastic bag | CMS-2202B | CMS-2302B | CMS-2402B | 50 pcs./pack |
| | C (Through hole pins) | | Tray packaging | CMS-2202WC | CMS-2302WC | CMS-2402WC | 50 pcs./tray |
| | | | Plastic bag | CMS-2202C | CMS-2302C | CMS-2402C | 50 pcs./pack |
| Side setting | A (J-hook) | 2 mm | Taping | CMS-2212TA | CMS-2312TA | CMS-2412TA | 900 pcs./reel |
| | | | Plastic bag | CMS-2212A | CMS-2312A | CMS-2412A | 50 pcs./pack |
| | | 4 mm | Taping | CMS-2214TA | CMS-2314TA | CMS-2414TA | 900 pcs./reel |
| | | | Plastic bag | CMS-2214A | CMS-2314A | CMS-2414A | 50 pcs./pack |
| | B (Gull wing) | 2 mm | Taping | CMS-2212TB | CMS-2312TB | CMS-2412TB | 900 pcs./reel |
| | | | Plastic bag | CMS-2212B | CMS-2312B | CMS-2412B | 50 pcs./pack |
| | | 4 mm | Taping | CMS-2214TB | CMS-2314TB | CMS-2414TB | 900 pcs./reel |
| | | | Plastic bag | CMS-2214B | CMS-2314B | CMS-2414B | 50 pcs./pack |
| | Through hole pins | 2 mm | Tray packaging | CMS-2212WC | CMS-2312WC | CMS-2412WC | 50 pcs./tray |
| | | | Plastic bag | CMS-2212C | CMS-2312C | CMS-2412C | 50 pcs./pack |
| | | 4 mm | Tray packaging | CMS-2214WC | CMS-2314WC | CMS-2414WC | 50 pcs./tray |
| | | | Plastic bag | CMS-2214C | CMS-2314C | CMS-2414C | 50 pcs./pack |

● 4 poles

| Setting position | Shape of terminals | Knob length | Form of packaging | No. of contacts | Pieces in package |
|------------------|-----------------------|-------------|-------------------|-----------------|-------------------|
| | | | | 2 | |
| Top setting | A (J-hook) | 2 mm | Taping | CMS-4202TA | 500 pcs./reel |
| | | | Plastic bag | CMS-4202A | 25 pcs./pack |
| | B (Gull wing) | | Taping | CMS-4202TB | 500 pcs./reel |
| | | | Plastic bag | CMS-4202B | 25 pcs./pack |
| | C (Through hole pins) | | Tray packaging | CMS-4202WC | 50 pcs./tray |
| | | | Plastic bag | CMS-4202C | 25 pcs./pack |
| Side setting | A (J-hook) | 6 mm | Taping | CMS-4216TA | 500 pcs./reel |
| | | | Plastic bag | CMS-4216A | 25 pcs./pack |
| | B (Gull wing) | | Taping | CMS-4216TB | 500 pcs./reel |
| | | | Plastic bag | CMS-4216B | 25 pcs./pack |
| | C (Through hole pins) | | Tray packaging | CMS-4216WC | 50 pcs./tray |
| | | | Plastic bag | CMS-4216C | 25 pcs./pack |

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

STANDARD SPECIFICATIONS

| | | |
|-----------------------|--|---|
| Operating temp. range | - 40 ~ 85 °C | |
| Storage temp. range | | |
| Sealing | Non- Washable | |
| Net weight | 0.40 g (CMS-2202) 0.45 g (CMS-2302) 0.50 g (CMS-2402) 0.42 g (CMS-2212) 0.48 g (CMS-2312) 0.54 g (CMS-2412) | 0.42 g (CMS-2214) 0.48 g (CMS-2314) 0.54 g (CMS-2414) 0.80 g (CMS-4202) 0.84 g (CMS-4216) |

ELECTRICAL CHARACTERISTICS

| | |
|---|---|
| Contact rating Non-switching Switching Minimum | DC50 V 100 mA DC12 V 100 mA DC20 mV 1 μ A |
| Contact timing | Non-shorting |
| Contact resistance | 70 m Ω maximum |
| Insulation resistance | 100 M Ω minimum (DC500 V) |
| Dielectric strength | AC500 V, 60 s |

MECHANICAL CHARACTERISTICS

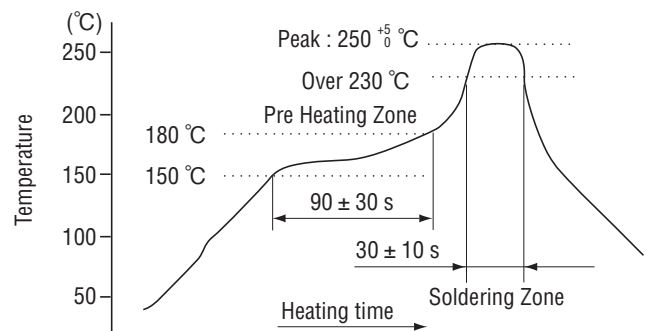
| | |
|-------------------|---|
| No. of positions | 2, 3, 4 |
| Stroke | 2 mm |
| Operating force | 1.5 ± 1 N {0.15 ± 0.1 kgf} |
| Stop strength | 30N{3.06 kgf} 15 s (Top setting) 10N{1.02 kgf} 15 s (Side setting) |
| Solderability | 245 ± 3 °C 2 ~ 3 s |
| Soldering heat | Reflow : 255 °C (Peak temperature) (Please refer to the profile below) |
| | Flow : 260 ± 3 °C、5~ 6 s |
| | Manual soldering : 350 ± 10 °C, 3 ~ 4 s |
| Shear (Adhesion) | 50 N {5.09 kgf} 10 s |
| Substrate bending | Width 90 mm, bend 3 mm, 5 s, 1 time |
| Pull-off strength | 50 N {5.09 kgf} 10 s |

{ } : Reference only

ENVIRONMENTAL CHARACTERISTICS

| | |
|---------------------|---|
| Vibration | (Amplitude) 1.5 mmor (Acceleration) 98 m/s ² , 10-500-10 Hz, 3 directions for 10 cycles each |
| Shock | 490 m/s ² , 11 ms, sinusoidal wave half cycle, 6 directions for 3 times each |
| Load life | Continuous load 30000 cycles, 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>

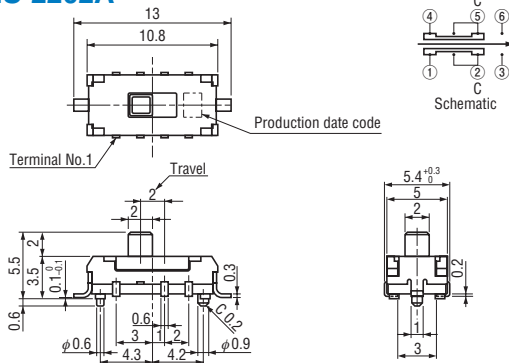


Reflow : two times maximum

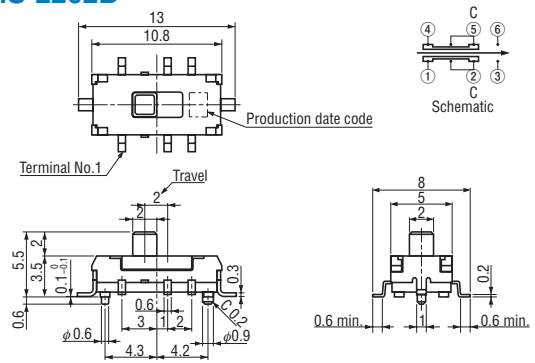
OUTLINE DIMENSIONS

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

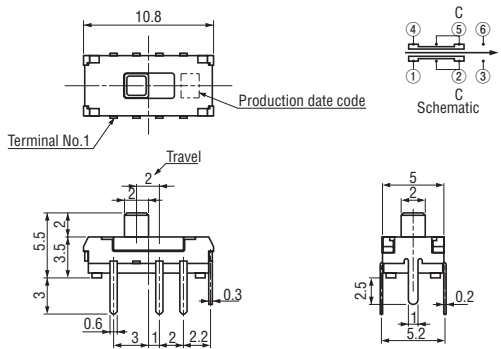
● CMS-2202A



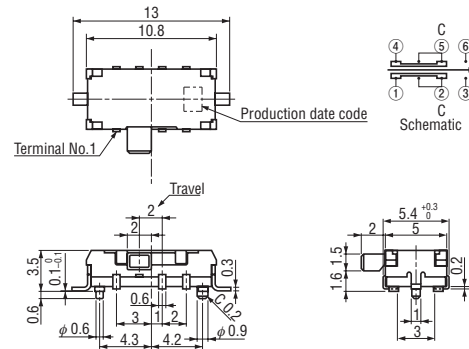
● CMS-2202B



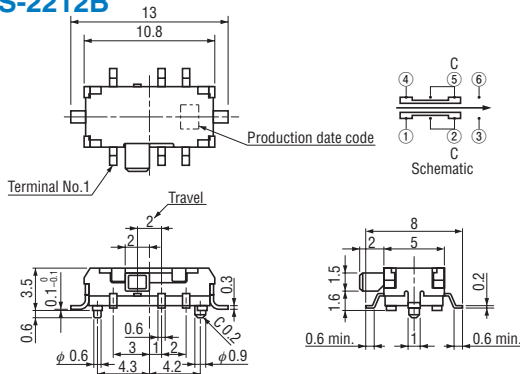
● CMS-2202C



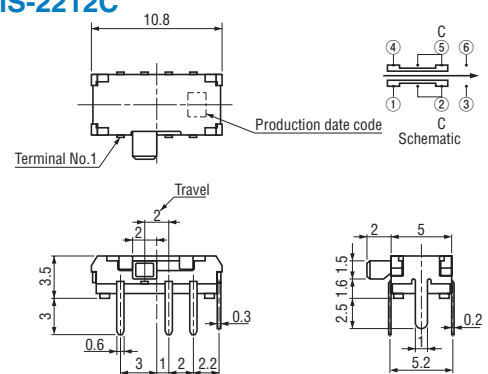
● CMS-2212A



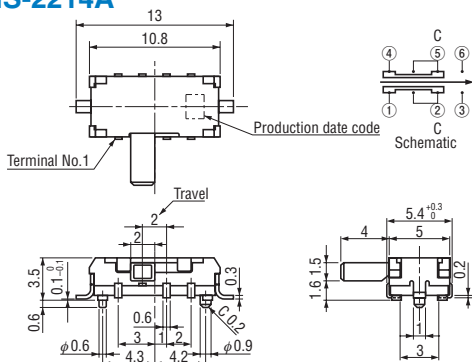
● CMS-2212B



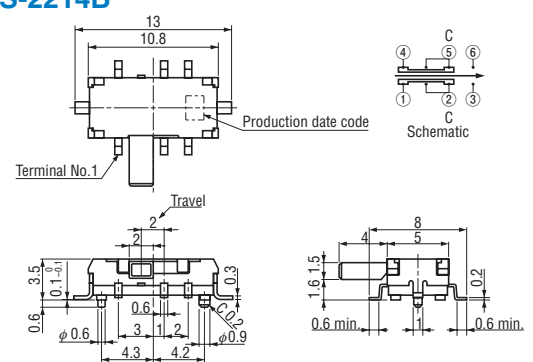
● CMS-2212C



● CMS-2214A



● CMS-2214B



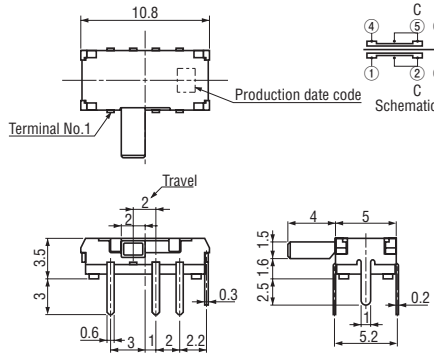
CMS

SLIDE SWITCHES (SMD)

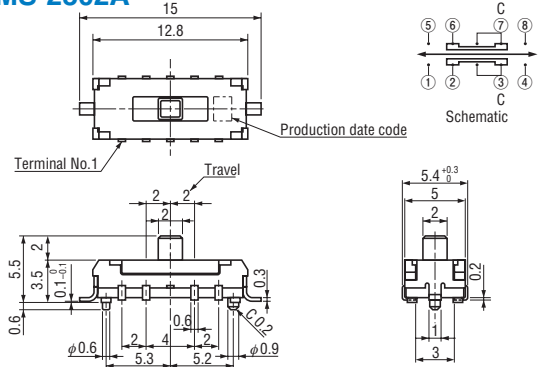
OUTLINE DIMENSIONS

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

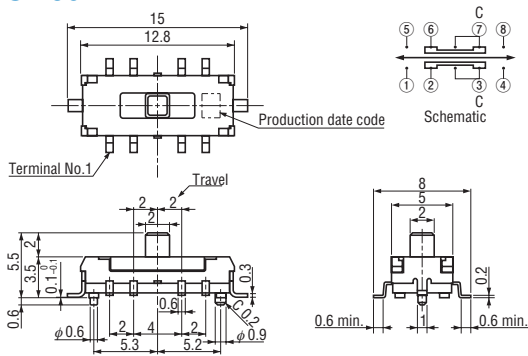
● CMS-2214C



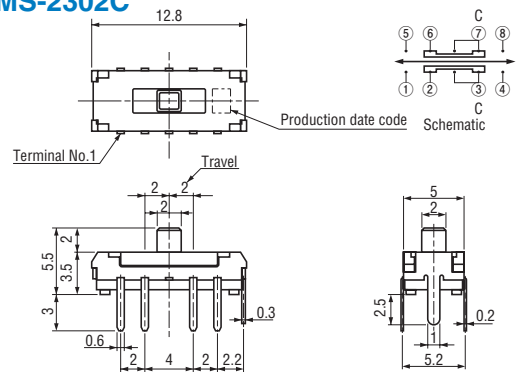
● CMS-2302A



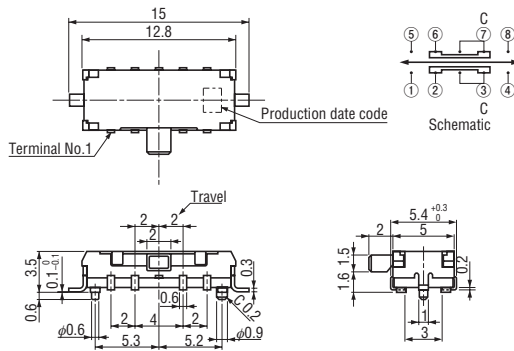
● CMS-2302B



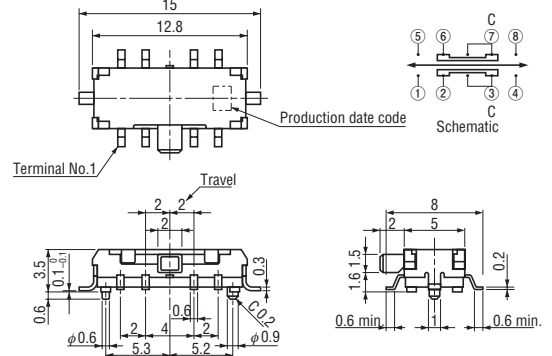
● CMS-2302C



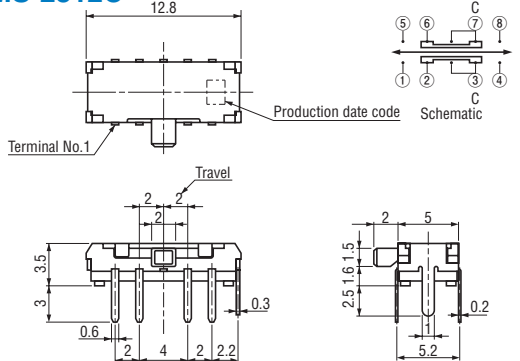
● CMS-2312A



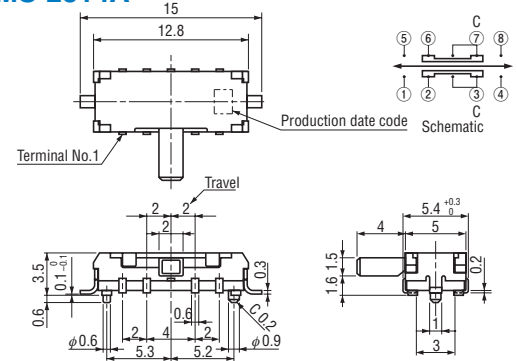
● CMS-2312B



● CMS-2312C



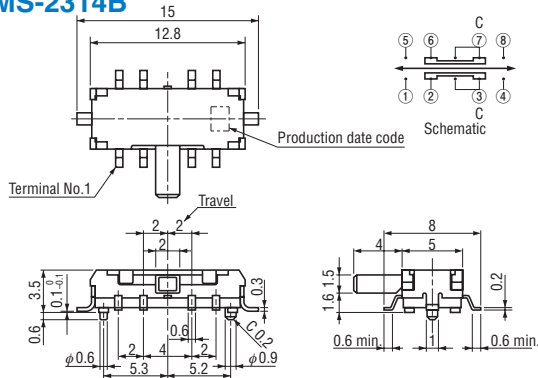
● CMS-2314A



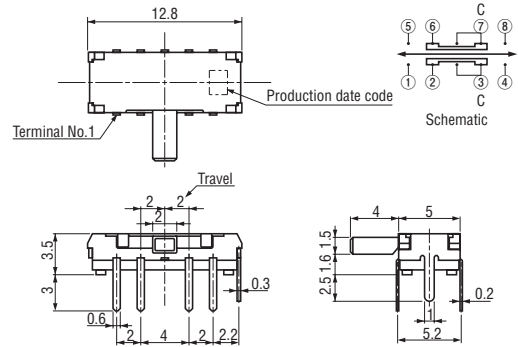
OUTLINE DIMENSIONS

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

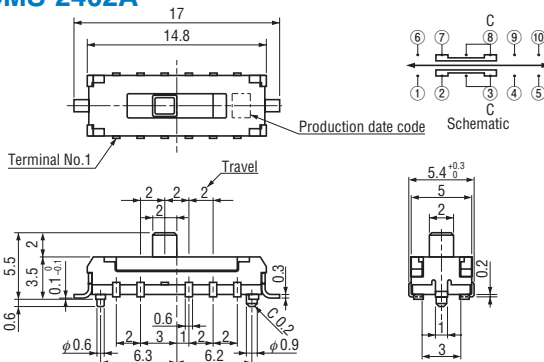
● CMS-2314B



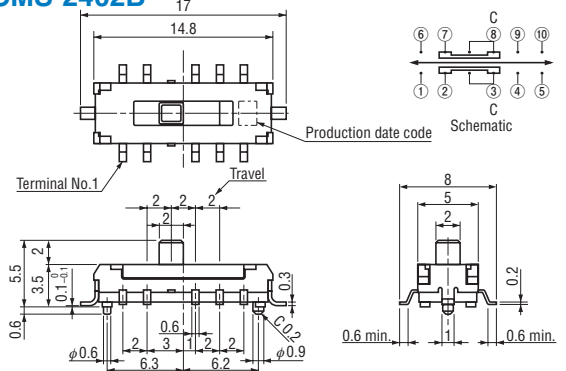
● CMS-2314C



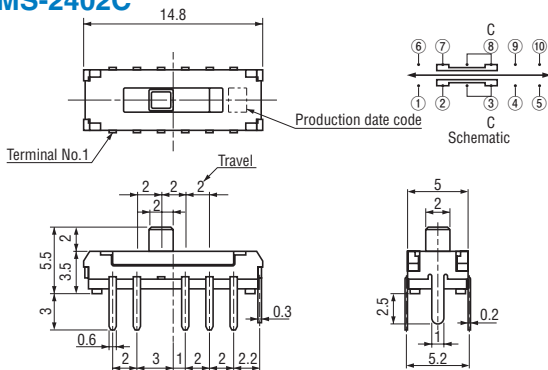
● CMS-2402A



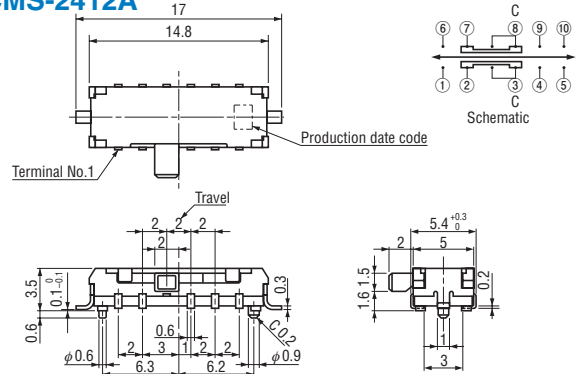
● CMS-2402B



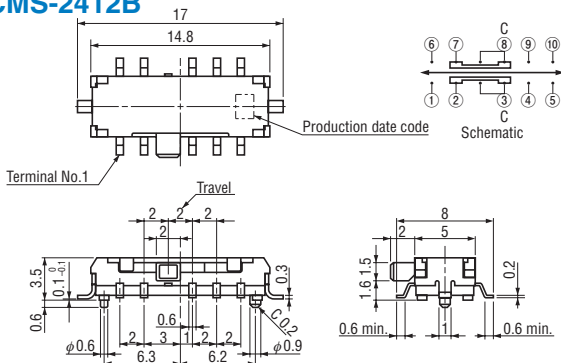
● CMS-2402C



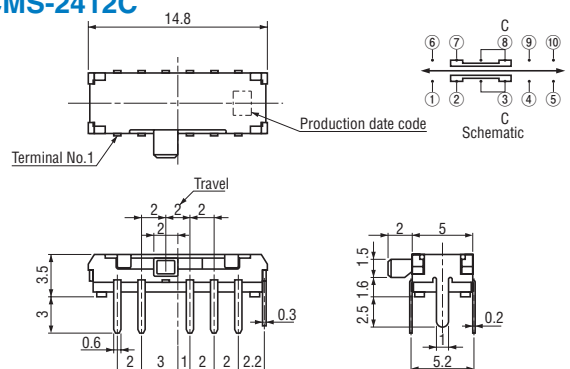
● CMS-2412A



● CMS-2412B



● CMS-2412C



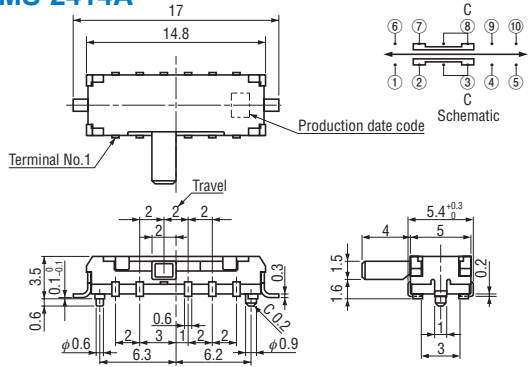
CMS

SLIDE SWITCHES (SMD)

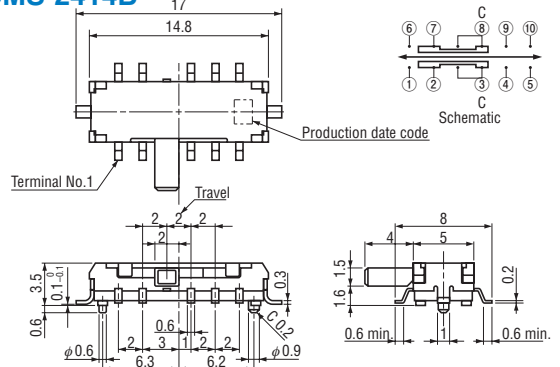
OUTLINE DIMENSIONS

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

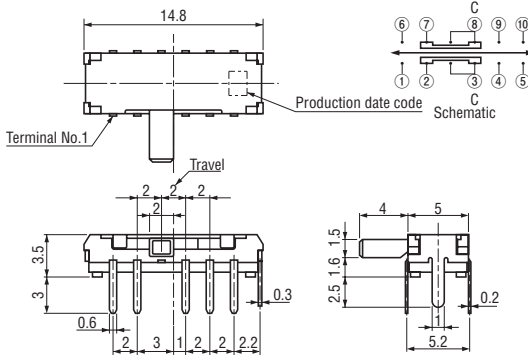
● CMS-2414A



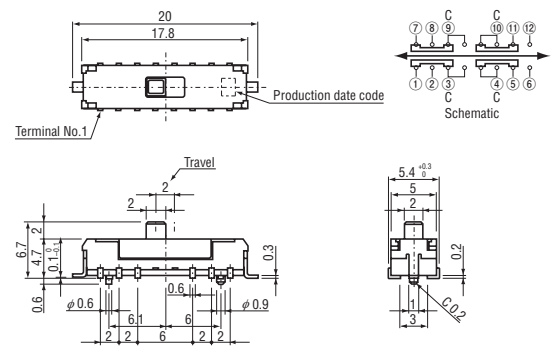
● CMS-2414B



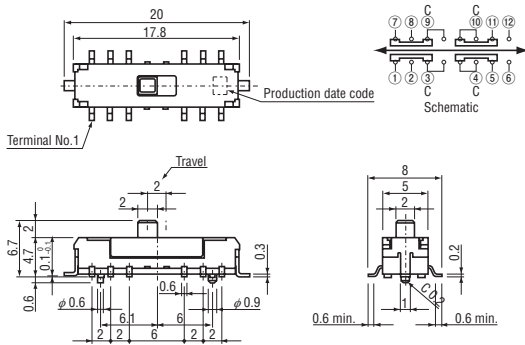
● CMS-2414C



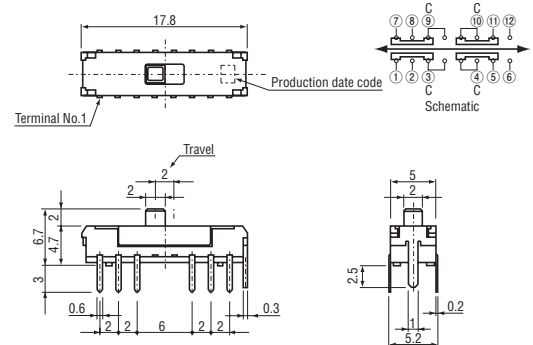
● CMS-4202A



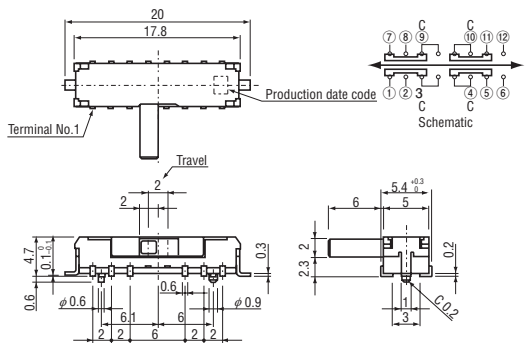
● CMS-4202B



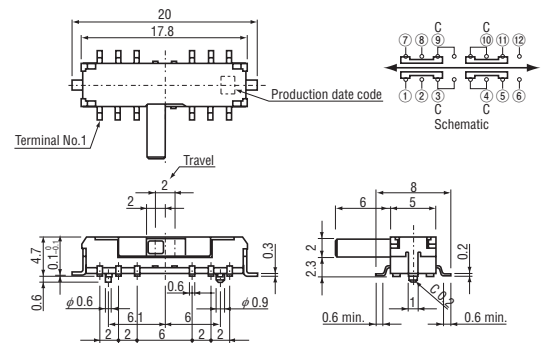
● CMS-4202C



● CMS-4216A



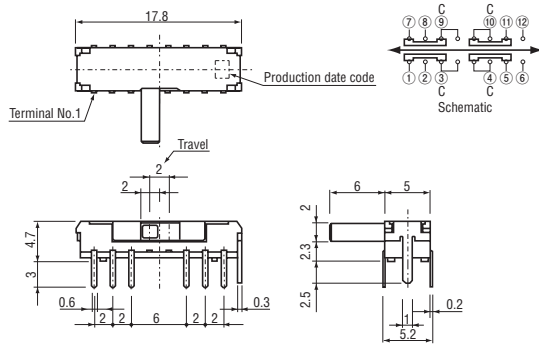
● CMS-4216B



OUTLINE DIMENSIONS

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

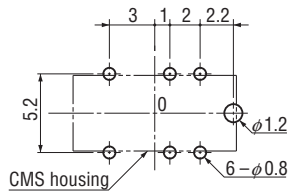
● CMS-4216C



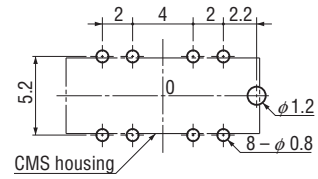
SIZE OF P.C.B. PROCESSING

(Unit : mm)

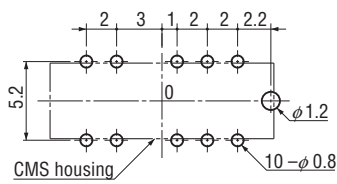
● CMS-22□□C



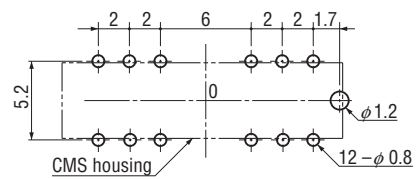
● CMS-23□□C



● CMS-24□□C



● CMS-42□□C

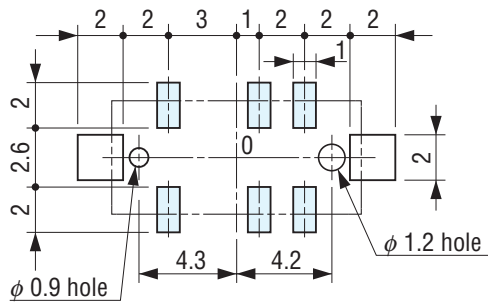


CMS

SLIDE SWITCHES (SMD)

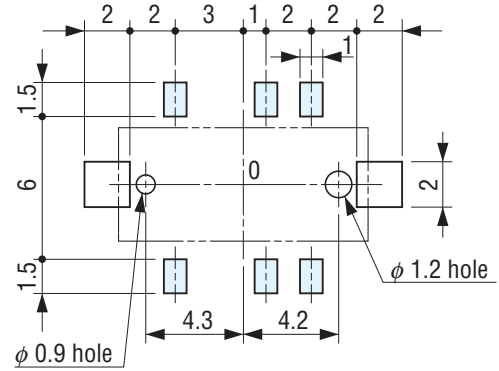
RECOMMENDED P.C.B. PAD OUTLINE DIMENSIONS

● CMS-22□□A

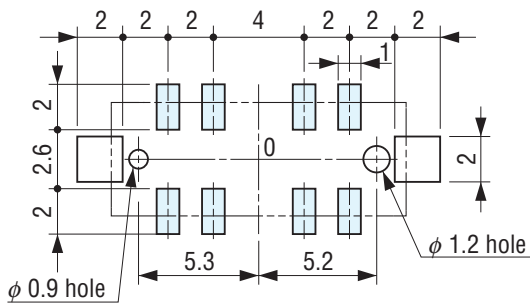


● CMS-22□□B

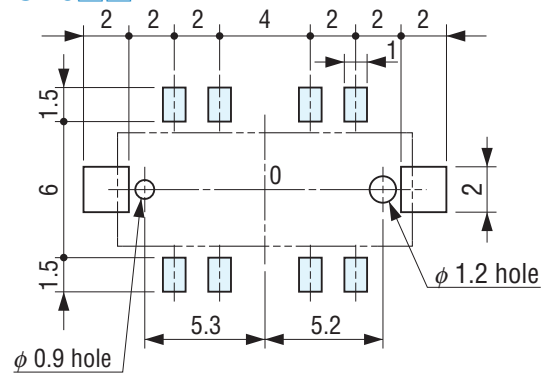
(Unit : mm)



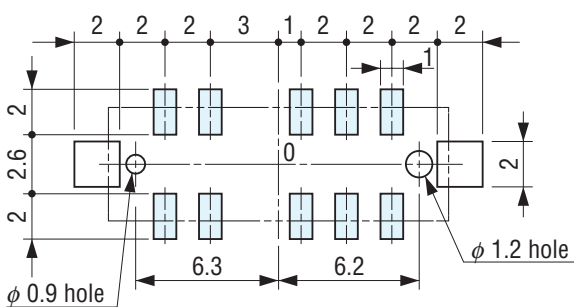
● CMS-23□□A



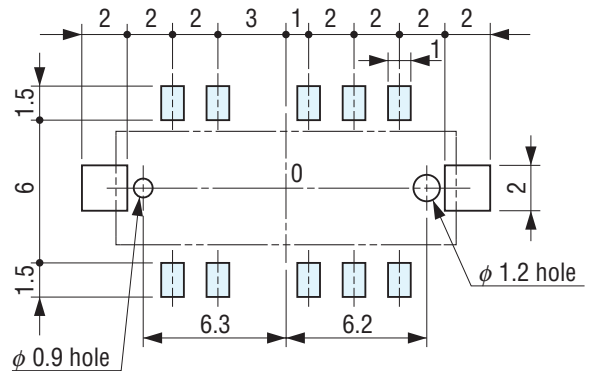
● CMS-23□□B



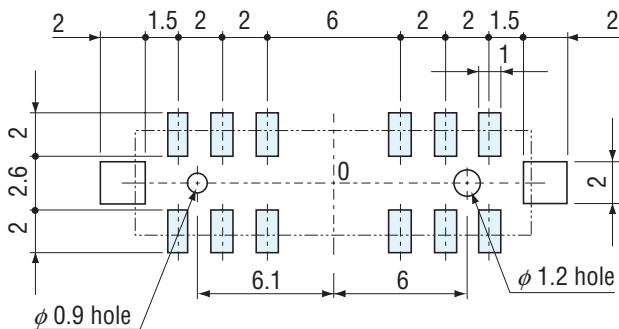
● CMS-24□□A



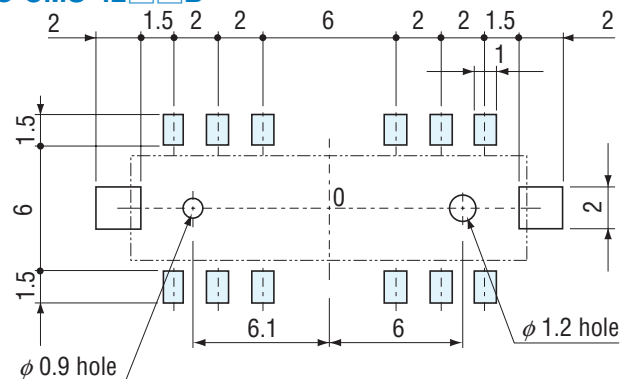
● CMS-24□□B



● CMS-42□□A



● CMS-42□□B



Note) The zero point is the center of mounting.

PACKAGING SPECIFICATIONS

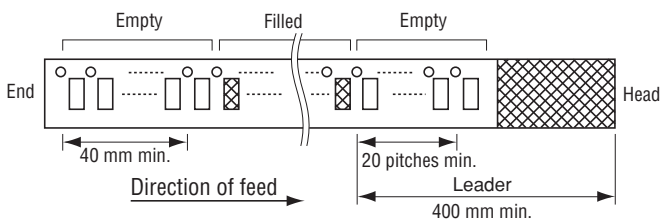
<Taping packaging specifications>

- CMS-2 □□□□ type is packaged in 900 pcs. per reel. Orders will be accepted for units of 900 pcs., i.e., 900, 1800, 2700 pcs., etc. CMS-4 type is packaged in packaged in 500 pcs. per reel. Orders will be accepted for units of 500 pcs.

- Taping version is boxed with one reel.

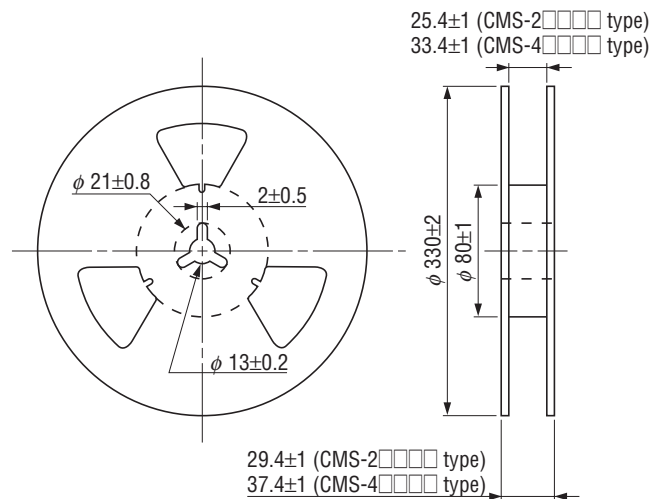
Maximum number of consecutive missing pieces=2
Leader length and reel dimension are shown in the diagrams below:

● Embossed tape dimensions



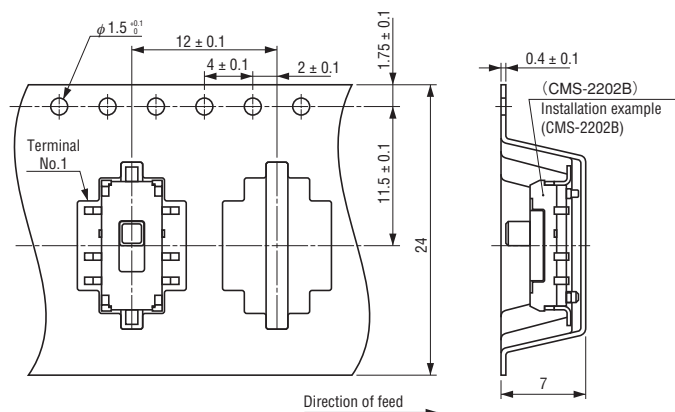
● Reel dimensions

(Unit: mm)
(Conforms to JIS C 0806)
(In accordance with EIAJ ET-7200A)



● CMS-2202TA, TB

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

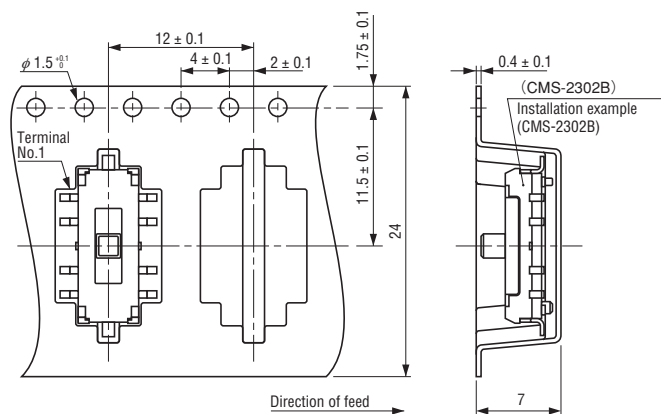


CMS

SLIDE SWITCHES (SMD)

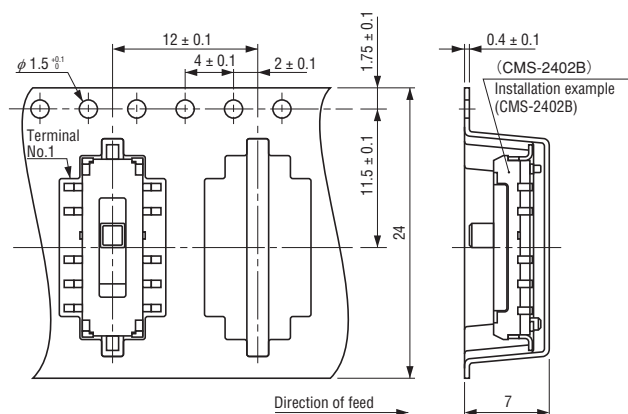
● CMS-2302TA, TB

(Conforms to JIS C 0806)



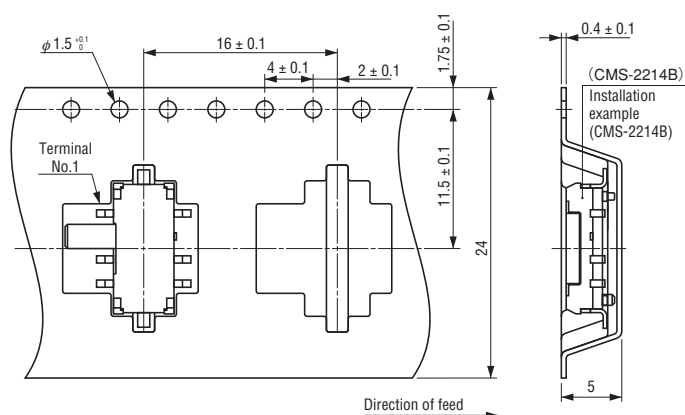
● CMS-2402TA, TB

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



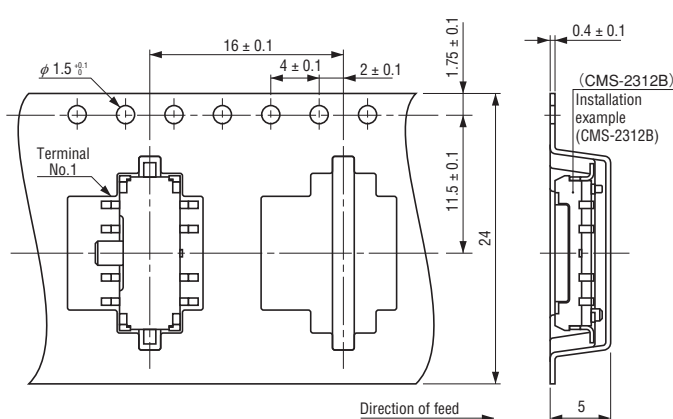
● CMS-2212 • 2214TA, TB

(Conforms to JIS C 0806)



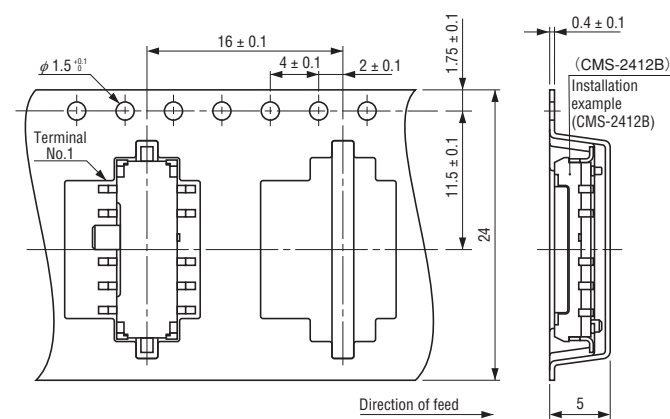
● CMS-2312 • 2314TA, TB

(Conforms to JIS C 0806)



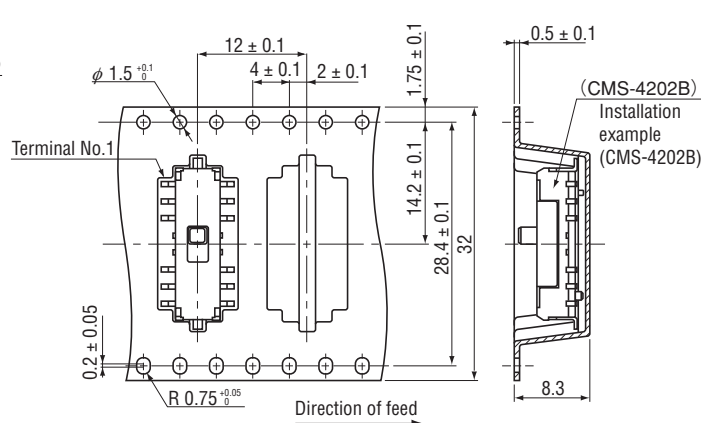
● CMS-2412 • 2414TA, TB

(Conforms to JIS C 0806)



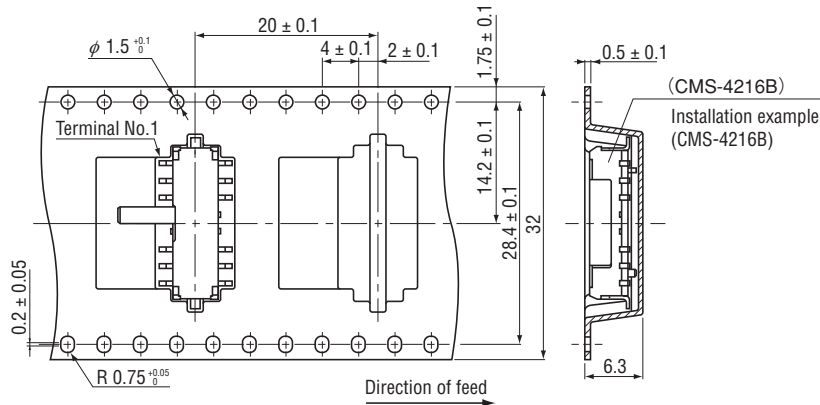
● CMS-4202TA, TB

(Conforms to JIS C 0806)



● CMS-4216TA, TB

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



<Tray packaging specifications>

- Tray version is packaged in 50 pcs. per tray. Orders will be accepted for units of 50 pcs., i. e., 50, 100, 150 pcs. etc.
- Tray version is boxed with 10 trays.

<Bulk pack specifications>

- The smallest unit of bulk pack in a plastic bag is 10 pcs. per pack.
Orders will be accepted for unit of minimum 10 pcs., i.e., 10, 20, 30 pcs., etc.
- Boxing of bulk in plastic bag is performed with 50 pcs. (standard 100 pcs. / CMS-2 □□□□ , 50 pcs. / CMS-4 □□□□) per box.

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