



# Series 223D

## 5.6x4.0mm Compact Tactile Switch

- Surface mount gull-wing terminal configurations
- Compatible with IR reflow and manual soldering
- Variety of actuator height options



### Ordering Information

Series	Terminal Type	Actuating Direction	Actuator Height "L"	Actuator Force	Packaging	Boss
223D	M1	S	A	A	R	B

Code	Spec.
M1	Surface mount gull wing type 1
M2	Surface mount gull wing type 2

Code	Spec.
S	Side

Code	Spec.
A	1.5mm

Code	Spec.
A	180 gf (M1 type only, black actuator)
B	220 gf (M2 type only, black actuator)
C	350 gf (M1 type only, black actuator)

Code	Spec.
B	With boss (black housing)
Blank	No boss (white housing)

Code	Spec.
R	Tape & reel packaging

Notes: Contact CTS for other common features not listed.

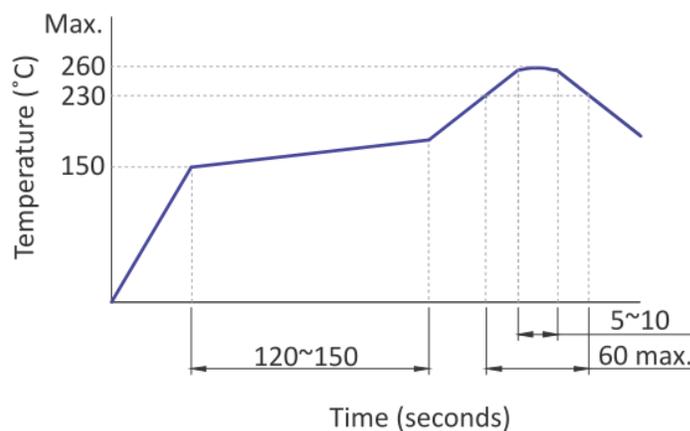
### Electrical Specifications

Parameter	Conditions & Remarks	Min	Max	Unit
Contact Resistance			500	milliohms
Insulation Resistance	Between insulated terminals	100		Megohms
Dielectric Strength	1 minute between adjacent switches		250	VAC
Nonswitching Rating			50 or 12	mA or VDC

### Mechanical and Environmental

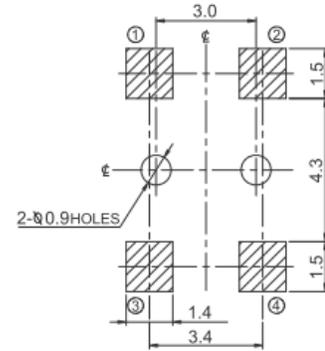
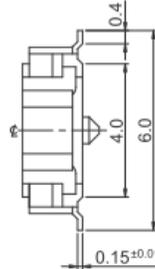
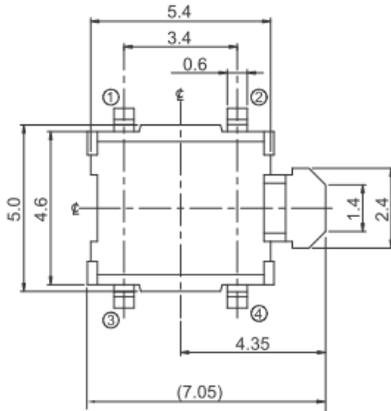
Soldering	Maximum reflow temperature, 260°C for 5 seconds Maximum manual temperature, 350°C for 3 seconds
RoHS	Lead-Free. Fully compliant to RoHS Directive 2011/65/EU and 2015/863/EU
Operating Force	180 <sup>+80</sup> <sub>-40</sub> gf 220±50 gf 350±80 gf
Actuation Life	50,000 cycles
Actuator Strength	3 Kgf maximum
Travel	0.2±0.12 mm
Packaging	Standard tape and reel packaging
Operating Temperature Range	-40°C to +85°C
Storage Temperature Range	-40°C to +85°C

### Soldering Profile

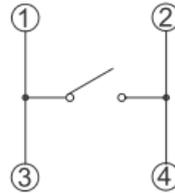


**Mechanical Specifications**

Figure 1 – 223DM1SA...RB, 223DM1SA...R, Surface Mount Gull Wing Type1



**CIRCUIT DIAGRAM**



**PCB LAYOUT**

DIMENSION : mm  
STANDARD TOLERANCE :  
.X (1 PLACE) : ±0.30

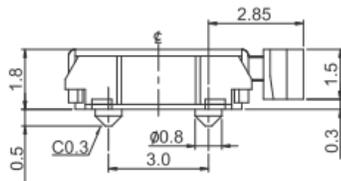
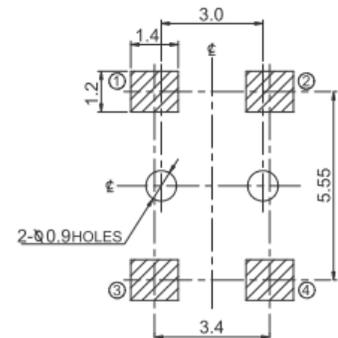
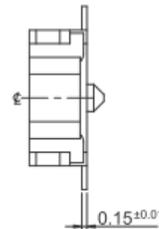
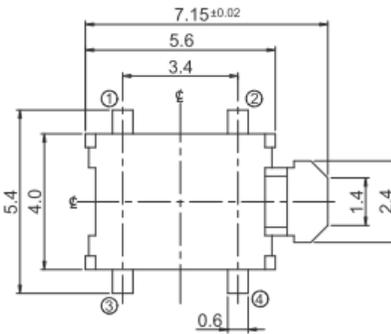
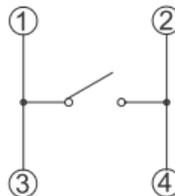


Figure 2 – 223DM2SA...RB, 223DM2SA...R, Surface Mount Gull Wing Type2

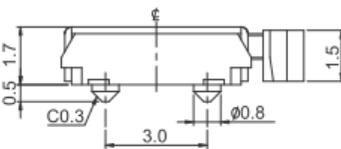


**CIRCUIT DIAGRAM**



**PCB LAYOUT**

DIMENSION : mm  
STANDARD TOLERANCE :  
.X (1 PLACE) : ±0.30

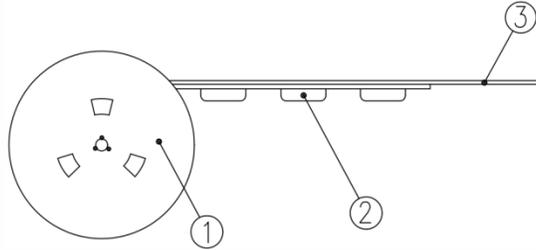


**Packing: Tape and Reel**

**223DM1..., Surface Mount Gull Wing Type 1**

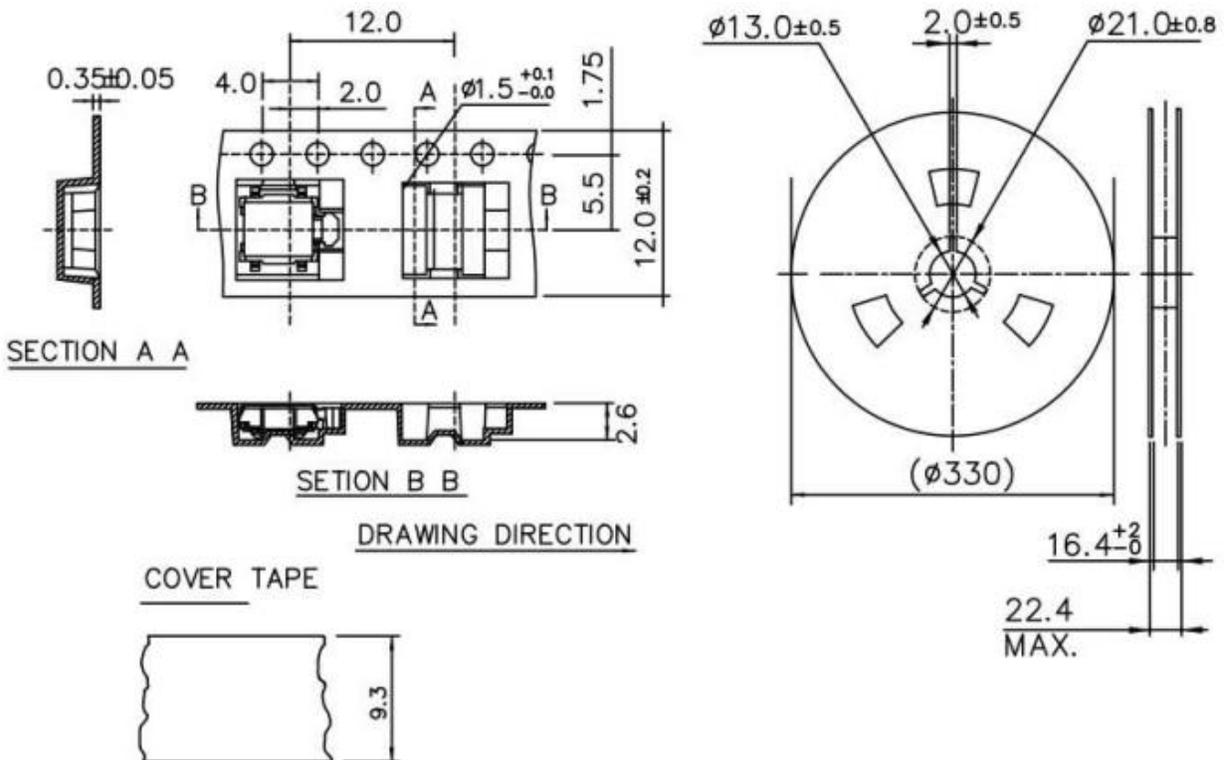
The packing specifications :

Structure and materials :



③	COVER TAPE	POLYESTER
②	CARRIER TAPE	POLYSTYRENE
①	REEL	POLYSTYRENE
NO.	PARTS NAME	MATERIALS

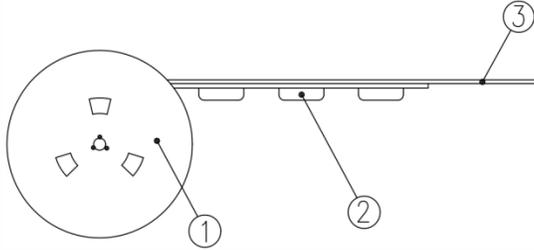
1. Packing quantity : 2,000 pcs/reel
2. More than 10 empty pockets should remain at each end of the carrier tape for each reel.
3. Shortage less than 10 pcs a reel is acceptable but more than 3 consecutive empty pockets are allowed.
4. Stripping strength of cover tape is between 10 gf to 70 gf and stripping angle should be within 165°~180°.
5. The product in the pocket of carrier tape should be placed in a specified correct position.
6. Tape and reel per EIA-481.
7. Dimensions :



223DM2..., Surface Mount Gull Wing Type 2

The packing specifications :

Structure and materials :



③	COVER TAPE	POLYESTER
②	CARRIER TAPE	POLYSTYRENE
①	REEL	POLYSTYRENE
NO.	PARTS NAME	MATERIALS

1. Packing quantity : 3,300 pcs/reel
2. More than 10 empty pockets should remain at each end of the carrier tape for each reel.
3. Shortage less than 10 pcs a reel is acceptable but no more than 3 consecutive empty pockets are allowed.
4. Stripping strength of cover tape is between 10 gf to 70 gf and stripping angle should be within 165°~180°.
5. The product in the pocket of carrier tape should be placed in a specified correct position.
6. Tape and reel per EIA-481.
7. Dimensions :

