

**SERIES:** TS04 | **DESCRIPTION:** TACTILE SWITCH**FEATURES**

- surface mount
- black actuator

**SPECIFICATIONS**

parameter	conditions/description	min	typ	max	units
rated voltage		1		12	Vdc
rated current		0.01		50	mA
withstanding voltage	for 1 minute		250		Vac
contact resistance	applying load of 2 times operating force at 5 Vdc, 10 mA			100	mΩ
insulation resistance	at 100 Vdc for 1 minute	100			MΩ
operating force	see force table				
actuator travel		0.15	0.25	0.35	mm
operating temperature		-30		80	°C
storage temperature		-40		90	°C
life	rated load, 2 cycles/second, 1.5 times operating force				
	100 gf models		100,000		cycles
	160 gf models		80,000		cycles
	260 gf models		60,000		cycles
vibration	10~55~10 Hz, 1.5 mm amplitude, 2 hours on each XYZ				
flammability rating	see material table				
RoHS	yes				

**PART NUMBER KEY**

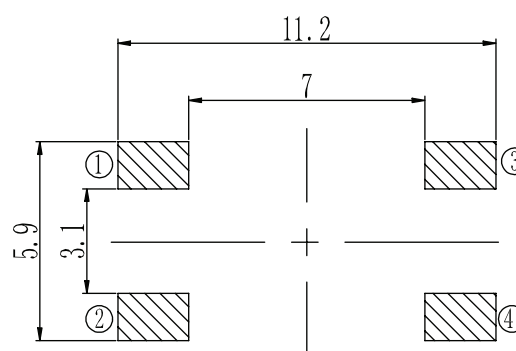
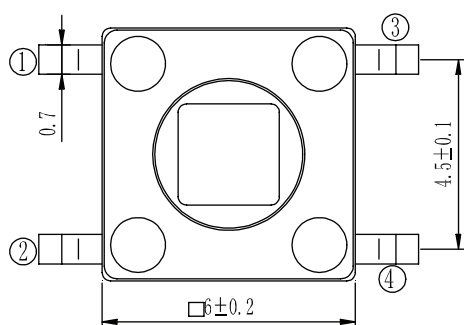
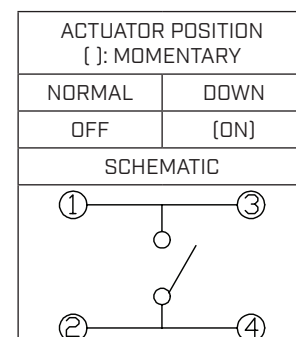
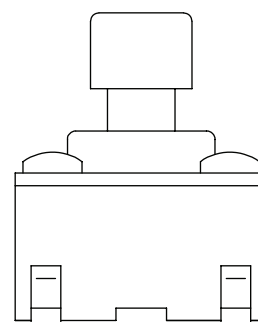
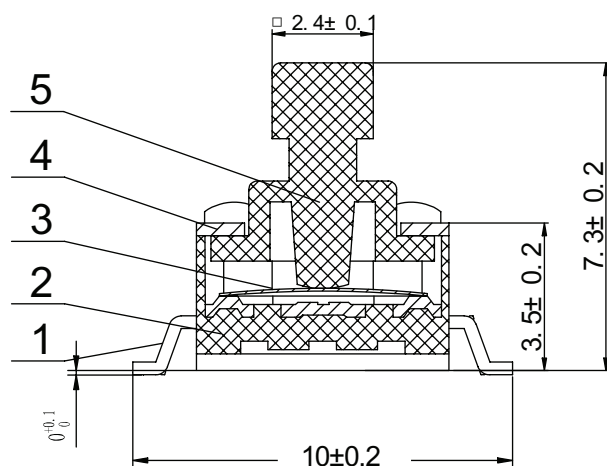
TS04 - 66 - XX - BK - XXX - SMT - XX			
Base Number	Actuator Height:	Push Force:	Packaging:
	43 = 4.3 mm    *73 = 7.3 mm	100 = 100 gf	"blank" = bag
	50 = 5.0 mm    75 = 7.5 mm	160 = 160 gf	TR = tape and reel
	55 = 5.5 mm    85 = 8.5 mm	260 = 260 gf	
	65 = 6.5 mm    95 = 9.5 mm		
	70 = 7.0 mm		

Note: \*7.3 mm height versions have square actuator top. All other models have round actuator top.

## MECHANICAL DRAWING (7.3 MM HEIGHT MODELS)

units: mm  
tolerance:  $\pm 0.2$  mm  
unless otherwise noted

ITEM	DESCRIPTION	MATERIAL	PLATING/COLOR
1	terminals	brass	silver
2	case	PA66 (UL94HB)	black
3	contacts	stainless steel	silver
4	cover	stainless steel	
5	stem	PA66 (UL94HB)	black



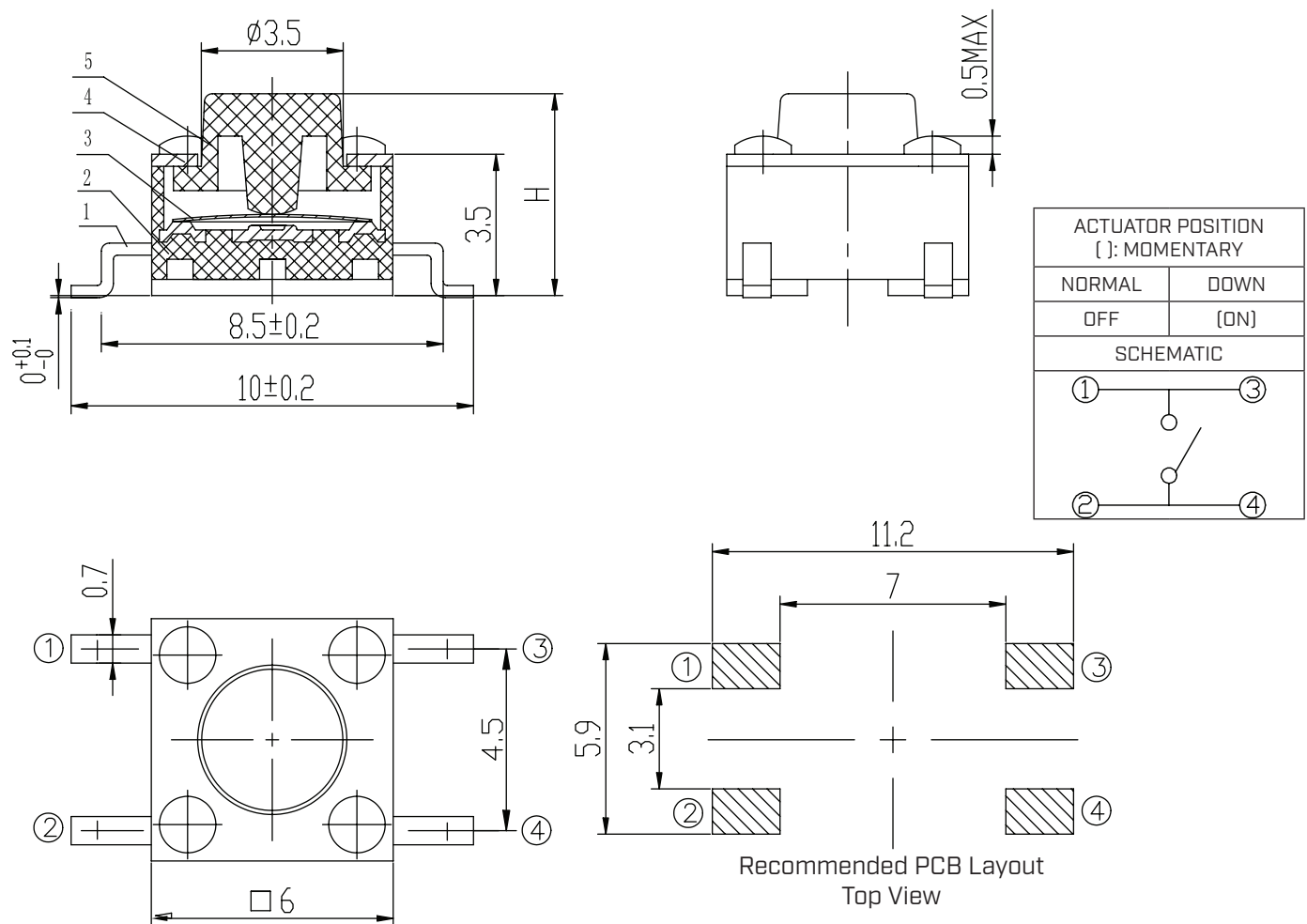
Recommended PCB Layout  
Top View

Operating Force Table		
Model	Press Force [N]	Return Force [N]
100	$1.0 \pm 0.3$	$> 0.2$
160	$1.6 \pm 0.5$	$> 0.2$
260	$2.6 \pm 0.5$	$> 0.2$

## MECHANICAL DRAWING (ALL OTHER HEIGHT MODELS)

units: mm  
tolerance:  $\pm 0.2$  mm  
unless otherwise noted

ITEM	DESCRIPTION	MATERIAL	PLATING/COLOR
1	terminals	brass	silver
2	case	PA66 (UL94HB)	black
3	contacts	stainless steel	silver
4	cover	stainless steel	
5	stem	PA66 (UL94HB)	black

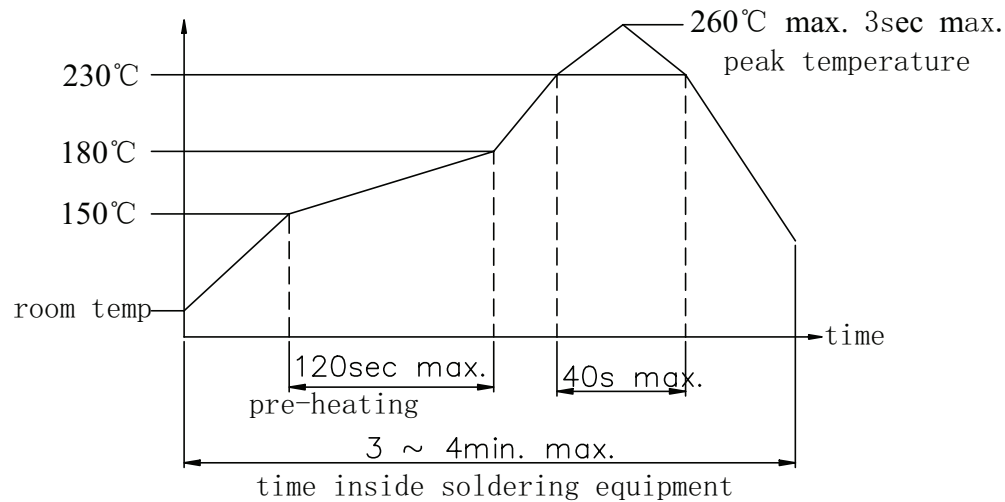


Operating Force Table		
Model	Press Force [N]	Return Force [N]
100	$1.0 \pm 0.3$	$> 0.2$
160	$1.6 \pm 0.5$	$> 0.2$
260	$2.6 \pm 0.5$	$> 0.2$

## SOLDERABILITY

parameter	conditions/description	min	typ	max	units
hand soldering	for maximum 3 seconds			350	°C
reflow soldering <sup>1</sup>	see reflow profile			260	°C

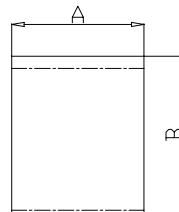
Notes: 1. Do not exceed 2 reflow cycles.



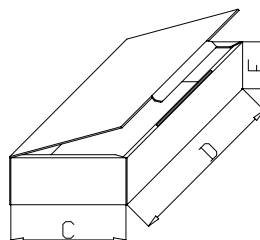
## PACKAGING (BAG)

units: mm

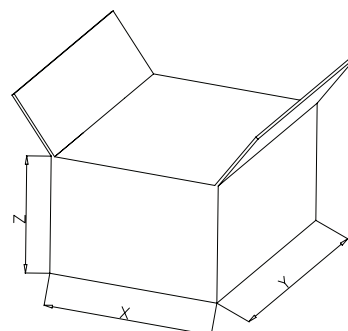
Bag Size: 190 x 160 mm  
 Carton Box Size: 445 x 350 x 280 mm  
 Bag QTY: 1,000 pcs per bag  
 Carton Box QTY: 60,000 pcs per carton



A=160mm、B=190mm



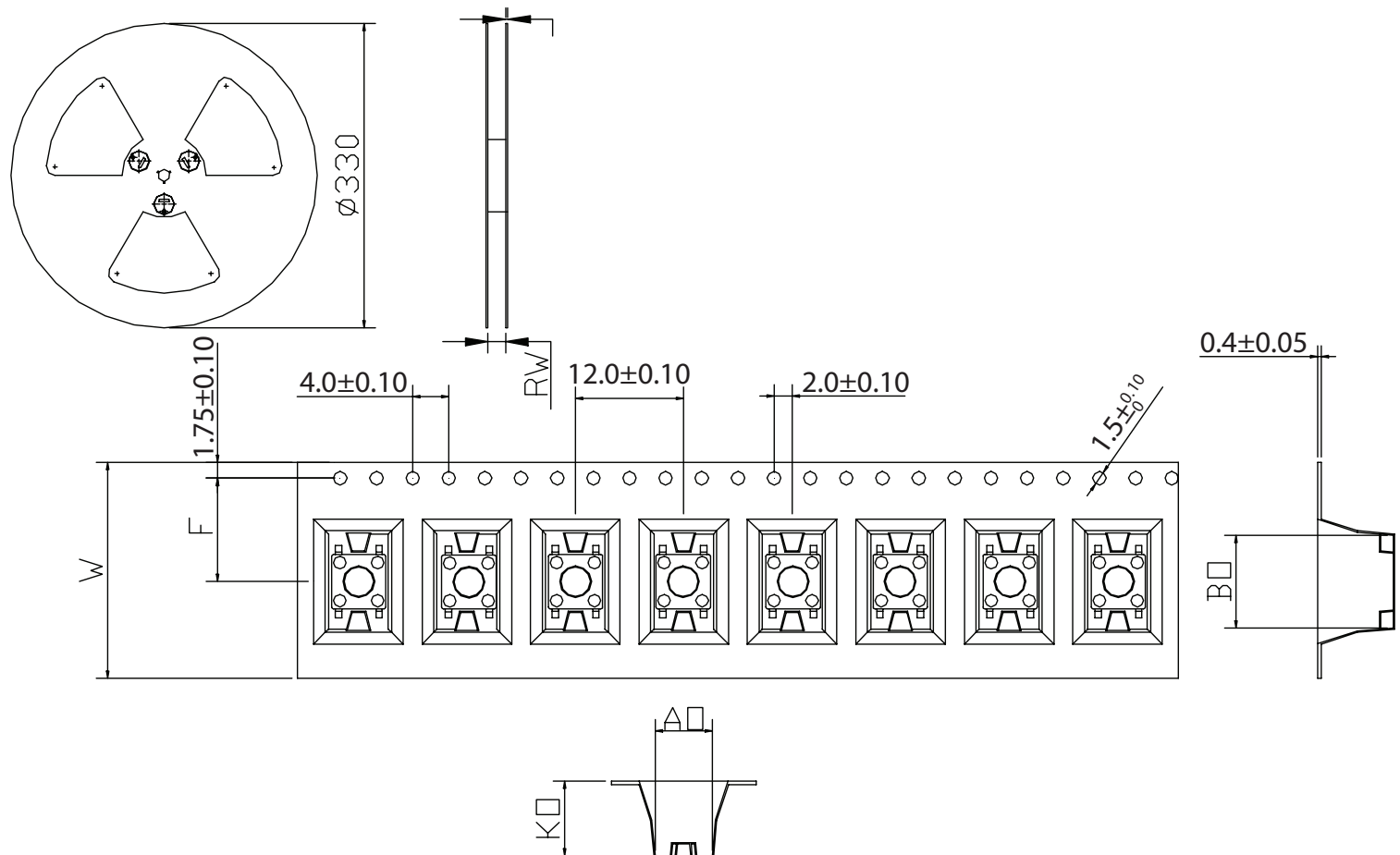
C=160mm、D=216mm、E=48mm



X=350mm、Y=455、Z=280mm

## PACKAGING (TAPE & REEL)

Packaging Table									
Actuator Height Models (mm)	Reel QTY	Carton Size [XxYxZ] (mm)	Carton QTY	RW (mm)	W (mm)	AO (mm)	BO (mm)	KO (mm)	F (mm)
4.3	1,000	340 x 430 x 340	20,000	16.5	16±0.3	6.3±0.1	10.4±0.1	4.5±0.1	7.5±0.1
5.0	1,000	340 x 430 x 340	20,000	16.5	16±0.3	6.3±0.1	10.4±0.1	5.2±0.1	7.5±0.1
5.5	1,000	340 x 430 x 340	20,000	16.5	16±0.3	6.3±0.1	10.4±0.1	5.7±0.1	7.5±0.1
6.5	800	340 x 430 x 340	16,000	16.5	16±0.3	6.3±0.1	10.4±0.1	6.7±0.1	7.5±0.1
7.0	750	340 x 430 x 340	10,500	24.5	24±0.3	6.3±0.1	10.3±0.1	7.3±0.1	11.5±0.1
7.3	750	340 x 430 x 340	10,500	24.5	24±0.3	6.4±0.1	10.5±0.1	7.8±0.1	11.5±0.1
7.5	750	340 x 430 x 340	10,500	24.5	24±0.3	6.4±0.1	10.5±0.1	7.8±0.1	11.5±0.1
8.5	500	340 x 430 x 340	7,000	24.5	24±0.3	6.3±0.1	10.4±0.1	8.6 <sup>+0.1</sup> <sub>-0</sub>	11.5±0.1
9.5	500	340 x 430 x 340	7,000	24.5	24±0.3	6.3±0.1	10.4±0.1	9.6 <sup>+0.1</sup> <sub>-0</sub>	11.5±0.1



- Note: 1. Actuator height 4.3 & 5.0 models have about 15~25 open positions reserved for the front and rear positions of the reel.  
 2. Actuator height 5.5 & 6.5 models have about 15~30 open positions reserved for the front and rear positions of the reel.  
 3. Actuator height 7.0, 7.3, & 7.5 models have about 20~35 open positions reserved for the front and rear positions of the reel.  
 4. Actuator height 8.5 & 9.5 models have about 30~50 open positions reserved for the front and rear positions of the reel.

## REVISION HISTORY

rev.	description	date
1.0	initial release	09/20/2021
1.01	added 7.3 mm height model drawing	11/03/2021
1.02	logo, datasheet style update	08/05/2022
1.03	added tape and reel packaging option	05/12/2023

The revision history provided is for informational purposes only and is believed to be accurate.



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