

# TP309 Series Micro Switches

## MICRO SWITCH



### FEATURES

- Small compact size suitable for electric equipment appliances and P.C.B. layout
- 2-piece spring mechanism design offering durable acute operation and long life
- Heavy/Light operation force specifications
- Three Kinds of terminal available soldering, printing and quick connect type
- RoHS Compliant

### APPLICATIONS

- Communication equipment
- Vending machines
- Security systems
- Medical equipment
- Office automation appliances
- Home electric appliances
- A car use

### SPECIFICATIONS

#### 1. ELECTRICAL

DESCRIPTION		TYPE	TP309-05	TP309-10
Contact Rating:	AC 125V		5A	----
	AC 250V		3A	10A
	DC 30V		----	----
Contact Resistance: (Initial)	O.F.1.47N (150gf)		30mΩ Max.	30mΩ Max.
	O.F.0.49N (50gf)		50mΩ Max.	----
	O.F.0.25N (25gf)		---	----
Insulation Resistance		100 MΩ Min. at 500 VDC		

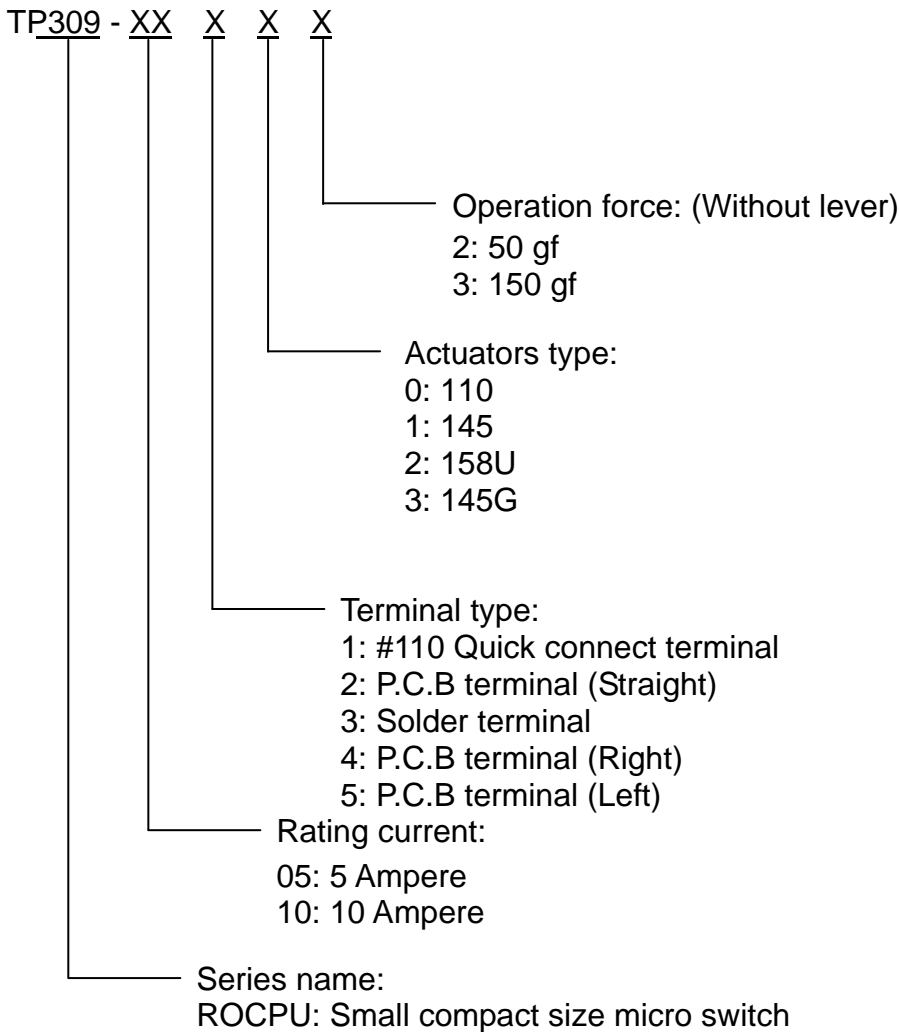
# TP309 Series Micro Switches

## 2. CHARACTERISTICS

DESCRIPTION		TYPE	TP309-05	TP309-10
Mechanical Life (Cycles Operations)			1,000,000	1,000,000
Electrical Life (Cycles Operations)			50,000	50,000
Ambient Temperature		-25°C to +85°C (without dew condensation)		
Ambient Humidity		Max. 85% RH		
Max. operating cycle rate	Mechanical	400 cycle/min.		
	Electrical	60 cycle/min.		
Allowable Operation speed		0.1 to 1,000 mm/sec (without lever)		
Dielectric Strength	Between non-continuous terminal		AC 1000Vrms	AC 1000Vrms
	Between each terminal and other exposed metal parts	AC 1500Vrms		
	Between each terminal and ground	AC 1500Vrms		
Vibration Resistance (Without lever)		10 to 55 Hz amplitude of 1.5mm		
Shock Resistance (Without lever)	O.F.1.47N (150gf)	300m/s <sup>2</sup> {30G}Min.		
	O.F.0.25N (25gf)	200m/s <sup>2</sup> {20G}Min.		
	O.F.0.49N (50gf)	200m/s <sup>2</sup> {20G}Min.		
Unit weight		Approx 1.6g		

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## ■ PART NUMBERING SYSTEM

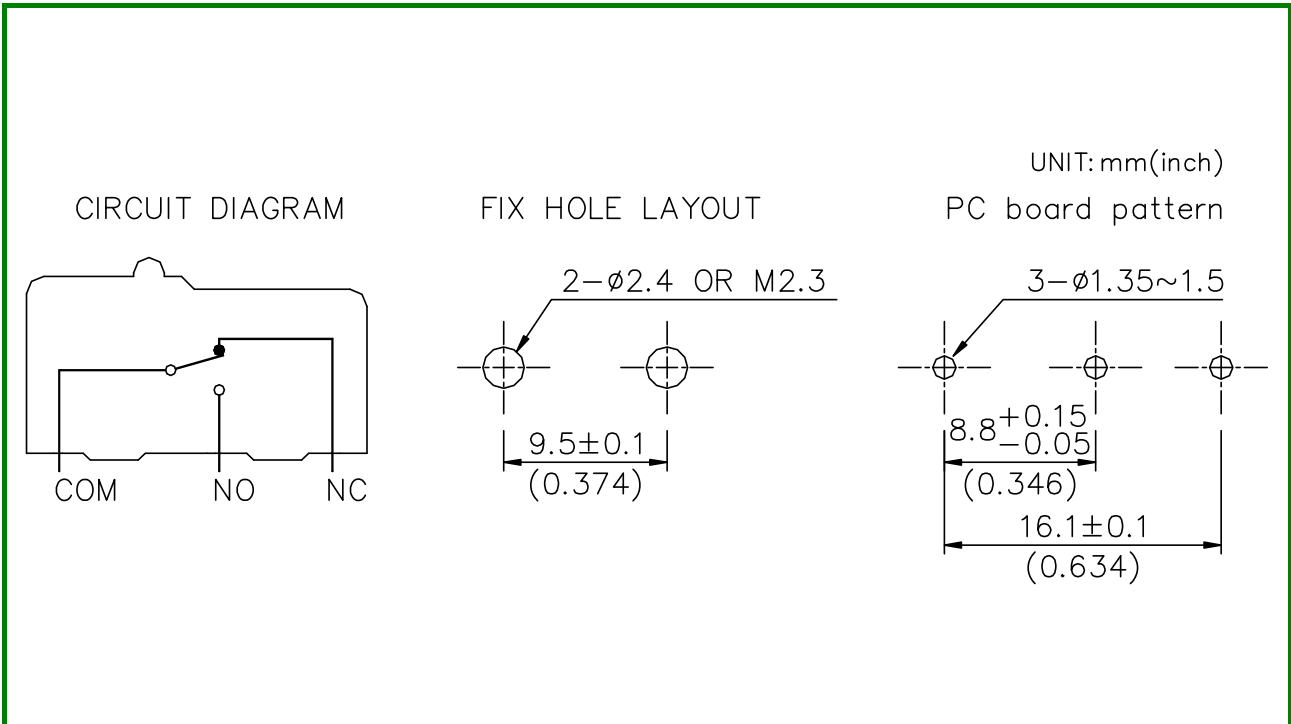


Actuators type		
0	110	
1	145	
2	158U	
3	145G	

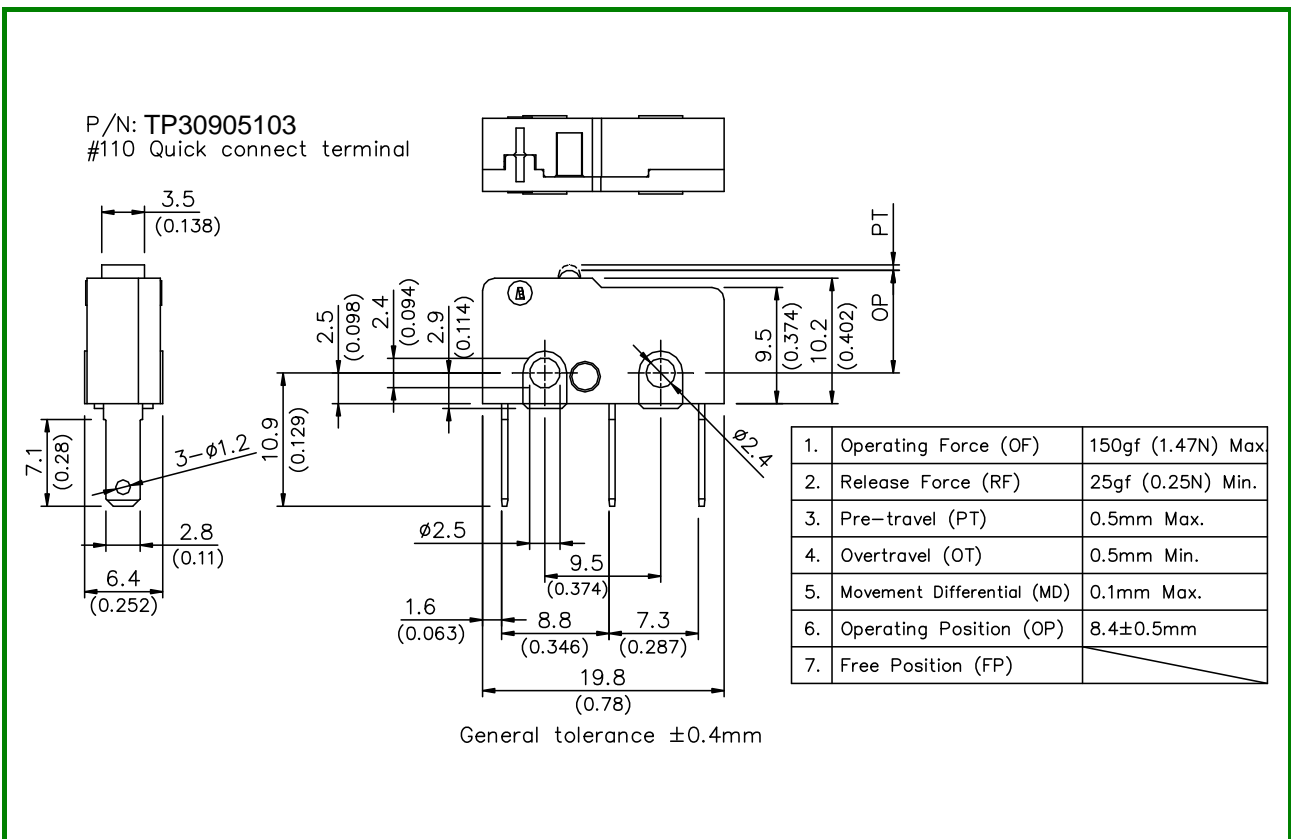
Terminal type		
1	#110 Quick connect terminal	
2	P.C.B terminal (Straight)	
3	Solder terminal	
4	P.C.B terminal (Right)	
5	P.C.B terminal (Left)	

# TP309 Series Micro Switches

## CIRCUIT DIMENSIONS

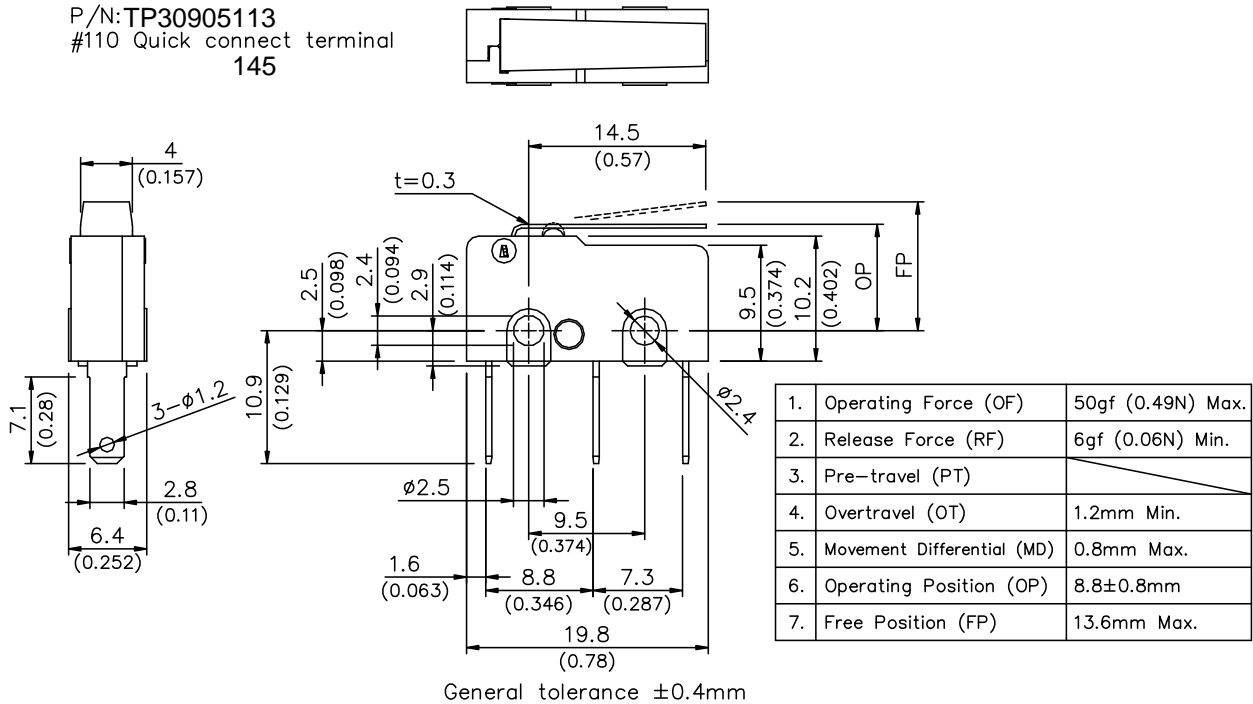


## DIMENSIONS

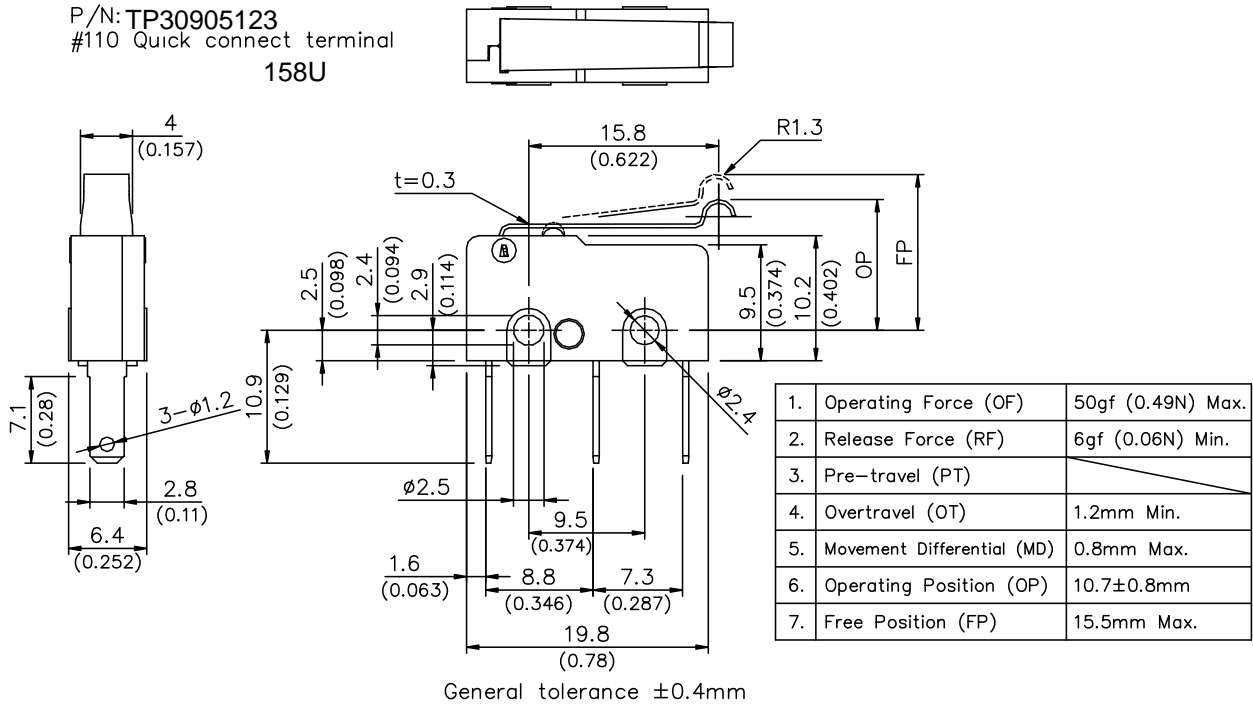


# TP309 Series Micro Switches

P/N: TP30905113  
#110 Quick connect terminal  
145



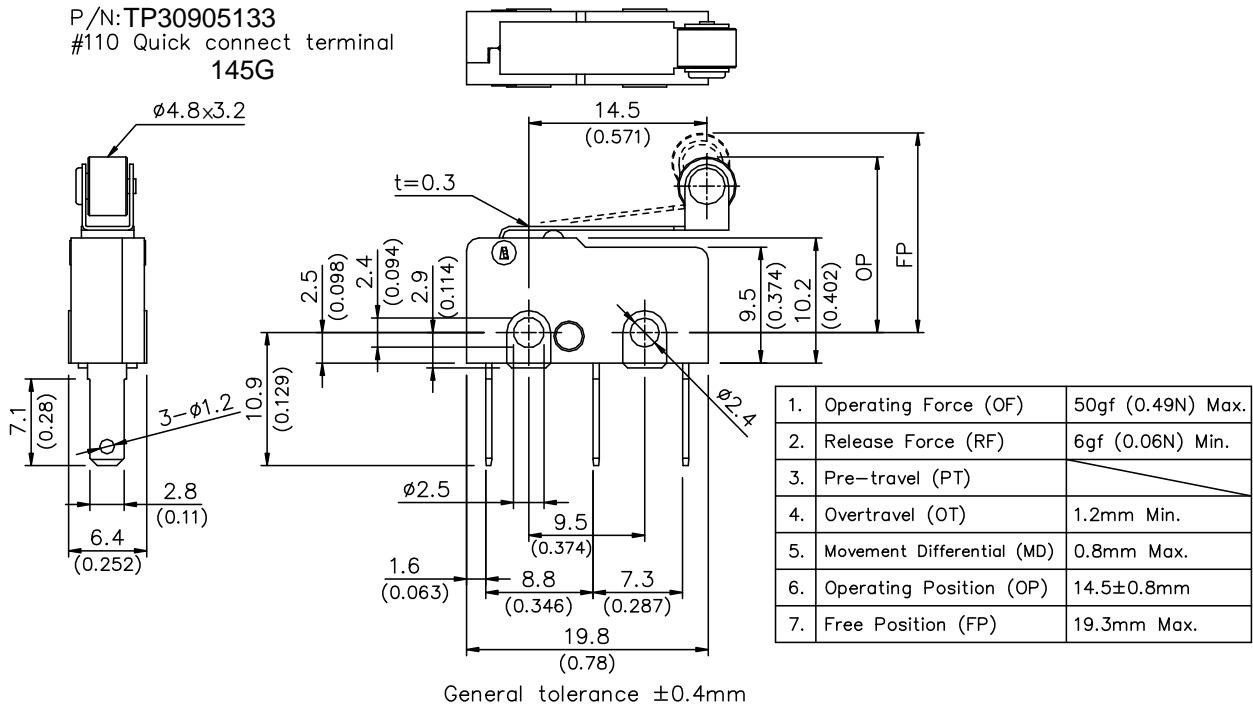
P/N: TP30905123  
#110 Quick connect terminal  
158U



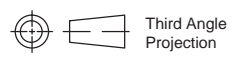
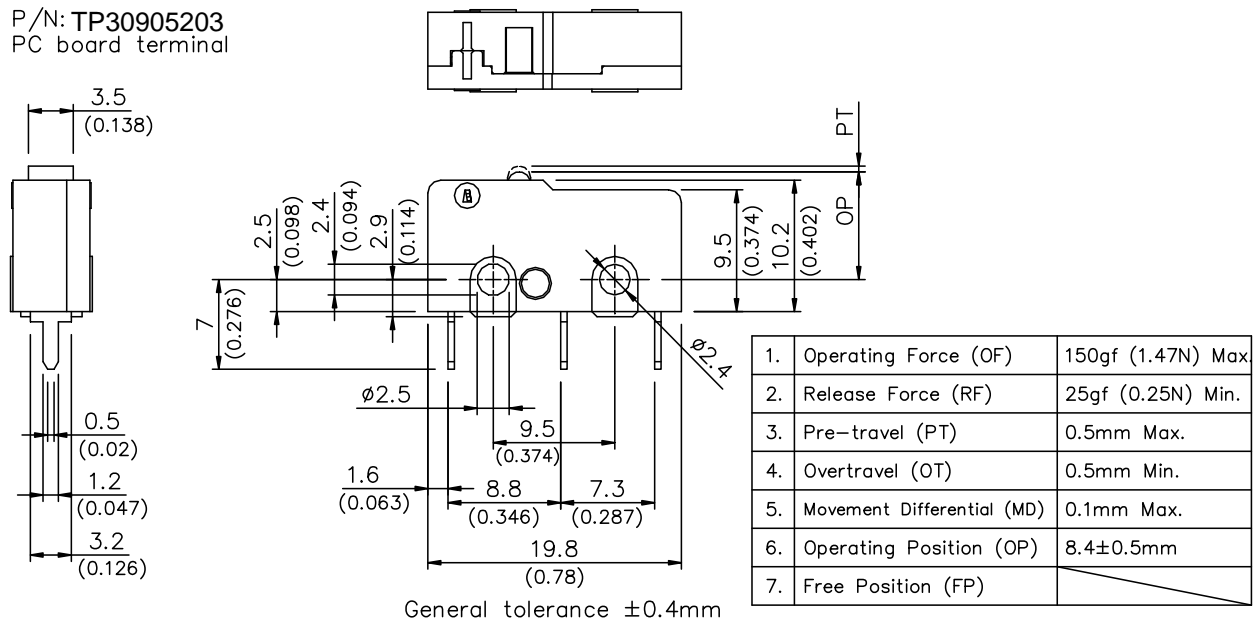
Dimensions are shown: mm  
Specifications and dimensions subject to change

# TP309 Series Micro Switches

P/N: TP30905133  
#110 Quick connect terminal  
145G



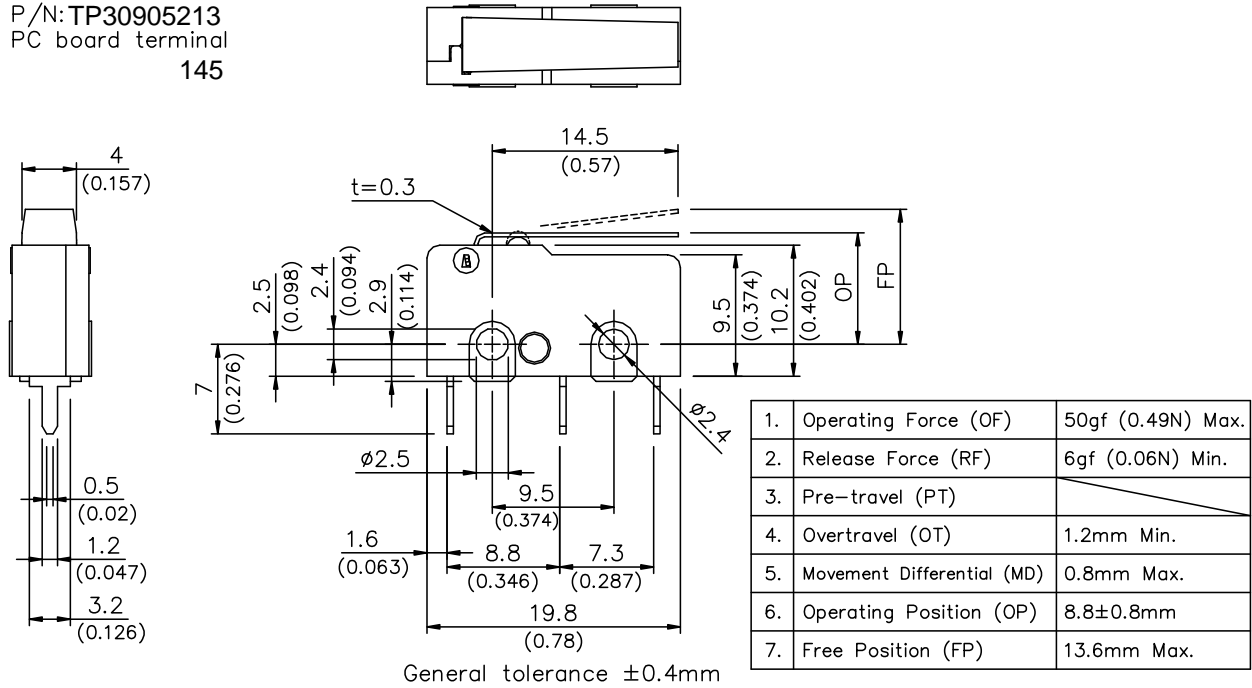
P/N: TP30905203  
PC board terminal



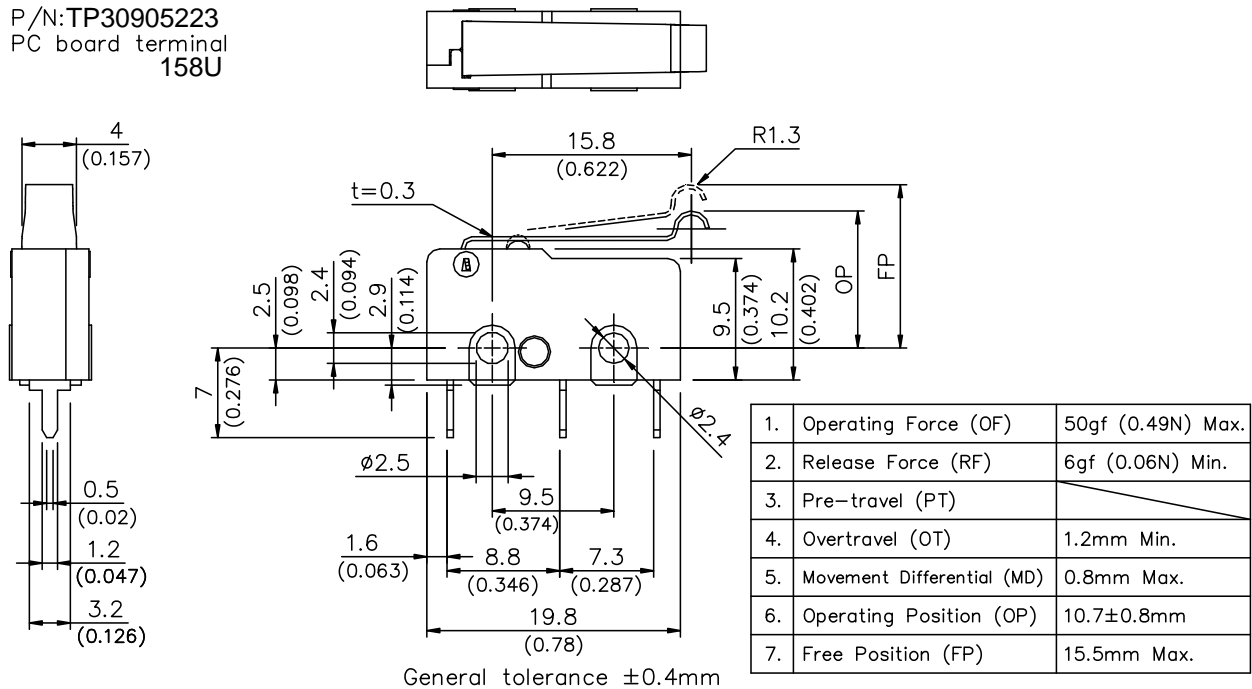
Dimensions are shown: mm  
Specifications and dimensions subject to change

# TP309 Series Micro Switches

P/N: TP30905213  
PC board terminal  
145

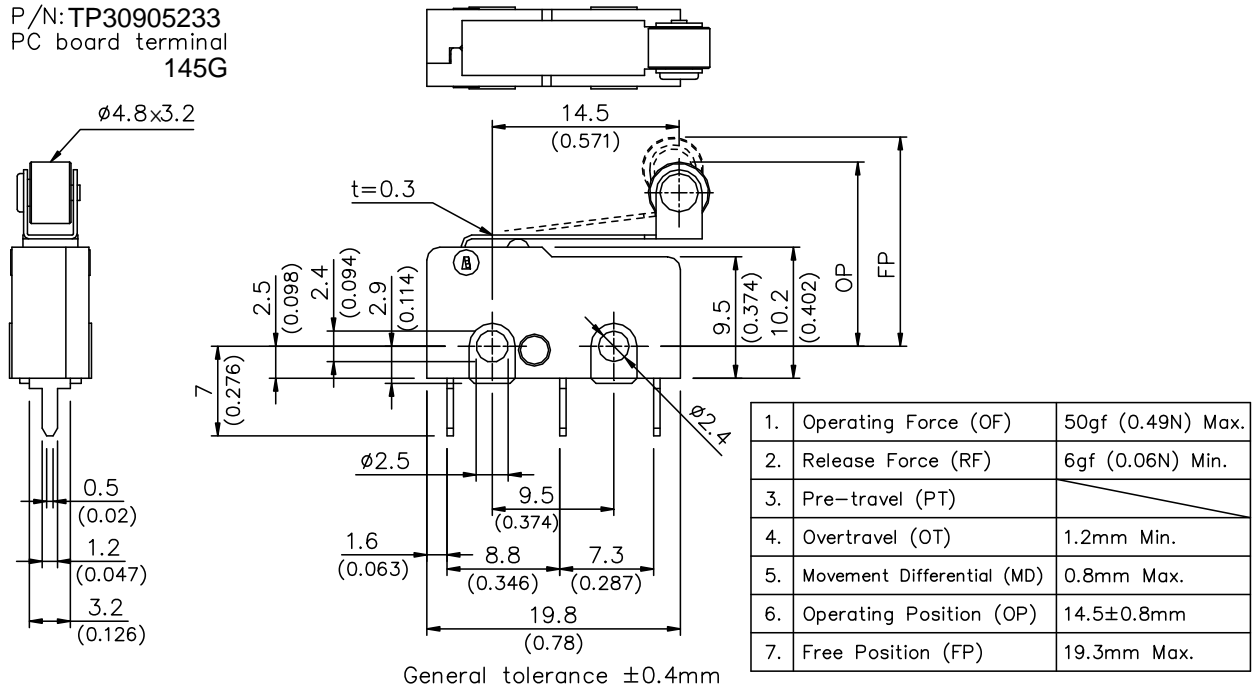


P/N: TP30905223  
PC board terminal  
158U

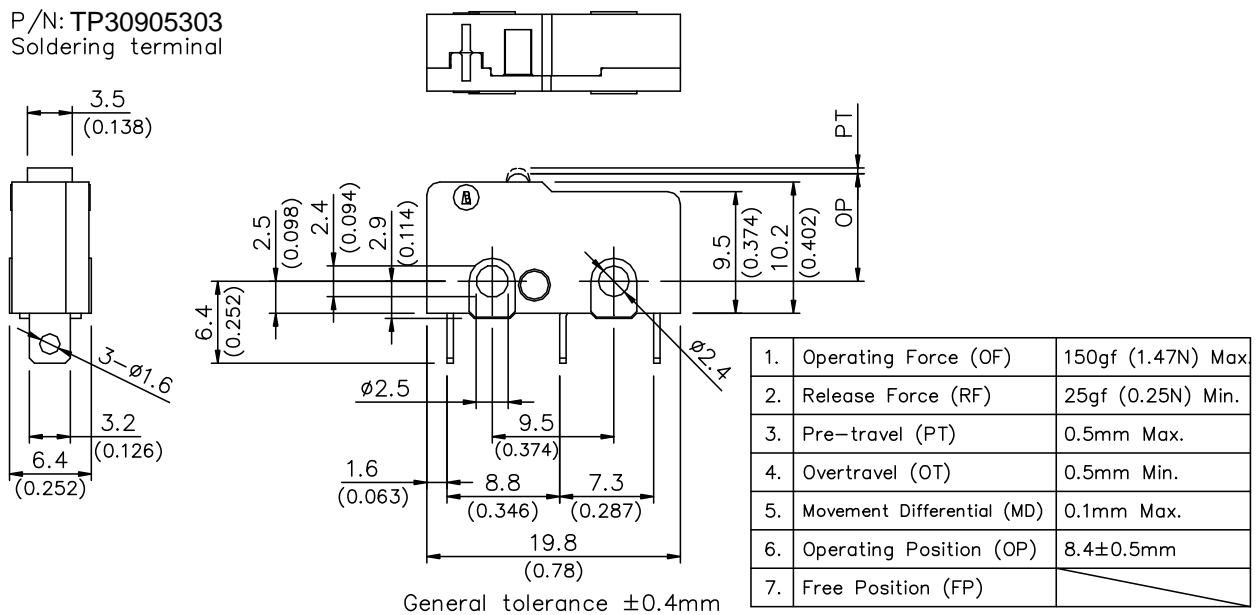


# TP309 Series Micro Switches

P/N: TP30905233  
PC board terminal  
145G



P/N: TP30905303  
Soldering terminal

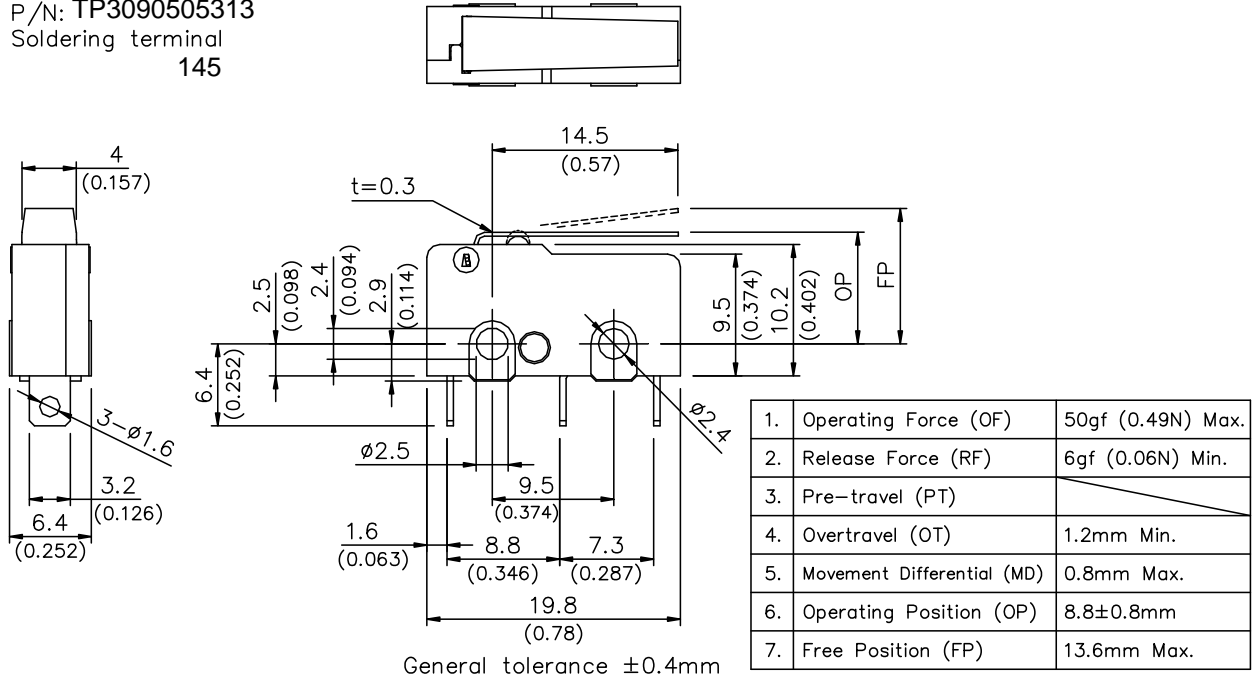


Dimensions are shown: mm  
Specifications and dimensions subject to change

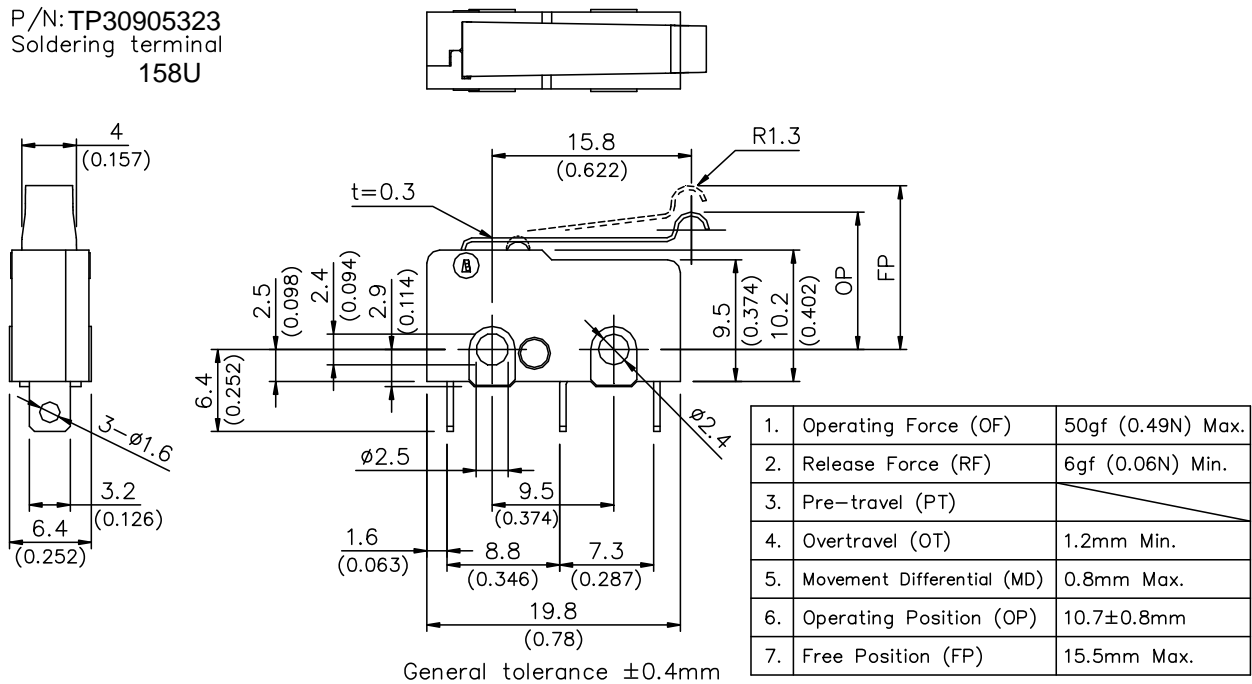


# TP309 Series Micro Switches

P/N: TP3090505313  
Soldering terminal  
145

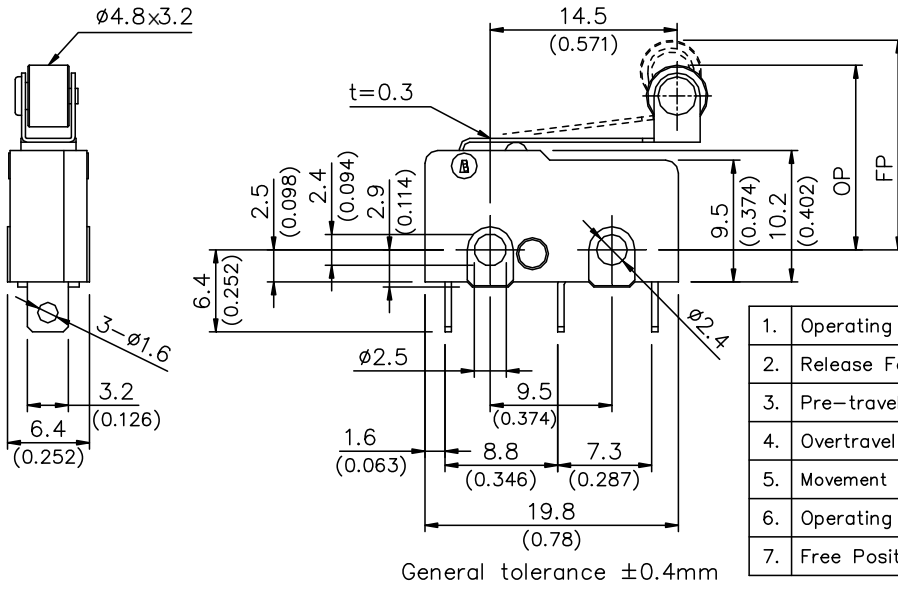


P/N: TP30905323  
Soldering terminal  
158U



# TP309 Series Micro Switches

P/N: TP30905333  
Soldering terminal  
145G



1.	Operating Force (OF)	50gf (0.49N) Max.
2.	Release Force (RF)	6gf (0.06N) Min.
3.	Pre-travel (PT)	
4.	Overtravel (OT)	1.2mm Min.
5.	Movement Differential (MD)	0.8mm Max.
6.	Operating Position (OP)	14.5±0.8mm
7.	Free Position (FP)	19.3mm Max.