



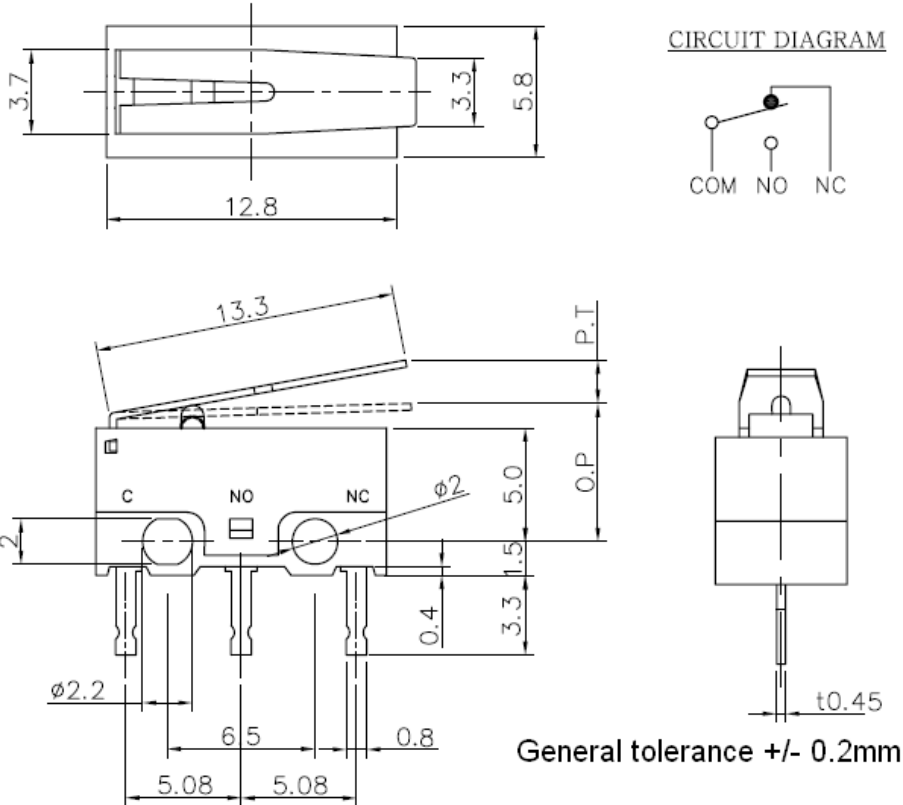
MICRO SWITCH: MS-1281 **RoHS Compliant** Rev.03 09/03/2016

Part code: MS-1281-PL Description: Straight PCB terminal

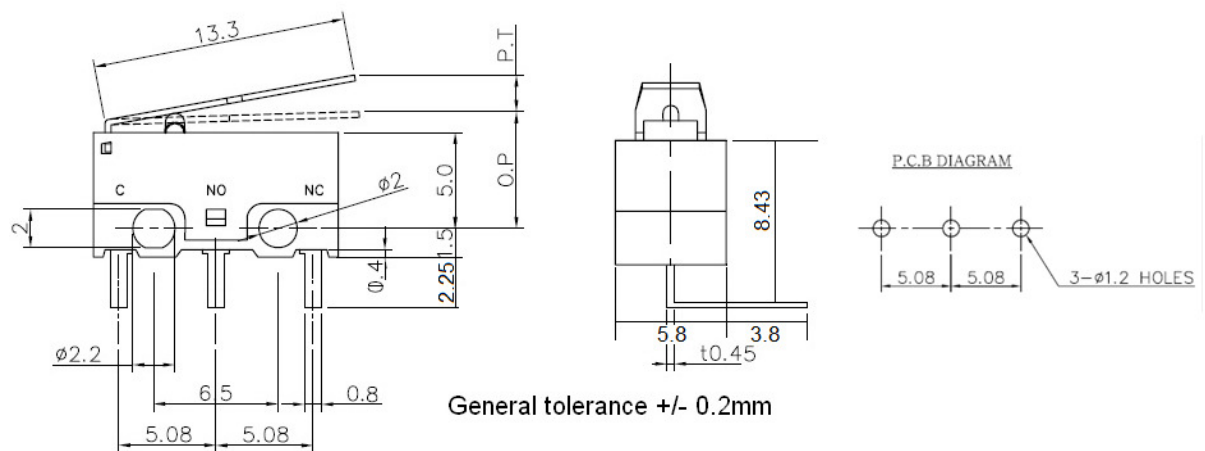
Part code: MS-1281-DL Description: Right angle D terminal

Part code: MS-1281-P-XL Description: Straight PCB terminal long lever

**MS-1281-PL: Straight terminal**



**MS-1281-DL: D terminal**





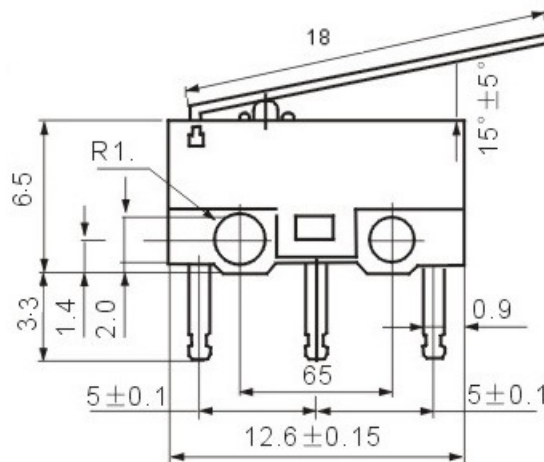
MICRO SWITCH: MS-1281 **RoHS Compliant** Rev.03 09/03/2016

Part code: MS-1281-PL Description: Straight PCB terminal

Part code: MS-1281-DL Description: Right angle D terminal

Part code: MS-1281-P-XL Description: Straight PCB terminal long lever

### MS-1281-P-XL: LONG LEVER



#### Electrical specifications:

Contact Rating	125V AC x 1A, 5V DC x 30mA
Contact Arrangement	SPDT
Operating Life Electrical	10,000 cycles
Dielectric Strength	500V AC for 1 min.
Insulation Resistance	100 M Ohms min.
Contact Resistance	100 milli Ohms max.
Max. Operating frequency	200 operations/min.
Ambient Temperature	-40 Deg. C to 85 Deg. C
Ambient Humidity	Less than 85% RH

#### Operating characteristics:

Operating Force O.F (max)	40gf ± 20gf
Return Force R.F (min)	5gf
Pre Travel P.T (max)	1.8mm ± 0.3mm
Over Travel O.T (min)	0.6mm
Operating position O.P	8.80 ± 0.8mm
Free position F.P	10.40 ± 0.8mm

#### Material Specifications:

Case	PBT G30
Plunger	POM
Cover	PC
Terminals	Brass Silver Plated
Contacts plate	Phosphor Bronze



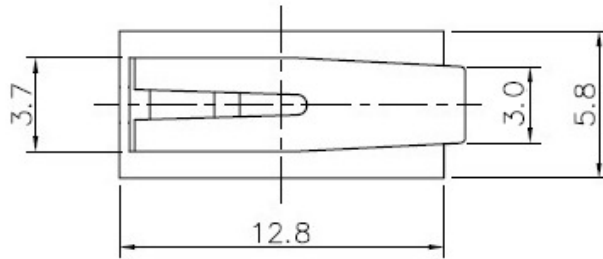
# PRAN ELECTRONICS PVT. LTD.

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Phone : +91 - 265 - 263 2916, 263 5920 Fax : + 91 - 265 - 263 5918  
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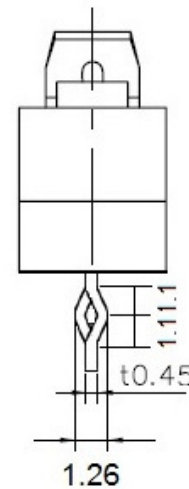
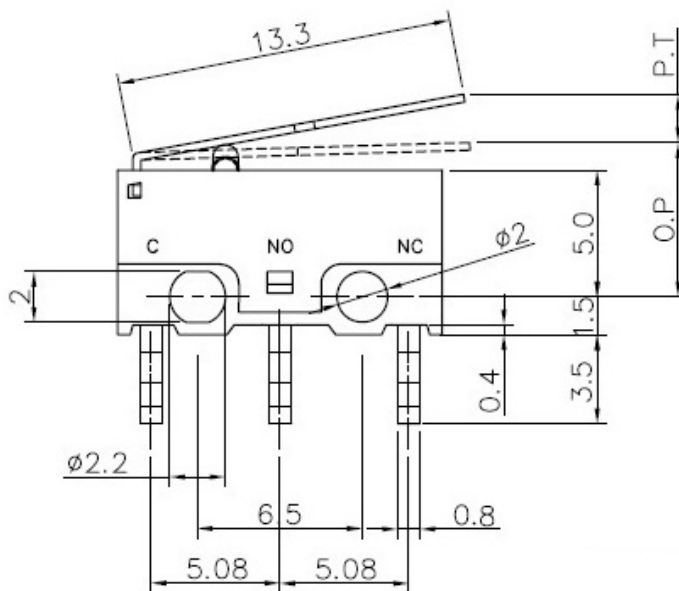
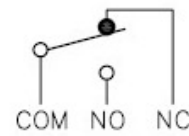
**AN ISO 9001:2000 COMPANY**

**MICRO SWITCH: MS-1281-BL**  
Micro switch with Bent terminals

Rev.01 25/02/2017  
RoHS Compliant

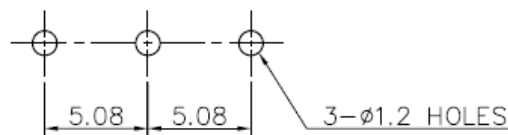


CIRCUIT DIAGRAM



General tolerance +/- 0.2mm

P.C.B DIAGRAM





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**AN ISO 9001:2000 COMPANY**

**MICRO SWITCH: MS-1281-BL**  
Micro switch with Bent terminals

Rev.01 25/02/2017  
**RoHS Compliant**

### **Electrical specifications:**

Contact Rating	125V AC x 1A, 5V DC x 30mA
Contact Arrangement	SPDT
Operating Life Electrical	6,000 cycles
Operating Life Mechanical	10,000 cycles
Dielectric Strength	500V AC for 1 min.
Insulation Resistance	100 M Ohms min.
Contact Resistance	100 milli Ohms max.
Max. Operating frequency	200 operations/min.
Ambient Temperature	-40 Deg. C to 85 Deg. C
Ambient Humidity	Less than 85% RH

### **Operating characteristics:**

Operating Force O.F (max)	40gf $\pm$ 20gf
Return Force R.F (min)	5gf
Pre Travel P.T (max)	1.8mm $\pm$ 0.3mm
Over Travel O.T (min)	0.6mm
Operating position O.P	8.80 $\pm$ 0.8mm
Free position F.P	10.40 $\pm$ 0.8mm

### **Material Specifications:**

Case	PBT G30
Plunger	POM
Cover	PC
Terminals	Brass Silver Plated
Contacts plate	Phosphor Bronze with Silver rivets

Rev. 1 date 25/02/2017 \*Dimension correction for lever



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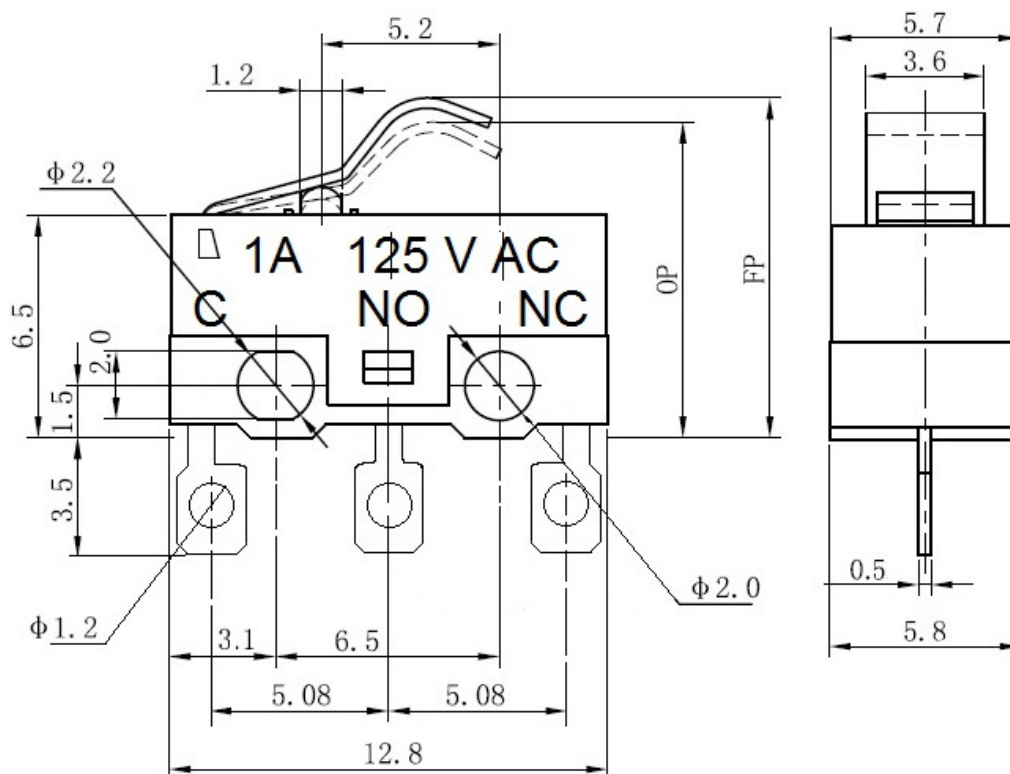
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MICRO SWITCH: MS-1281-SL

Rev.00 01/07/2017

Micro switch with Solder terminal and bent lever

RoHS Compliant





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**AN ISO 9001:2000 COMPANY**

MICRO SWITCH: MS-1281-SL

Rev.00 01/07/2017

Micro switch with Solder terminal and bent lever

**RoHS Compliant**

### **Electrical specifications:**

Contact Rating	125V AC x 1A, 5V DC x 30mA
Contact Arrangement	SPDT
Operating Life Electrical	10,000 cycles
Operating Life Mechanical	500,000 cycles
Dielectric Strength	500V AC for 1 minute
Insulation Resistance	100 M Ohms minimum
Contact Resistance	100 milli Ohms maximum
Max. Operating frequency	200 operations/min.
Ambient Temperature	-40 Deg. C to 85 Deg. C
Ambient Humidity	Less than 85% RH

### **Operating characteristics:**

Operating Force O.F (max)	40gf $\pm$ 20gf
Operating position O.P	8.5 $\pm$ 0.5mm
Free position F.P	9.5 $\pm$ 0.5mm

### **Material Specifications:**

Case	PBT G30
Plunger	POM
Cover	PC
Terminals	Brass Silver Plated
Contacts plate	Phosphor Bronze with Silver rivets



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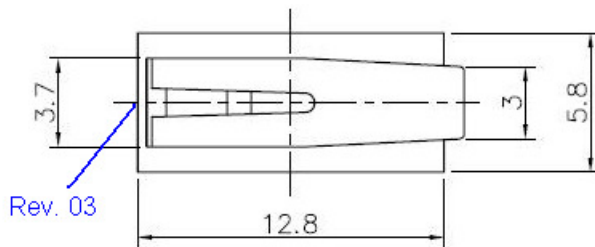
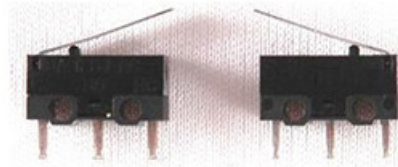
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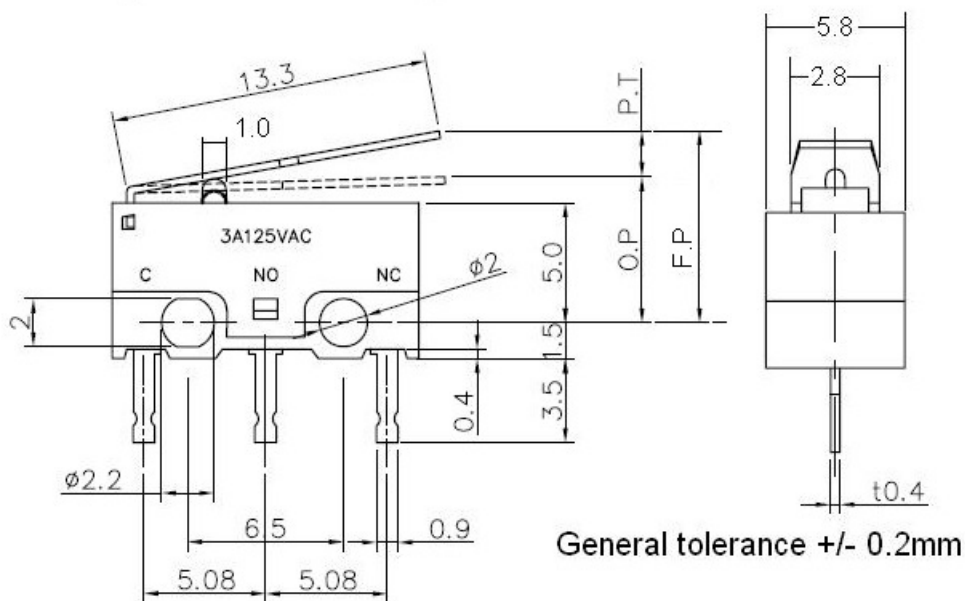
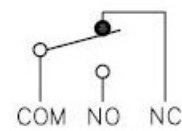
**MICRO SWITCH: MS-1283-PL**

Rev.04 30/01/2012\*

RoHS Compliant

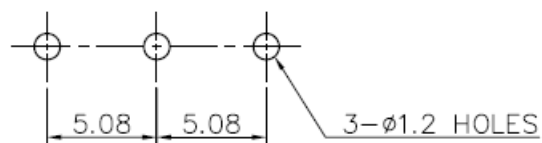


CIRCUIT DIAGRAM



General tolerance +/- 0.2mm

P.C.B DIAGRAM







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**MICRO SWITCH: MS-1283-PL**

**Rev.04 30/01/2012\***

**RoHS Compliant**

## **Electrical specifications:**

<b>Contact Rating</b>	125V AC x 3A, 30V DC x 2 A
<b>Contact Arrangement</b>	SPDT
<b>Operating Life</b>	
At rated load	6,000 cycles
No Load (mechanical)	10,000 cycles
<b>Dielectric Strength for 1 min.</b>	
Between terminals	600V AC
Between terminals and Lever	1500V AC
Between terminals and Case (Body)	1500V AC
<b>Insulation Resistance</b>	100 M Ohms min.
<b>Contact Resistance</b>	
Initial	50 milli Ohms max.
After electrical life cycles	100 milli Ohms max.
<b>Max. Operating frequency</b>	60 operations/min.
<b>Ambient Temperature</b>	-25 Deg. C to 60 Deg. C
<b>Ambient Humidity</b>	Less than 85% RH

## **Operating characteristics:**

Operating Force O.F (max)	40gf $\pm$ 20gf
Return Force R.F (min)	5gf
Pre Travel P.T (max)	1.8mm
Over Travel O.T (min)	0.6mm
Operating position O.P	7.0 $\pm$ 0.5mm

## **Material Specifications:**

Case	Nylon 66 G30
Plunger	Nylon 66 G30
Cover	Nylon 66 G3
Terminals	Brass Silver Plated
Contacts plate	Beryllium Cooper with Silver rivets

## **\*Revision notes:**

01 21/10/2008	Tolerance specified
02 06/05/2010	Electrical specs. and dimensional details
03 05/08/2011	Cover improved to withstand reverse pull force
04 30/01/2012	Operating life and force correction







MICRO SWITCH: MS-1283-PL  
RoHS Compliant

Rev.04 30/01/2012\*

Soldering conditions and precautions for Micro and tactile switches:

	Item	Condition		Item	Condition
	Flux built-up	Mounting surface should not be exposed to Flux		Soldering Temperature	280 °C max
	Preheating temperature	temperature of the soldered surface of PC board 100 °C max		Duration of soldering	3s max
	Preheating time	60s max		Capacity of soldering iron	60w max
	Soldering temperature	260°C max			
	Duration of immersion	5s max			
	Number of soldering	2cycles			

Soldering Precautions:

1. Cleaning with solvent or IPA: Kindly ensure the solvent or IPA does not enter the Switch moving parts, do not dip the entire board with switch in IPA or cleaning liquid as flux or cleaning residue can cause damage to switch function and movement.
2. Conformal coating: Do not spray conformal coating on the switch, if using conformal coating for PCB, cover the switch area with a cap to prevent conformal coating from entering the switch. Conformal coating on switch can cause switch to malfunction.
3. Observe soldering temperature and time as above.
4. Store the switches in original bags with silica gel bags and reseal unused switches. All switches have silver coating on terminals and long exposure to open air can cause silver oxidation resulting in poor soldering.