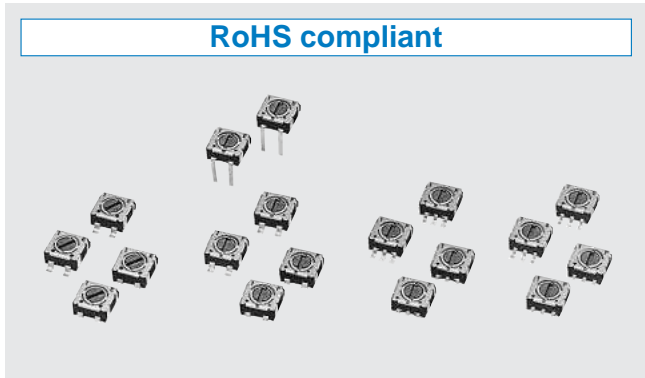


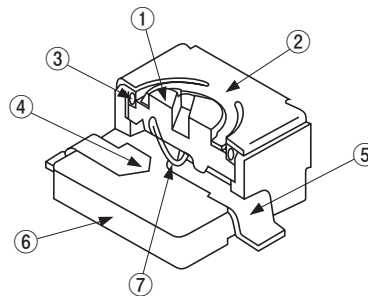
ROTARY SELECTOR SWITCHES (SMD)

CS-4

RoHS compliant



INTERNAL STRUCTURE



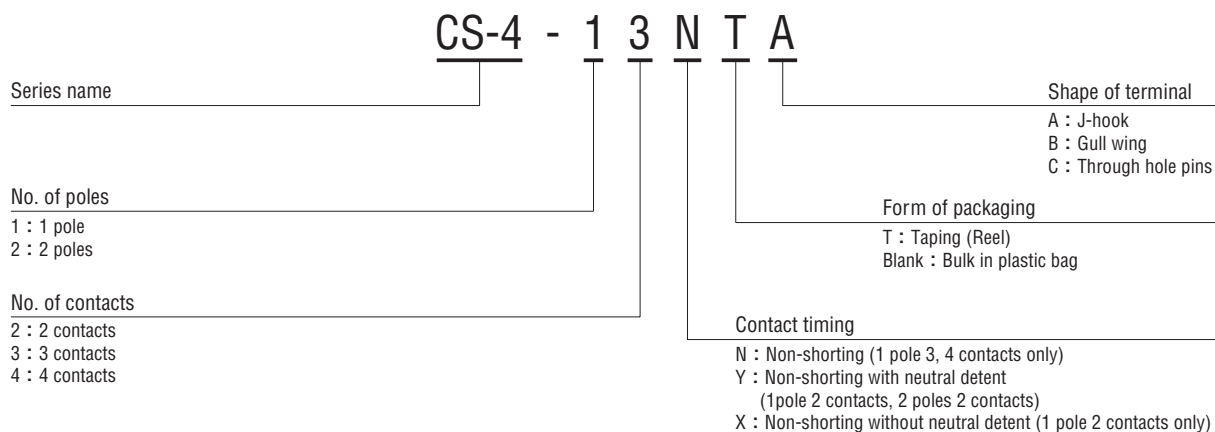
Part name	Material	Flammability
① Rotor	PPS(Polyphenylenesulphide)	UL-94V-0
② Cover	Stainless steel (SUS 304)	—
③ “O” ring	Silicone rubber	UL-94HB
④ Fixed contact	Copper alloy, Gold-plated	—
⑤ Terminal pin		
⑥ Housing	Epoxy	UL-94V-0
	※LCP (LC polymer)	
⑦ Slider contact	Multi metal alloy	—

※ : 1 pole 4 contacts only

FEATURES

- RoHS compliant
- Optimum for high density board mounting applications
- Compatible with most automatic pick & place machinery (J-hook and Gull wing types only)
- Compatible with reflow and wave soldering
- Protection against dust and washable after soldering
- Excellent reliability due to precious metal contact

PART NUMBER DESIGNATION

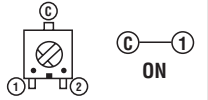
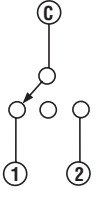

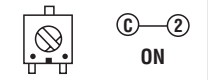
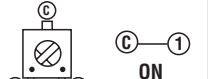
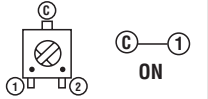
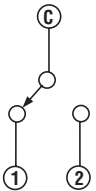
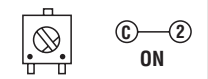

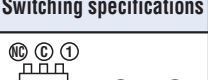


※Please refer to the LIST OF PART NUMBERS when placing orders.

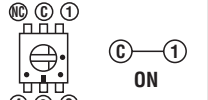
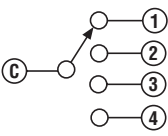
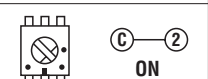
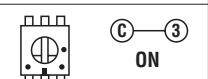
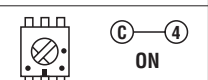
CS-4 ROTARY SELECTOR SWITCHES (SMD)

SCHEMATICS DIAGRAMS

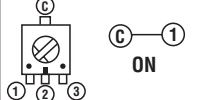
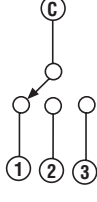
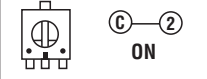
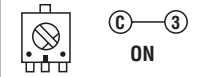
● 1 pole 2 contacts

Series	Switching specifications	Schematic
CS-4-12YA ∕ YTA ∕ YB ∕ YTB ∕ YC	 ON	
	 OFF	
	 ON	
	 ON	
CS-4-12XA ∕ XTA ∕ XB ∕ XTB ∕ XC	 ON	
	 ON	
	 ON	
	 ON	

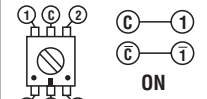
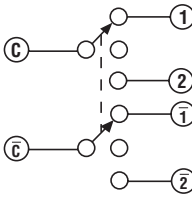

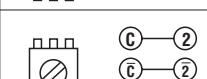
● 1 pole 4 contacts

Series	Switching specifications	Schematic
CS-4-14NA ∕ NTA ∕ NB ∕ NTB	 ON	
	 ON	
	 ON	
	 ON	

● 1 pole 3 contacts

Series	Switching specifications	Schematic
CS-4-13NA ∕ NTA ∕ NB ∕ NTB	 ON	
	 ON	
	 ON	

● 2 poles 2 contacts

Series	Switching specifications	Schematic
CS-4-22YA ∕ YTA ∕ YB ∕ YTB	 ON	
	 OFF	
	 ON	

LIST OF PART NUMBERS

Circuit type		Form of packaging	J-hook A	Gull wing B	Through hole pin C	Pieces in package
1 pole 2 contacts	With neutral detent	Taping	CS-4-12YTA	CS-4-12YTB	CS-4-12YC	500 pcs./reel
		Plastic bag	CS-4-12YA	CS-4-12YB		50 pcs./pack
	Without neutral detent	Taping	CS-4-12XTA	CS-4-12XTB	CS-4-12XC	500 pcs./reel
		Plastic bag	CS-4-12XA	CS-4-12XB		50 pcs./pack
1 pole 3 contacts		Taping	CS-4-13NTA	CS-4-13NTB		500 pcs./reel
		Plastic bag	CS-4-13NA	CS-4-13NB		50 pcs./pack
1 pole 4 contacts		Taping	CS-4-14NTA	CS-4-14NTB		500 pcs./reel
		Plastic bag	CS-4-14NA	CS-4-14NB		50 pcs./pack
2 poles 2 contacts		Taping	CS-4-22YTA	CS-4-22YTB		500 pcs./reel
		Plastic bag	CS-4-22YA	CS-4-22YB		50 pcs./pack

☐ : Not manufactured

※ Verify the above part numbers when placing orders.

Taping version can be supplied only in reel unit.

■ Specifications are subject to change without notice.

CS-4 ROTARY SELECTOR SWITCHES (SMD)

STANDARD SPECIFICATIONS

Circuit type	1 pole 2 contacts 2 poles 2 contacts 1 pole 3 contacts 1 pole 4 contacts
Operating temperature range	-25 ~ 70 °C
Storage temperature range	-40 ~ 70 °C
Sealing	Washable by "O" ring
Net weight	Approx. 0.08 g (CS-4-12, CS-4-13) Approx. 0.1 g (CS-4-14, CS-4-22)

MECHANICAL CHARACTERISTICS

No. of positions	2, 3, 4
Adjustment torque	10 mN·m {102 gf·cm} maximum
Stopper strength	25 mN·m {255 gf·cm} minimum
Stepping angle	45° 90° (CS-4-12X only)
Solderability	245 ± 3 °C, 2 ~ 3 s
Soldering heat	Flow : 260 ± 3 °C as the temperature in a pot of molten solder, immersion from head of terminal to backside of board, 5 ~ 6 s, two times maximum Reflow : Peak temperature 255 °C (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

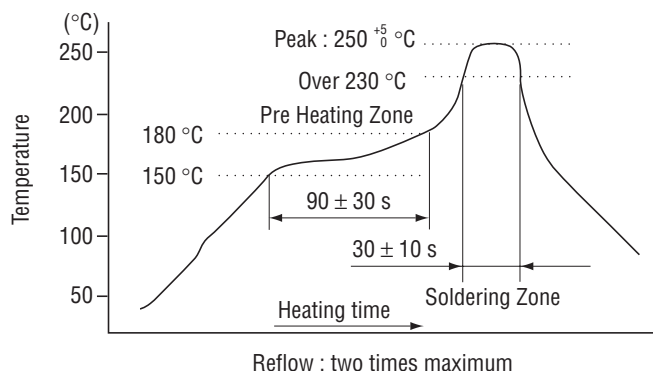
ELECTRICAL CHARACTERISTICS

Contact rating	0.5 VA
Maximum current	100 mA
Minimum current	1 μA
Maximum voltage	16 V
Minimum voltage	20 mV
Contact timing	Non-shorting
Contact resistance	100 mΩ maximum
Insulation resistance	100 MΩ (DC500 V) minimum
Dielectric strength	AC500 V, 60 s

ENVIRONMENTAL CHARACTERISTICS

Vibration	Amplitude 1.5 mm or Acceleration 98 m/s ² , 10-500-10 Hz, 3 directions for 2 h each
Shock	490 m/s ² , 11 ms 6 directions for 3 times each
Load life	200 cycles minimum DC16 V, 30 mA
Humidity (Steady state)	40 °C, Relative humidity 90 ~ 95 %, 48 h
High temperature exposure	70 °C, 16 h
Low temperature exposure	-40 °C, 16 h
Thermal shock	-40 (0.5 h) ~ 70 °C (0.5 h), 5 cycles

<Reflow profile for soldering heat evaluation>

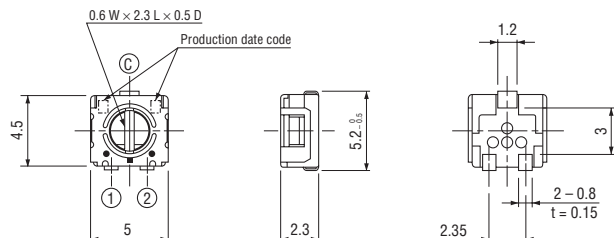


CS-4 ROTARY SELECTOR SWITCHES (SMD)

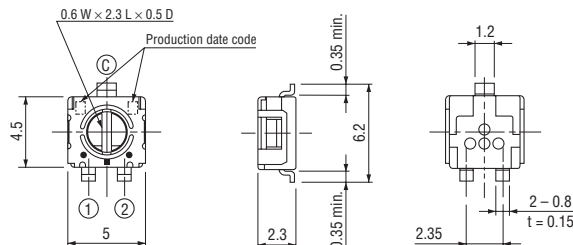
OUTLINE DIMENSIONS

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

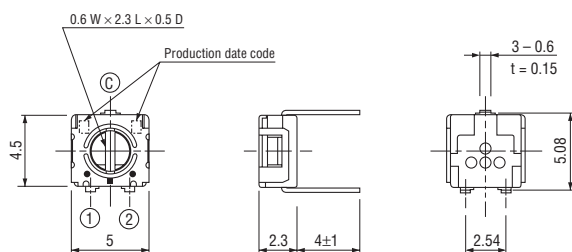
CS-4-12YA



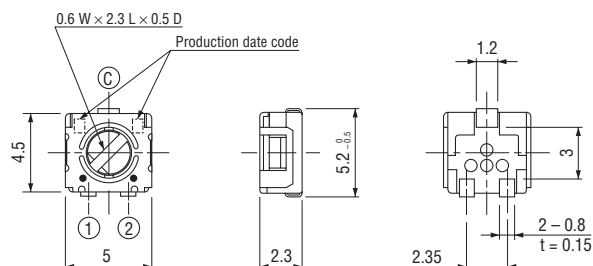
CS-4-12YB



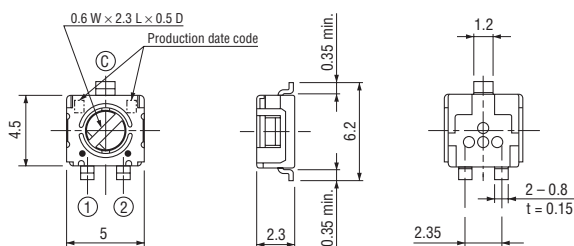
CS-4-12YC



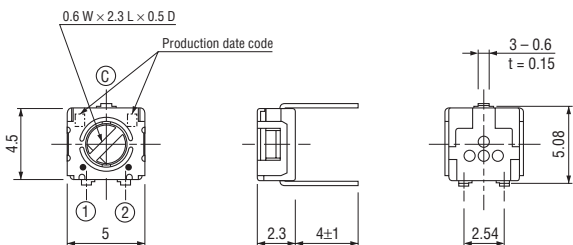
CS-4-12XA



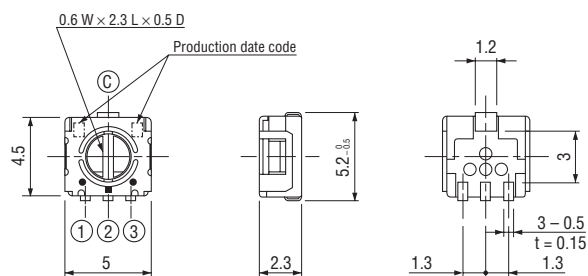
CS-4-12XB



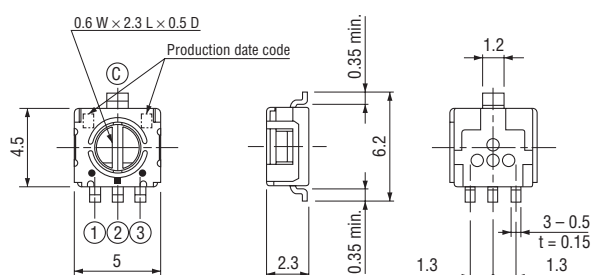
CS-4-12XC



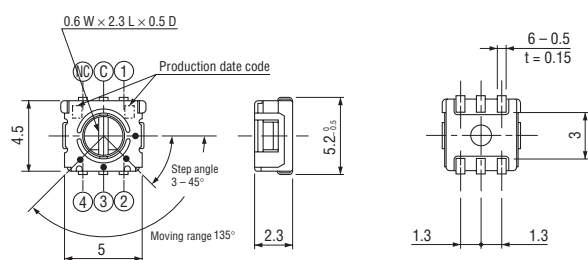
CS-4-13NA



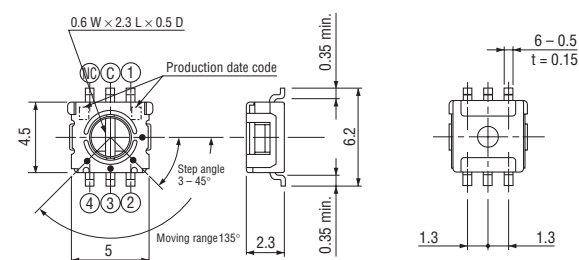
CS-4-13NB



CS-4-14NA



CS-4-14NB

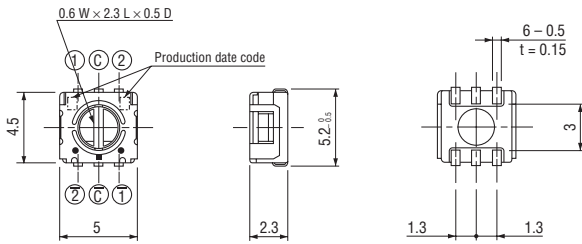


CS-4 ROTARY SELECTOR SWITCHES (SMD)

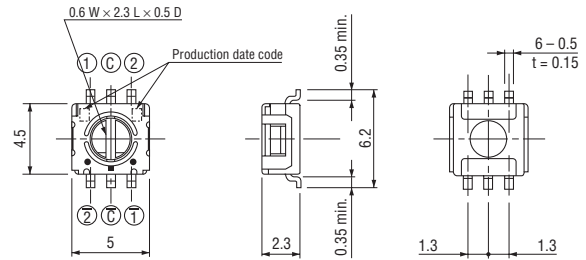
OUTLINE DIMENSIONS

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

CS-4-22YA

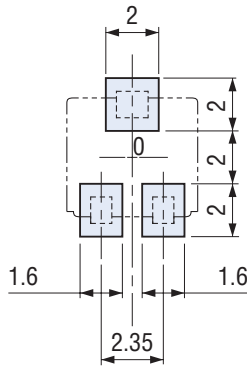


CS-4-22YB

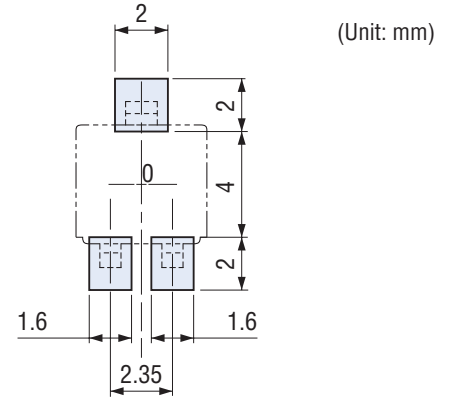


RECOMMENDED P.C.B. PAD OUTLINE DIMENSIONS

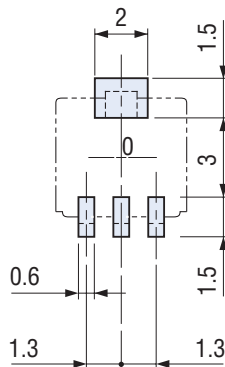
CS-4-12YA CS-4-12XA



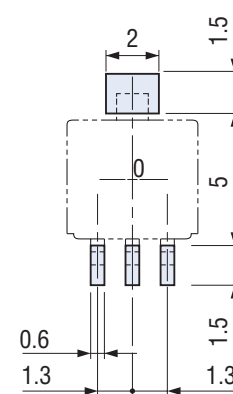
CS-4-12YB CS-4-12XB



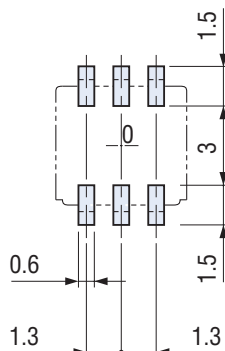
CS-4-13NA



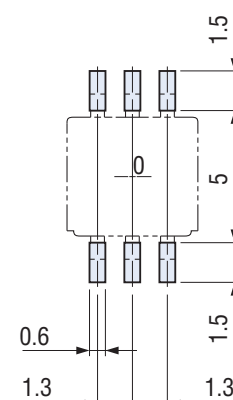
CS-4-13NB



CS-4-14NA CS-4-22YA



CS-4-14NB CS-4-22YB



注) 0点は搭載中心とする

CS-4 ROTARY SELECTOR SWITCHES (SMD)

PACKAGING SPECIFICATIONS

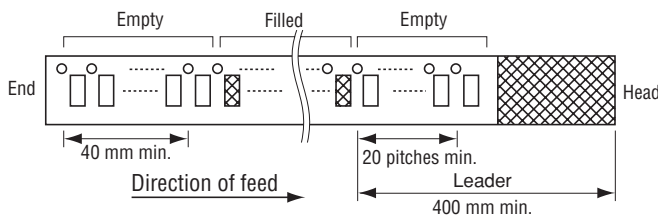
<Taping packaging specifications>

- Taping version is packaged in 500 pcs. per reel.
 Orders will be accepted for units of 500 pcs., i.e., 500, 1000, 1500 pcs., etc.
- Taping version is boxed with 4 reels (2000 pcs.).

Maximum number of consecutive missing pieces=2

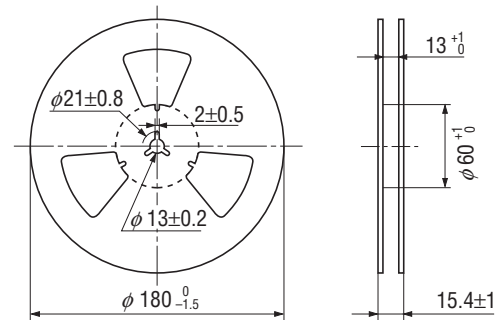
Leader length and reel dimension are shown in the dia-diagrams below:

● Embossed tape dimensions



● Reel dimensions

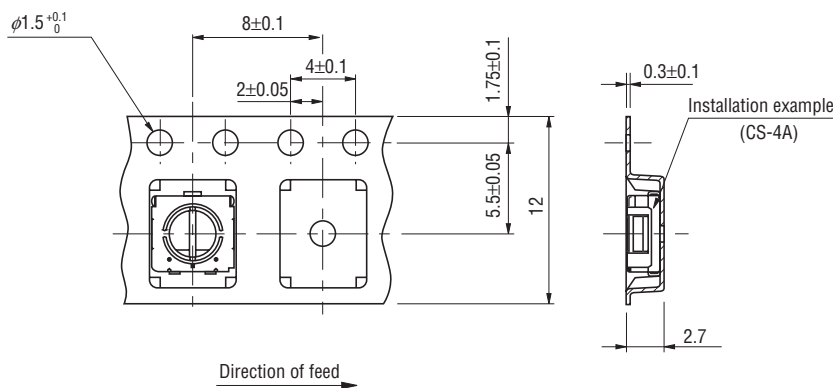
(Unit: mm)
 (Conforms to JIS C 0806-3)
 (In accordance with EIAJ ET-7200A)



● CS-4-□□□TA/CS-4-□□□TB

(Conforms to JIS C 0806)

(Unit: mm)



<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 a plastic bag is performed with 50 pcs. (standard 500 pcs.) per box.