

MS3A 型微动开关系列 Micro switch series

◆ 安全可靠的中型开关 Safe, reliable basic switch

- 结构紧凑, 具有微小触点间隙, 快速动作、高灵敏和微小动作行程特点。
Nice appearance, tight configuration. Characteristic: small contact gap, quick action, high sensitivity and small operating travel
- 长寿命, 高可靠:
Long life, high reliability.
- 接线端子种类齐全:
A variety of contact terminals
- 动作力范围宽:
A variety of models with low operating force to high operating force are available
- 多种温度等级:
A variety of temperature degree
- 采用热固性或热塑性塑料:
Adopt thermosetting plastic or thermoplastic
- 配备各种形式动臂: A variety of levers
- 广泛应用于各种家用电器、电子设备、自动化设备、通讯设备、汽车电子、仪器仪表、电动工具等领域。
Widely used in home appliance, electronic equipment, automatic machine, communication equipment, car electron, apparatus and instrument electric motion tool etc.

◆ 技术特性 Specifications

| 项目 Item | | 特性值 Value |
|----------------------------|---|--|
| 工作速度 Operating speed | | 0.1mm~1m/s(与驱动方式有关) (Related with actuator forms) |
| 工作频率 Operating frequency | | 机械60次/min Mechanical 60 cycles/min; 电气25次/min Electrical 25 cycles/min; |
| 绝缘电阻 Insulation resistance | | $\geq 100M\Omega$ (500VDC) |
| 接触电阻 Contact resistance | | $\leq 30M\Omega$ (初始值) (Initial value) |
| 耐电压 Test voltage | 同极不相接端子间 Between terminals of the same polarity | AC1000V, 50/60Hz, 1min |
| | 带电子金属零件与地(外壳)之间、接线端与不带电金属件之间 Between current-carrying metal parts and ground(case), and between each terminal and non-current-carrying metal parts | AC3750V, 50/60Hz, 1min |
| 抗振动 Vibration resistance | | 10~55Hz, 1.5mm双振幅 Double amplitude |
| 抗冲击 Shock resistance | | 破坏: 动作力 > 0.5N: 1000m/s ² (约10G) max 动作力 ≤ 0.5N: 400m/s ² (约4G) max 故障: 动作力 > 0.5N: 200m/s ² (约2G) max 动作力 ≤ 0.5N: 100m/s ² (约1G) max Destruction: OF > 0.5N: 1000m/s ² (approx. 10G) max OF ≤ 0.5N: 400m/s ² (approx. 4G) max Malfunction: OF > 0.5N: 200m/s ² (approx. 2G) max OF ≤ 0.5N: 100m/s ² (approx. 1G) max |
| 寿命 Life | | 机械 ≥ 1,000,000次; Mechanical ≥ 1,000,000 cycles 电气 ≥ 50,000次; Electrical ≥ 50,000 cycles |

◆ 型号规格命名及含意 Model number legend and meanings

MS3A□-□□□□□

1 2 3 4 5 6

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|---|--------------------------------|---|---|
| 1 | 温度等级 Degrees of temperature | 无标记 No mark:T85, 10T105 T:T125 H:T150 G:T200 | |
| 2 | 额定值 Ratings | MS3A : 25(10):25(10)A250VAC 25:25(4)A250VAC 16:16(4)A250VAC/16A125VAC 10:10(3)A250VAC/10A125VAC 5:5(2)A250VAC/5A125VAC MS3AT : 21:21(4)A250VAC 16:16(4)A250VAC/16A125VAC 10:10(3)A250VAC/10A125VAC | 05:5(2)A250VAC/5A125VAC 01:1(0.3)A250VAC/1A125VAC MS3AH : 10:10(3)A250VAC/10A125VAC 5:5(2)A250VAC/5A125VAC MS3AG : 22:22A125VAC 10:10A125VAC 05:05A125VAC/0.1A30VDC, 1A30VDC 01:1A125VAC/0.1A30VDC, 1A30VDC |
| 3 | 接触形式 Circuit | Z:转换试 SPDT T:常开(接通)式 SPST-NO D:常开(按断)式 SPST-NC (见说明图 See illustration) | |
| 4 | 驱动形式 Actuator forms | 1:无动臂 No lever A2/2:短动臂 Short lever A3/3:中动臂 Middle lever A4/4:长动臂 Long lever A5/5:弧形动臂 Arc lever A6/6:短滚轮臂 Short roller A7/7:长滚轮臂 Long roller A□/□非标准动臂 Not standard lever | 注:1)A表示动臂安装在靠近按钮位置,无字母A表现动臂安装在离按钮较远位置。 □ 2) 表示非标准动臂的代号,详见动臂外形尺寸图。 Note:1)A indicate the lever near to the plunger,no A indicate the lever far away from the plunger. 2)□ Indicare not standard lever,details see outline dimension drawings. |
| 5 | 端子类型 Terminal type | A:250快接端子 Quick-connect terminal B:焊接/快接#187共用端子(t=0.8mm) Solder/Quick-connect teminal#187 C:187快接端子(厚0.5mm) 187 quick-connectterminal(thick0.5mm) D:左侧面PCB端子 Left side PCB terminal | E:螺孔端子 Screw terminal F:焊接端子 Solder terminal G:右侧面PCB端子 Right side PCB terminal Y 非标准端子 Not standard terminal |
| 6 | 动作(max) Operating force | 050:0.5N 100:1N 150:1.5N 200:2N 300:3N 400:4N 注:若是非标准动作力,用此动作力上限值表示。 Note:if it is not standard operating force,indicare with the upper limit | |

◆ 接触形式说明书 Circuit illustration

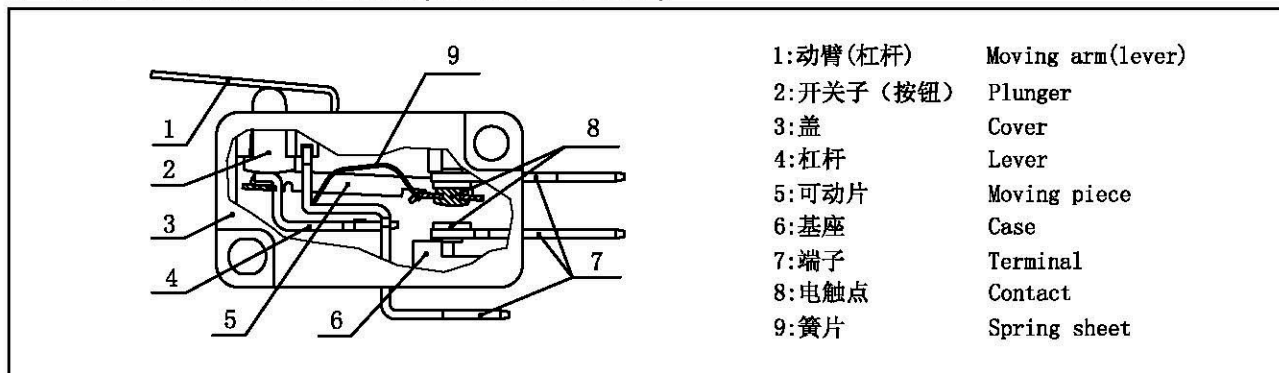
| 公共端子类型 Common terminal types | 转换式 SPDT | 常闭式 SPST-NC | 常开式 SPST-NO |
|----------------------------------|----------|-------------|-------------|
| 公共端在底部 Bottom common terminal | | | |
| 公共端在侧面 Side common terminal | | | |

◆ 接线端尺寸 Terminal dimensions

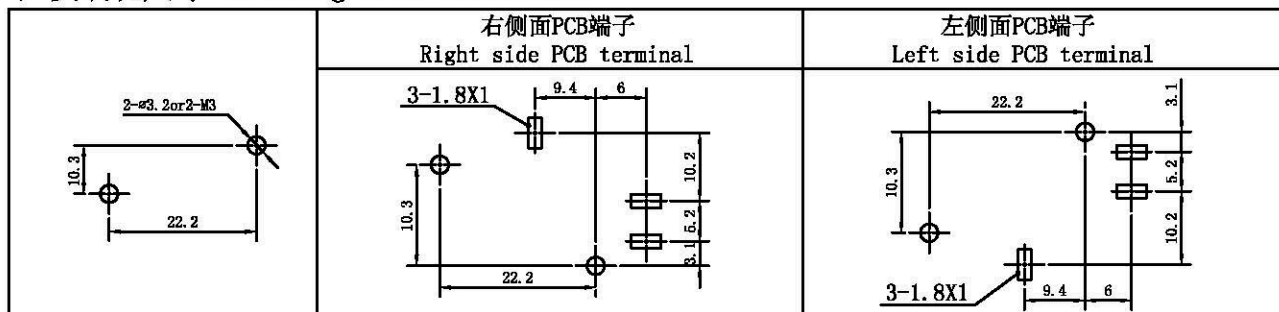
| 端子种类 Terminal types | 快接端子#250 (t=0.8mm) Quick-connect terminal#250 | 焊接/快接#187共用端子 (t=0.8mm) Solder/Quick-connect terminal#187 | 快接端子#187 (t=0.5mm) Quick-connect terminal#187 |
|-----------------------------|--|--|--|
| 端子尺寸 Terminal dimensions | | | |
| | | | |

| 左侧面PCB端子 Left side PCB terminal | 螺孔端子 Screw terminal | 焊接端子 Solder terminal | 右侧面PCB端子 Right side PCB terminal |
|------------------------------------|------------------------|-------------------------|-------------------------------------|
| | | | |

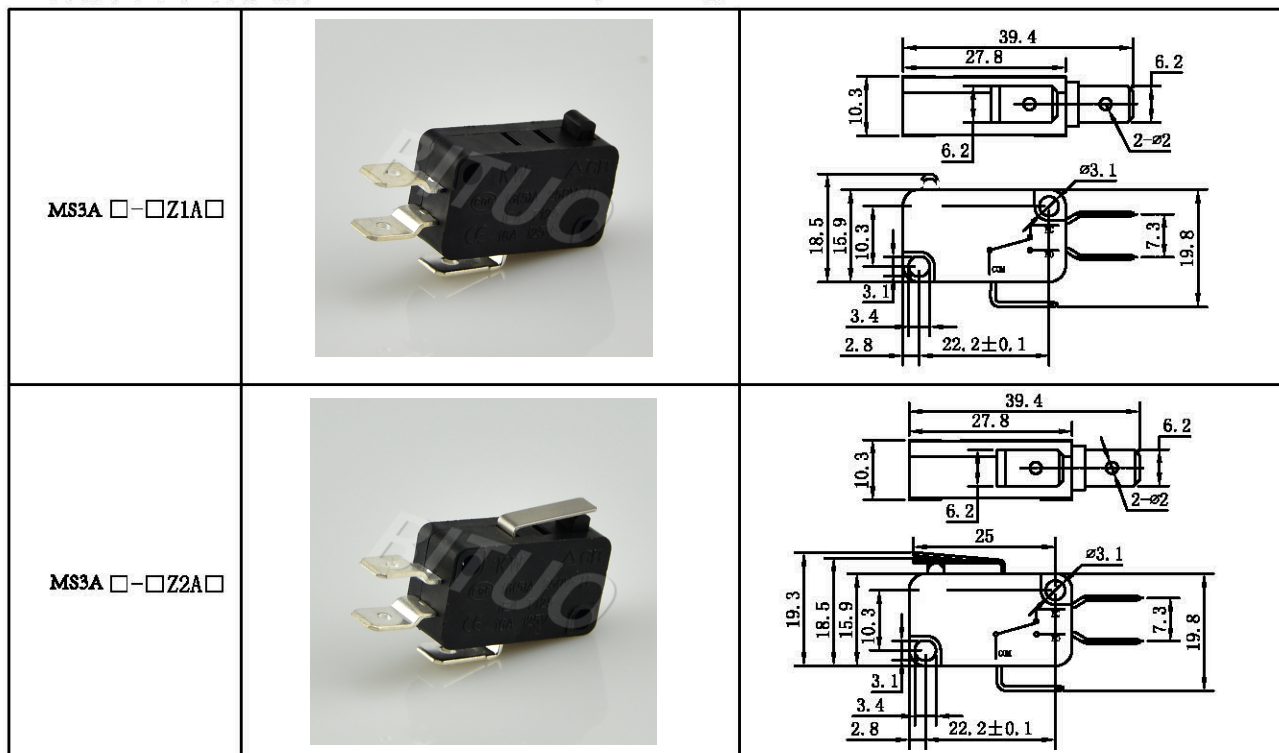
◆ 内部构造图 Internal configuration drawing




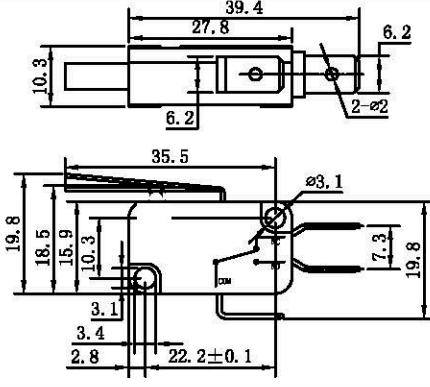

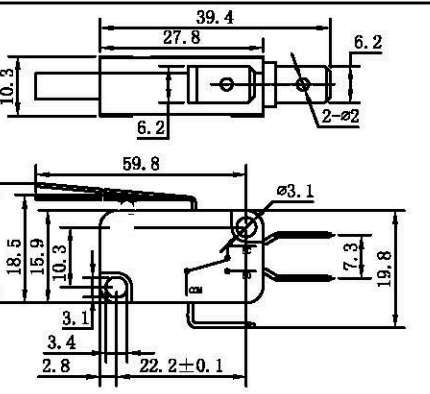

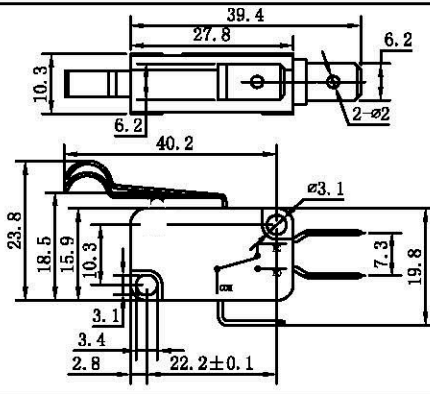

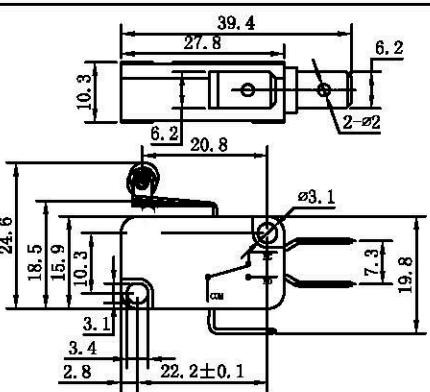
◆ 安装孔尺寸 Mounting hole dimensions




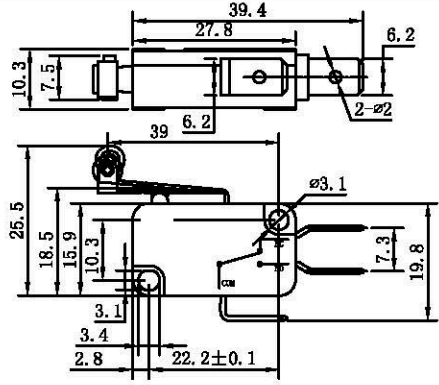

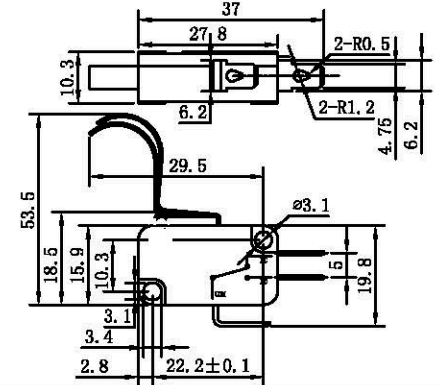

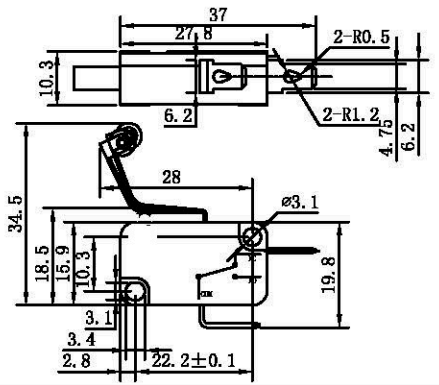

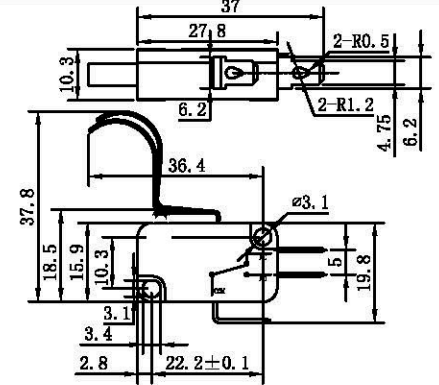
◆ 外形尺寸和动作特性 Dimensions and operating characteristics



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|----------------------|---|--|
| <p>MS3A □-□Z3A □</p> |  |  |
| <p>MS3A □-□Z4A □</p> |  |  |
| <p>MS3A □-□Z5A □</p> |  |  |
| <p>MS3A □-□Z6A □</p> |  |  |

◆ 外形尺寸和动作特性 Dimensions and operating characteristics

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|---------------------|---|--|
| <p>MS3A□-□Z7A□</p> |  |  |
| <p>MS3A-Z12B</p> |  |  |
| <p>MS3A-D13B</p> |  |  |
| <p>MS3A□-□Z11B□</p> |  |  |