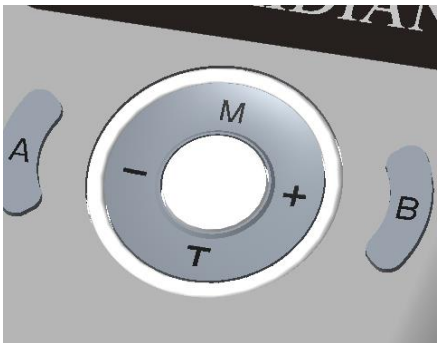
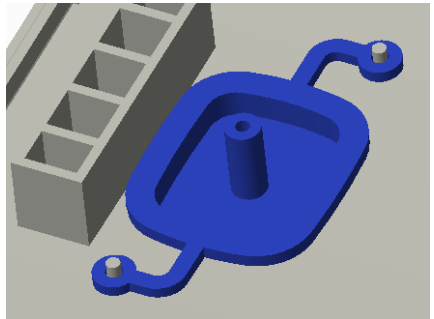
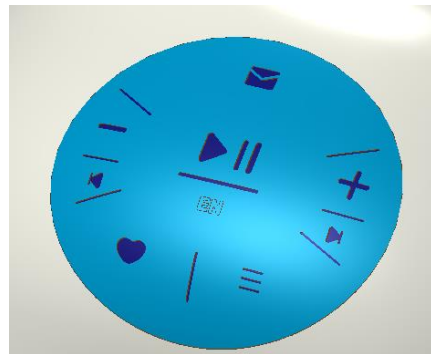
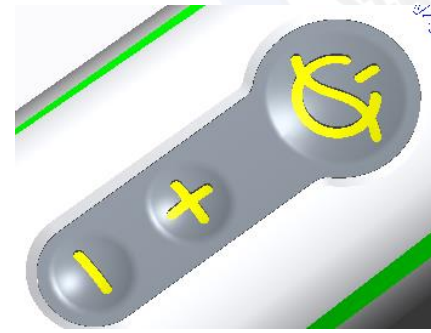
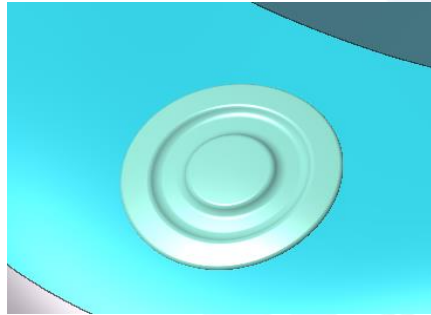


各按键种类案例

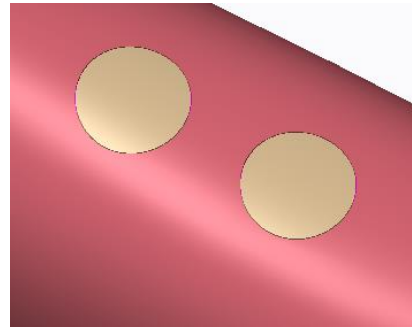
1. 悬臂按键



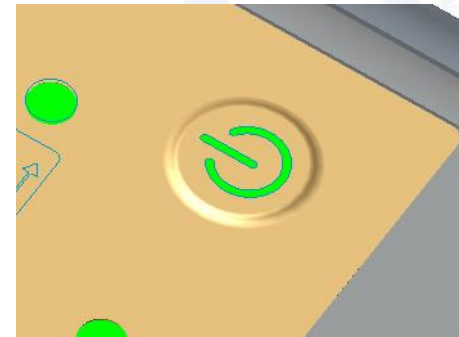
2. 软胶按键



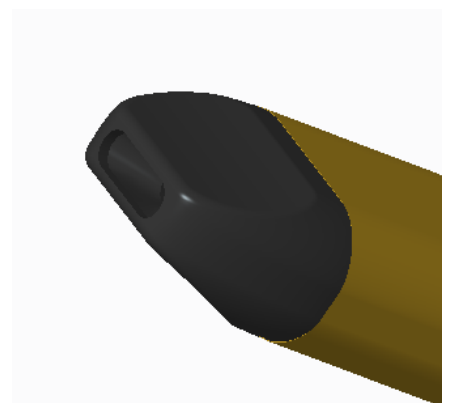
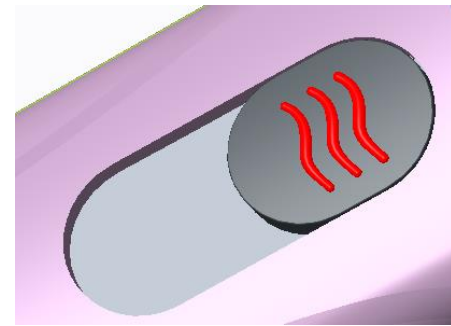
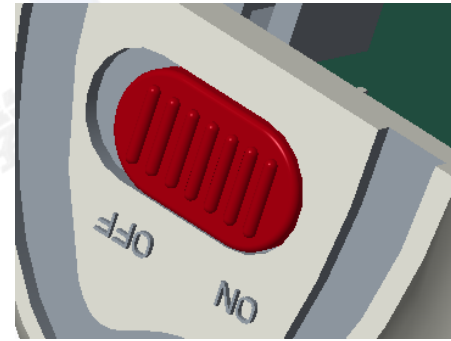
3. P+R按键



4. 薄膜按键



5. 其它按键开关



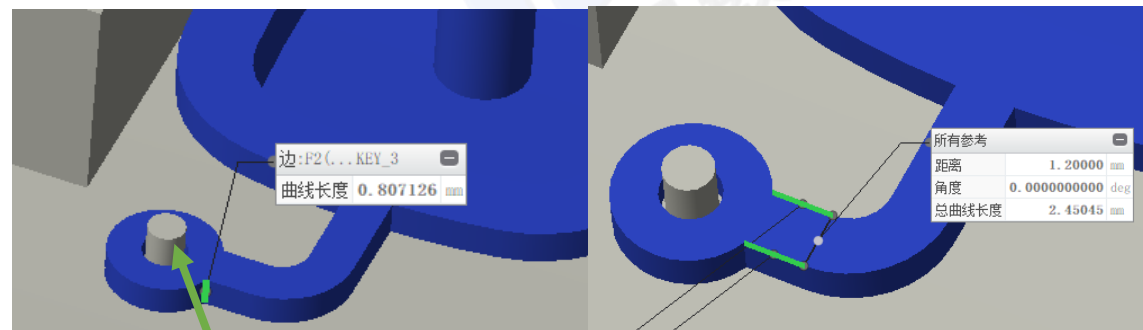
1. 悬臂按键

悬臂按键定义

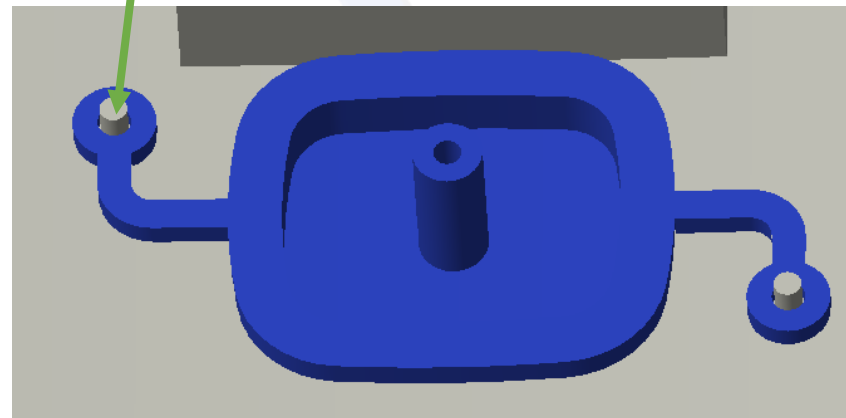
为了使按键装配时方便固定在壳体上，需要借助悬臂梁将按键做成一体结构，主要结构由按键、悬臂梁，热熔柱和孔共同组成。

悬臂按键案例

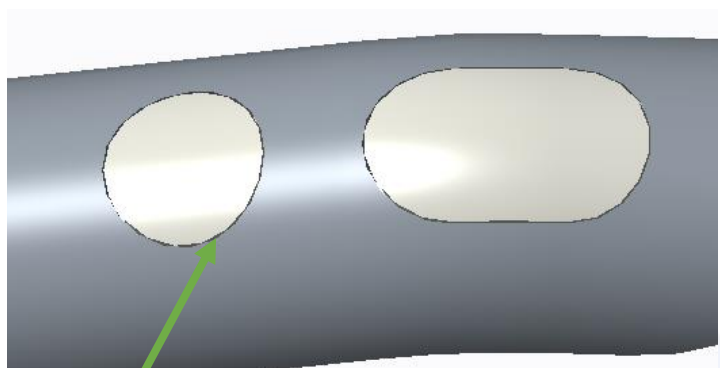
悬臂梁的厚度一般为：0.8--1.0mm，最薄0.6mm；
悬臂梁的宽度一般为：1.5倍-2.5倍厚度，一般不超过2.5mm；
悬臂梁的长度一般介于10mm-20mm之间；
悬臂梁按键需要借助热熔柱和孔的配合来固定在外壳上，
热熔柱的直径为0.9至1mm，与空的配合间隙为0.1mm，
热熔柱需要高出悬臂梁表面0.8至1.2mm；
热熔柱顶部需要倒圆角方便装配；
为提高悬臂梁强度，各个拐角的连接位置都需要倒圆角增加强度；
按键与壳体的间隙是0.15至0.2之间；



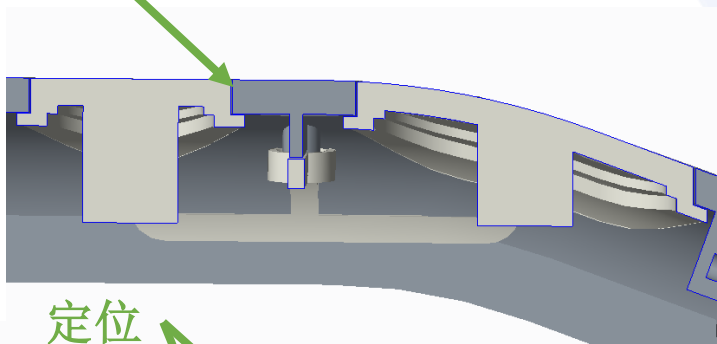
热熔柱



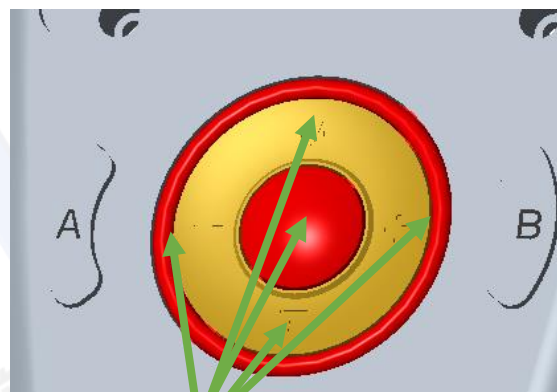
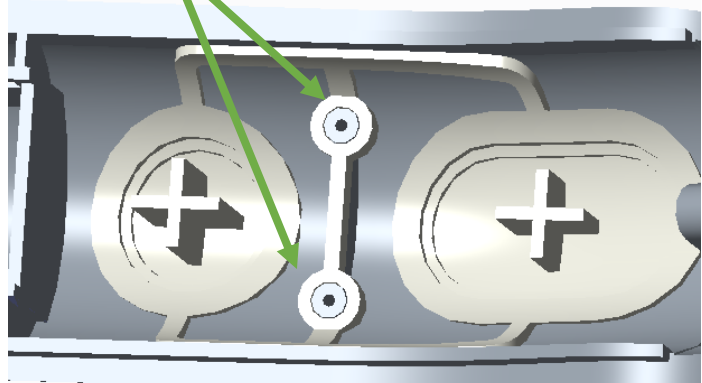
悬臂按键案例



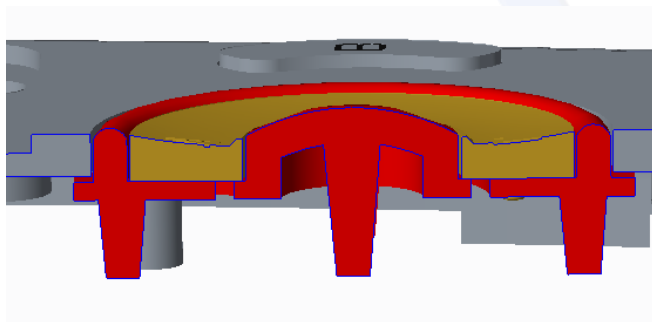
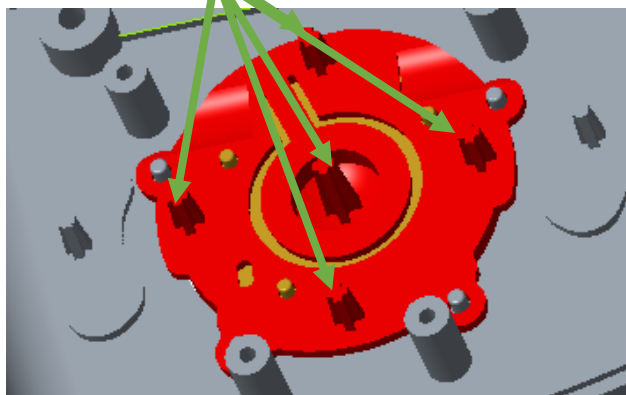
间隙在0.15至0.2mm



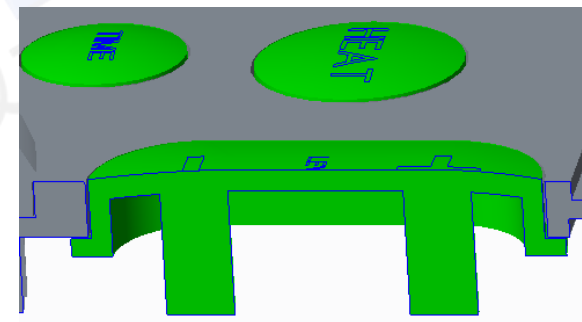
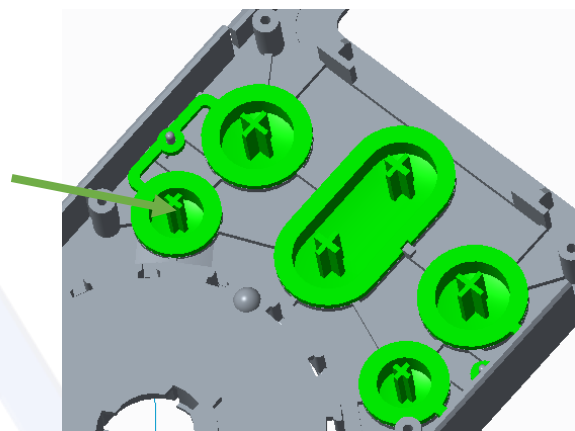
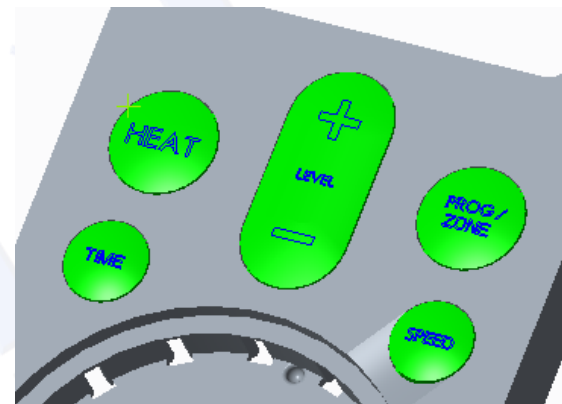
定位



接触位



设计按键十字骨时，不要让十字骨连到边，注意按键连动

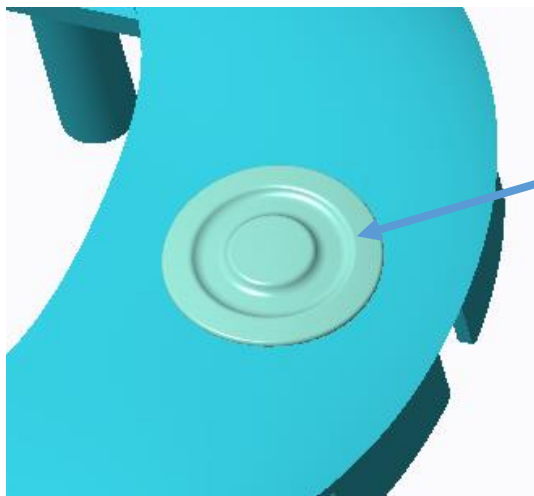


2. 软胶按键

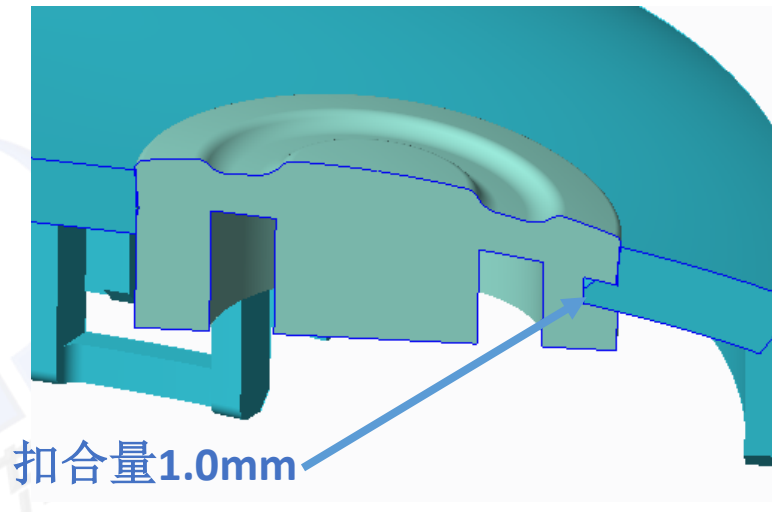
软胶按键定义

为了使产品达到防水的效果，产品按键可以做成软胶，就能达到防水，按键的硬度一般是80度左右，材料一般是TPU或硅橡胶，可以装配进去，也可以做包胶或做双色模，设计装配进去的时候要注意软胶的扣合量，软胶按键缺点：按键设计不宜太小（小于14mm左右），手感就比较差。

软胶按键案例

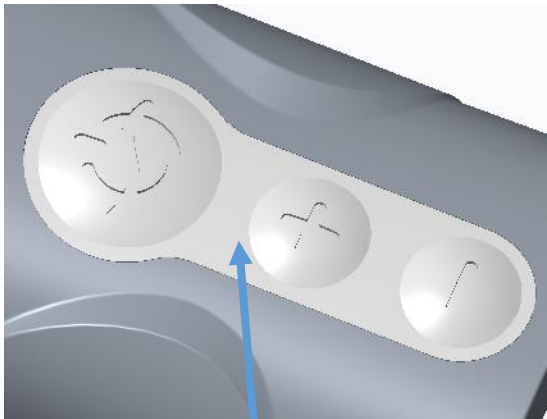


热压成型
硬度60度

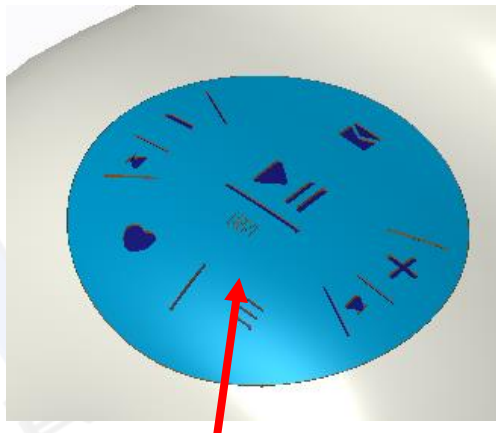


扣合量1.0mm

软胶按键案例



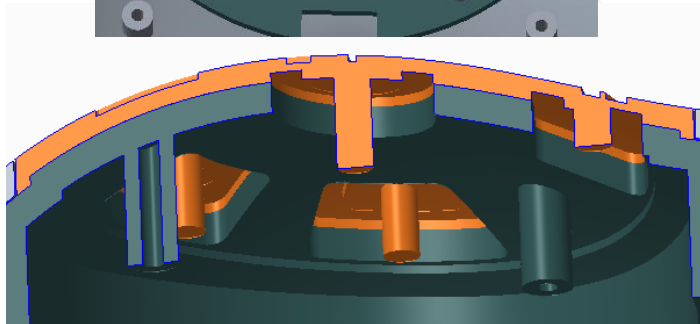
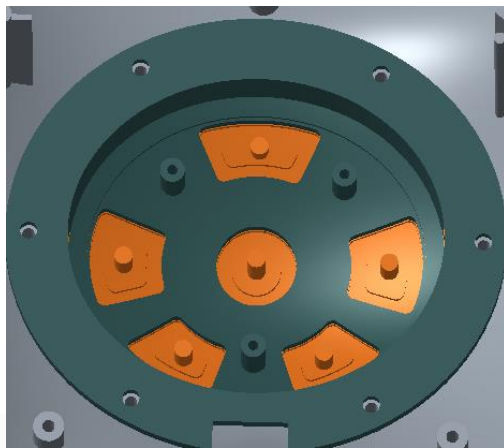
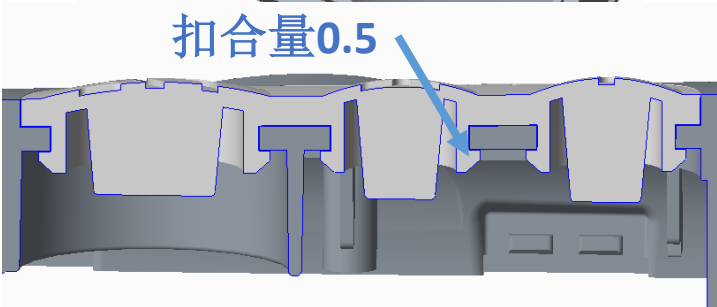
注塑成型TUP硬度80度



包胶TUP硬度80度



扣合量0.5



橡胶热压成型80度



锅仔片

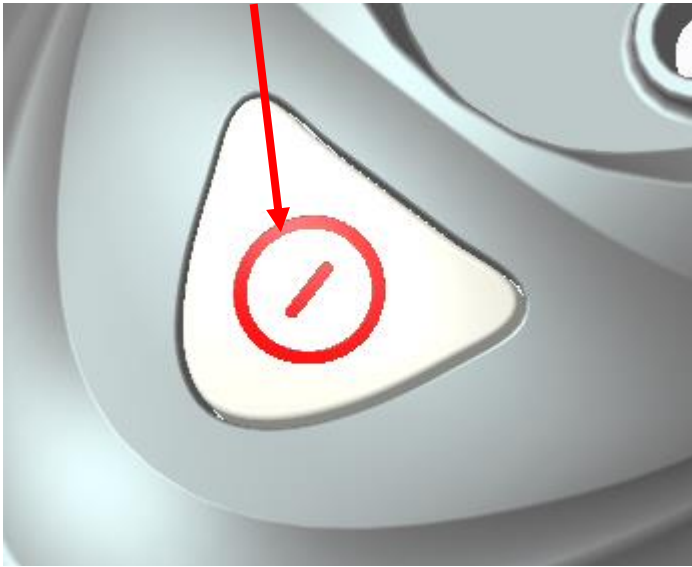
3. P+R按键

P+R按键定义

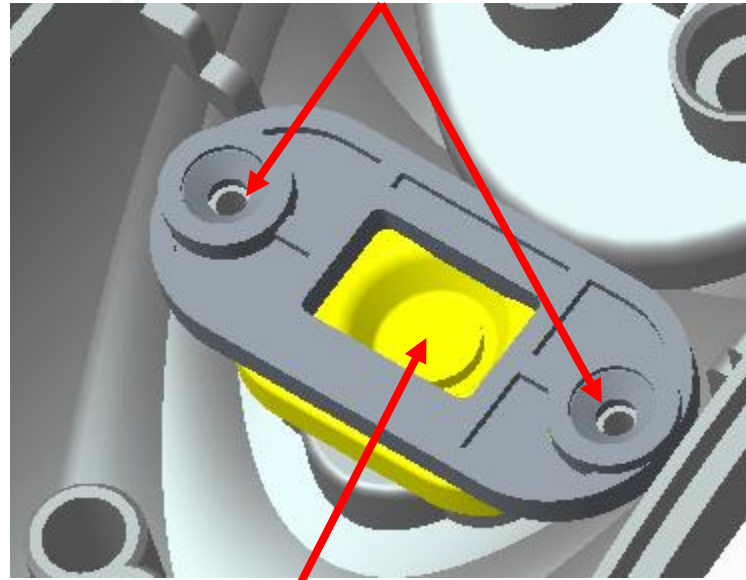
为了使产品达到防水的效果，产品按键比较小的，可以做成软胶+硬度的方式又能达到防水，手感也比较好，软胶硬度一般是80度左右，材料一般是硅胶，软胶装配硬胶时可以打点胶固定。

P+R按键案例

高光

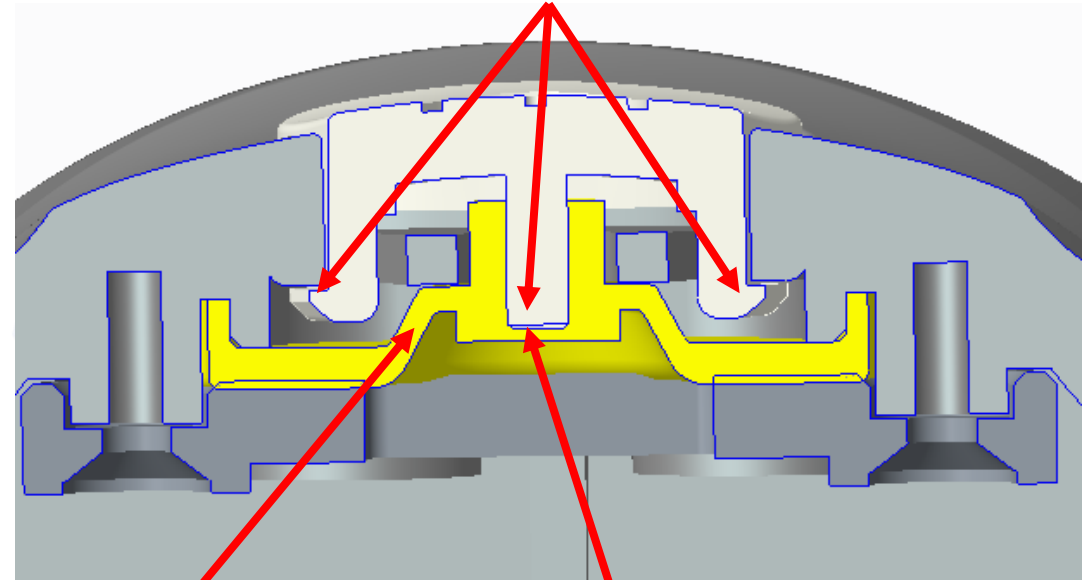


用螺丝使硬胶压住软胶



黄色软胶50度硅胶

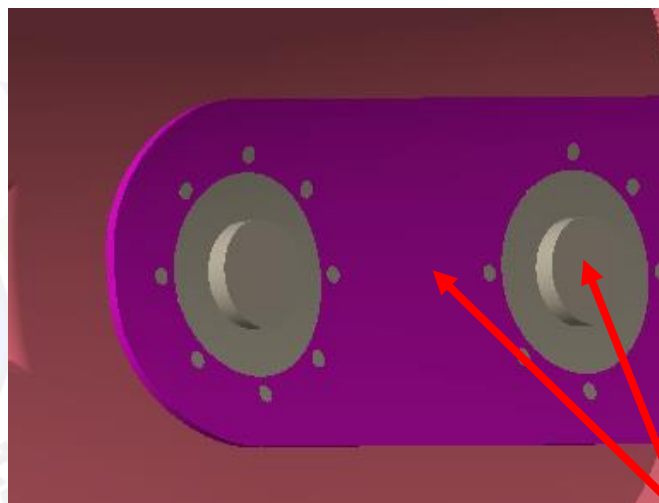
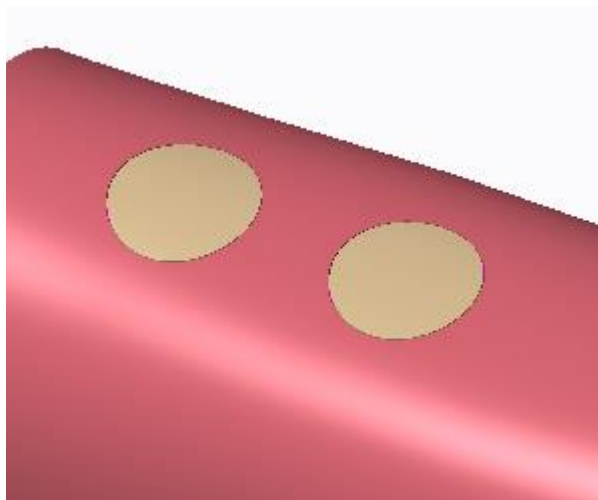
按键扣在上壳再长圆柱



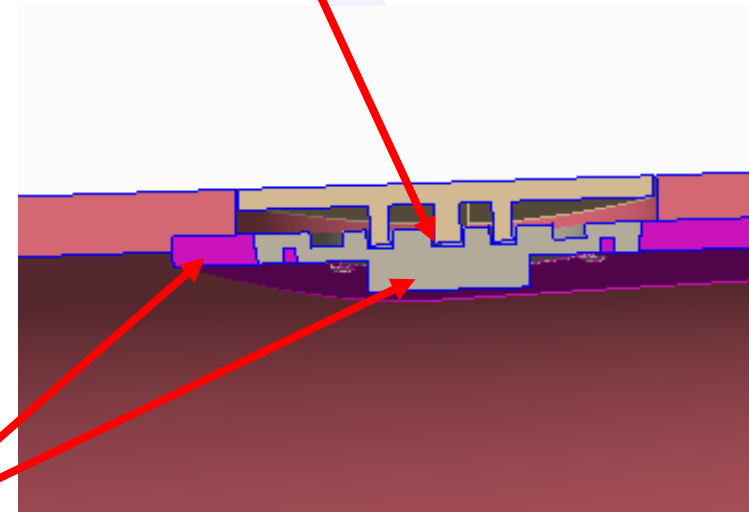
增加手感

这里要做薄0.4mm

P+R按键案例

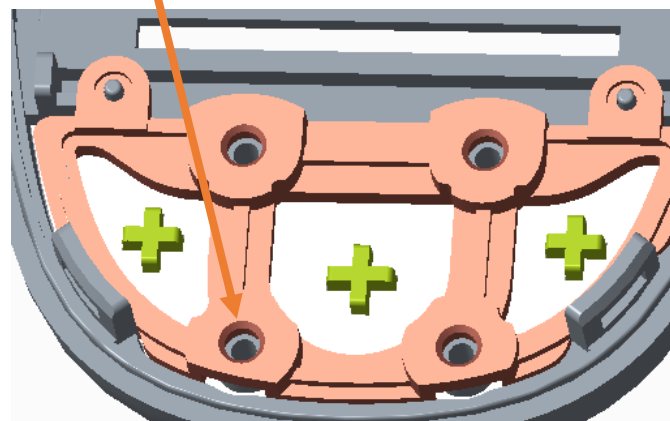


按键直接装配到软件可以点一点胶水

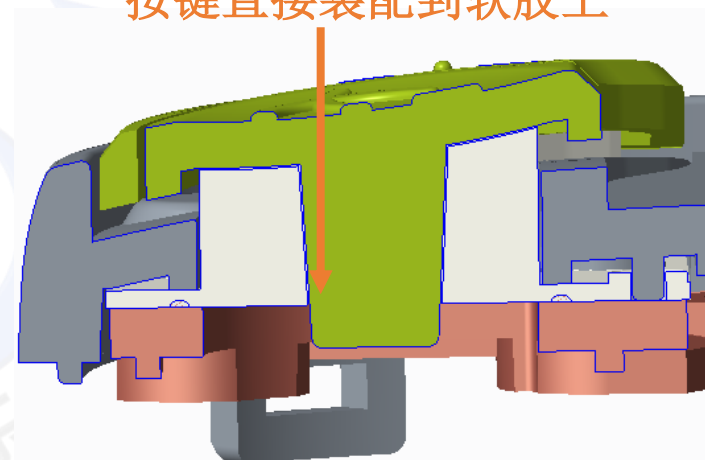


用先软胶包住硬胶,再整体与主壳做包胶

通过螺丝让硬胶压住软胶



按键直接装配到软胶上



4. 薄膜按键

薄膜按键 定义

薄膜按键(Metal dome array)，是一块带触点的PET薄片（包括金属弹片也叫锅仔片），用在PCB、FPC等线路上作为开关使用，在使用者与仪器之间起到一个重要的触感型开关的作用。与传统的硅胶按键相比，薄膜按键具有更好的手感、更长的寿命，可以间接地提高使用导电膜的各类型开关的生产效率。薄膜按键上的触点位于PCB板上的导电部位(大部分位于线路板上的金手指上方)，当按键受到外力按压时，触点的中心点下凹，接触到PCB上的线路，从而形成回路，电流通过，整个产品就得以正常工作。

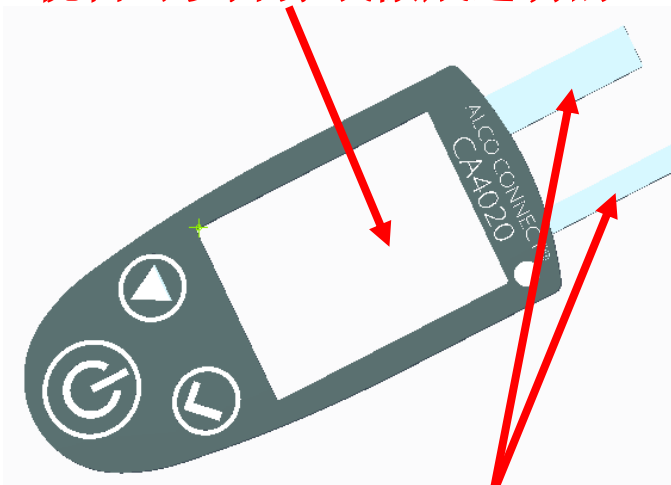
薄膜按键案例

厚度0.8+0.2背胶直接背胶粘在上壳



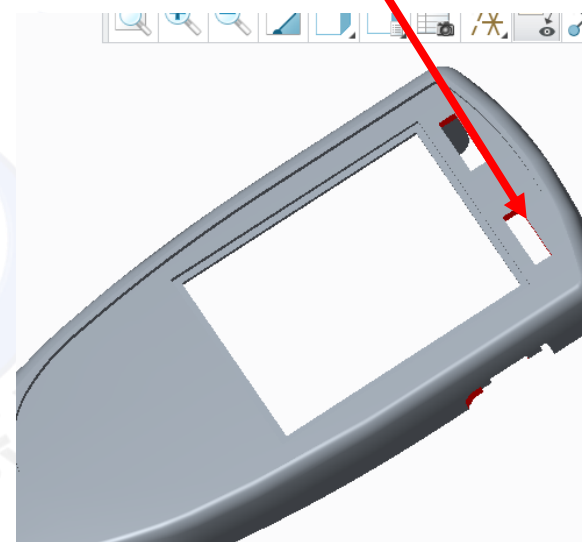
3个锅仔片在PET与背胶之间

视窗可以开穿或做成透明的

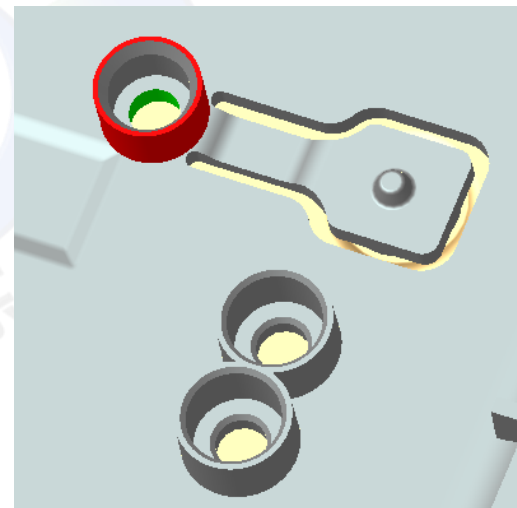
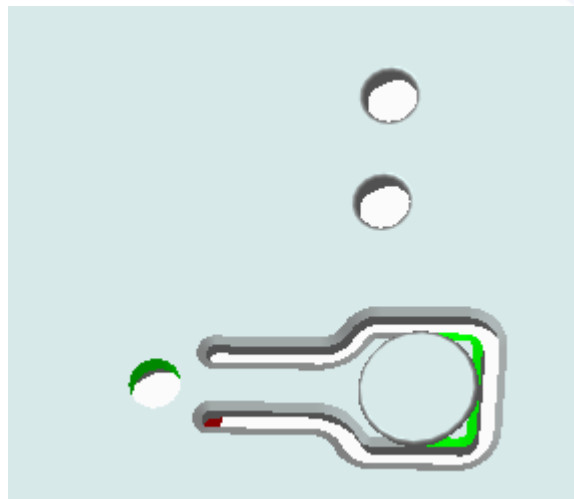
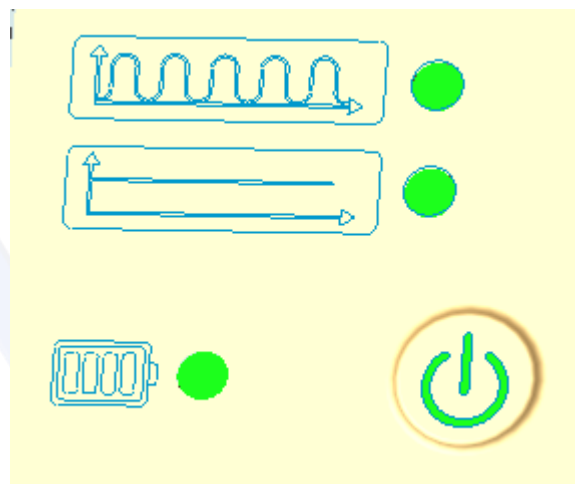
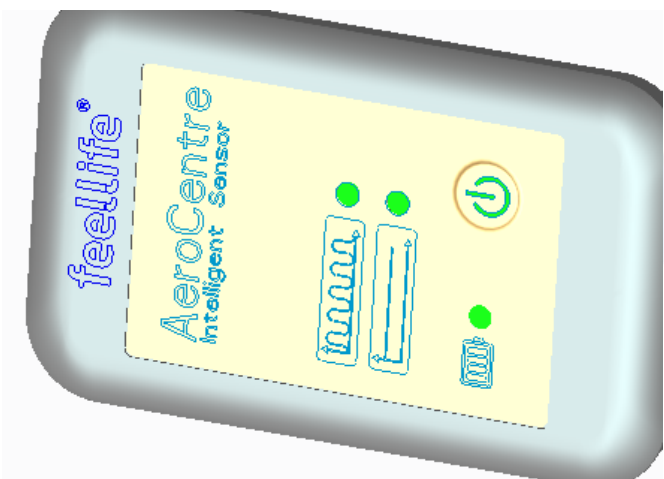


软排线（按键和灯）

软排线过孔位



薄膜按键案例



5. 其它按键开关

其它按键开关

拨动开关

霍尔开关

咪头开关

触摸弹簧

其它按键形式

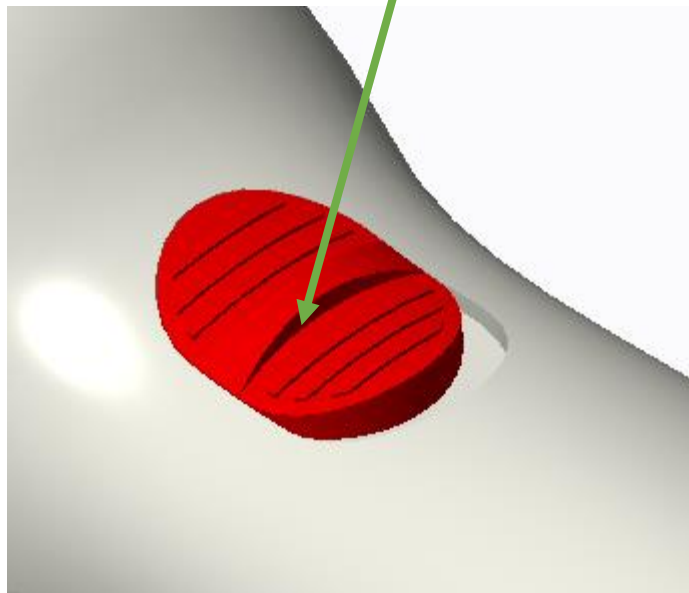
拨动开关

拨动开关定义

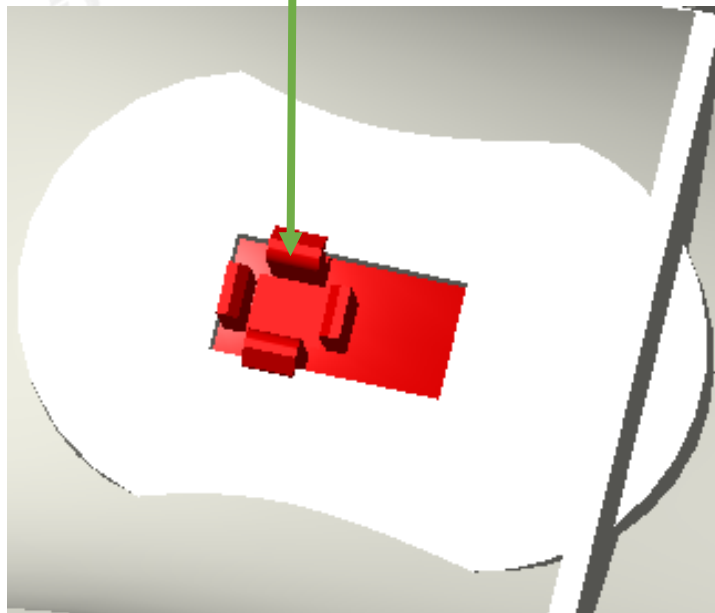
拨动开关是通过拨动开关柄使电路接通或断开，从而达到切换电路的目的的。

拨动开关案例

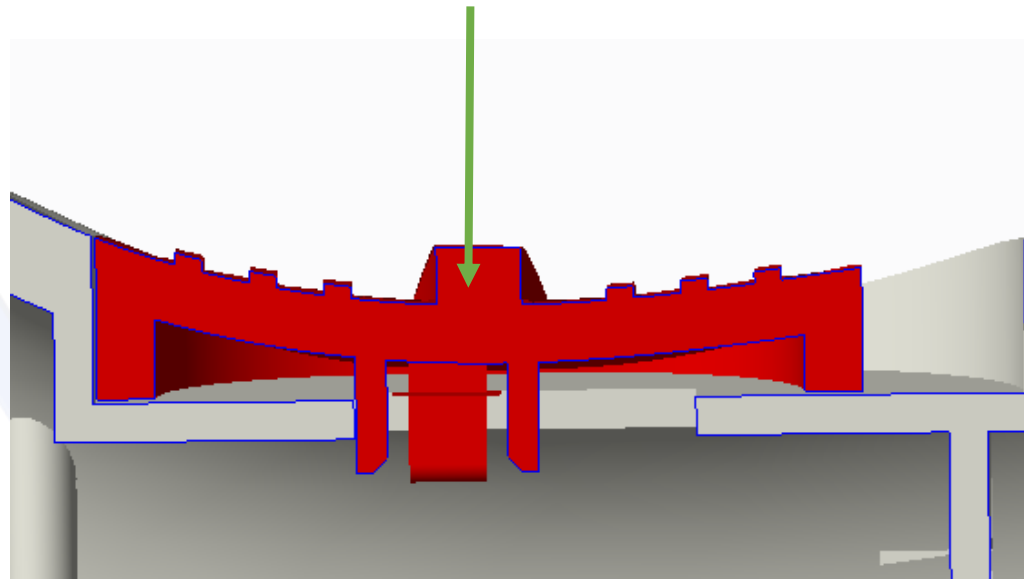
要注意拨动开关的行程



扣位扣住支架或上壳

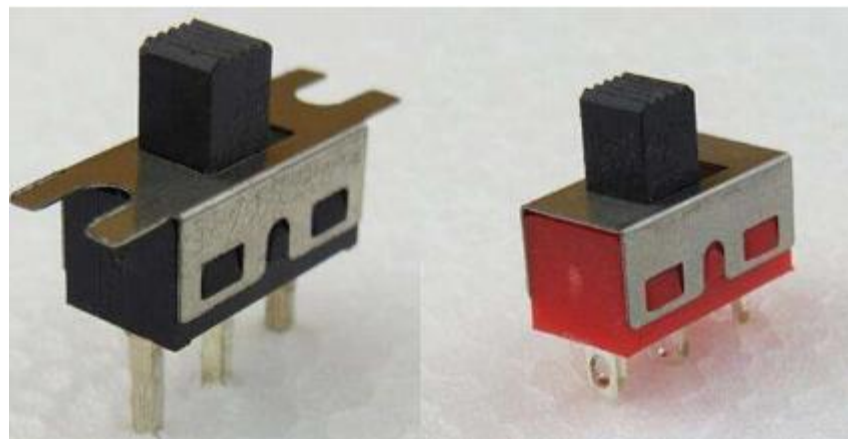
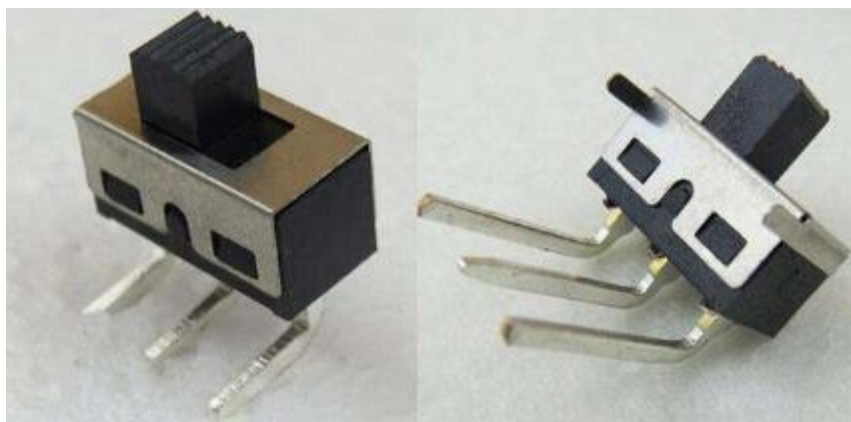
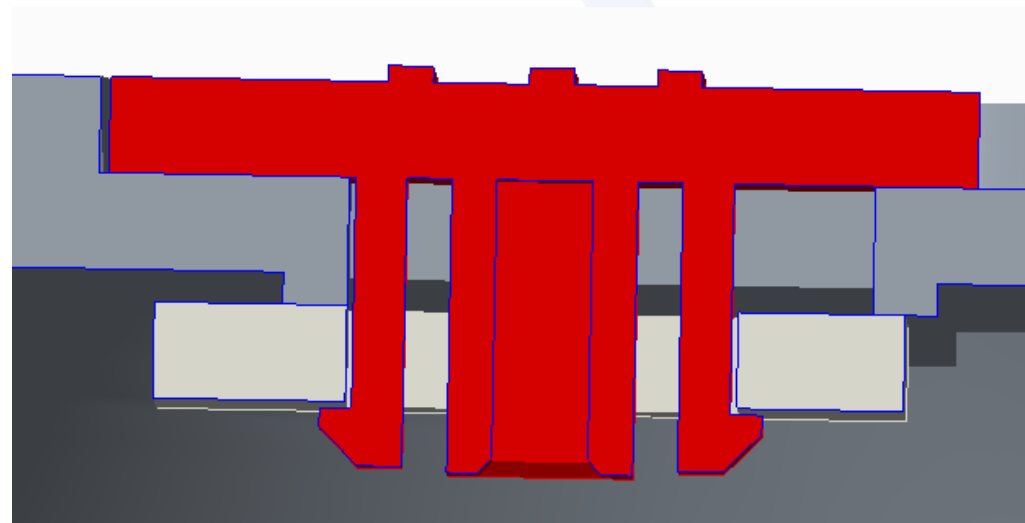
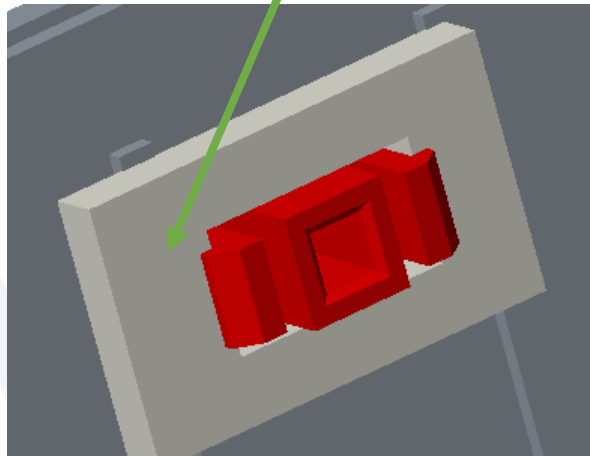
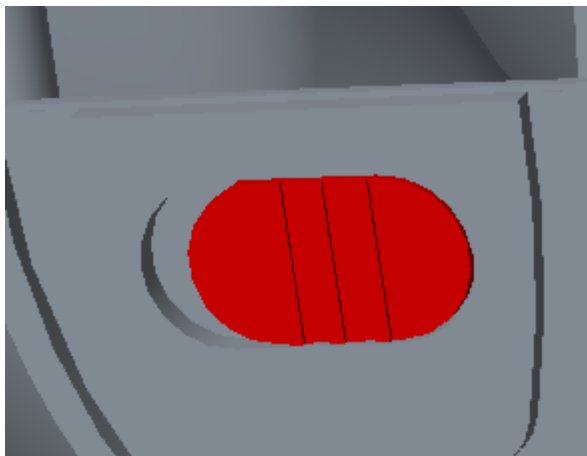


要设计防花骨位



拨动开关案例

遮丑和增加扣位长度

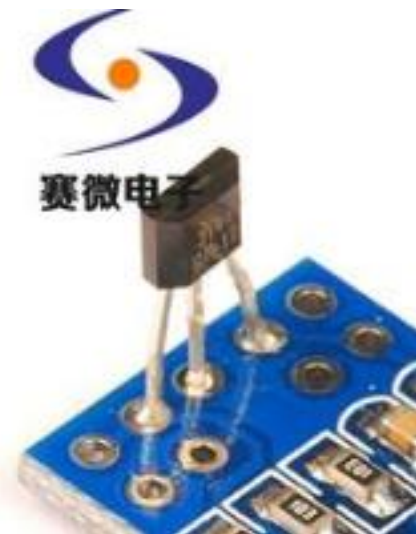
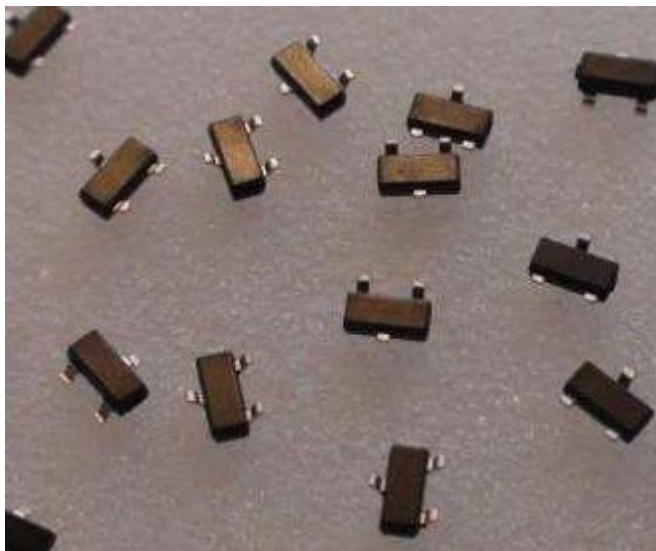


霍尔开关

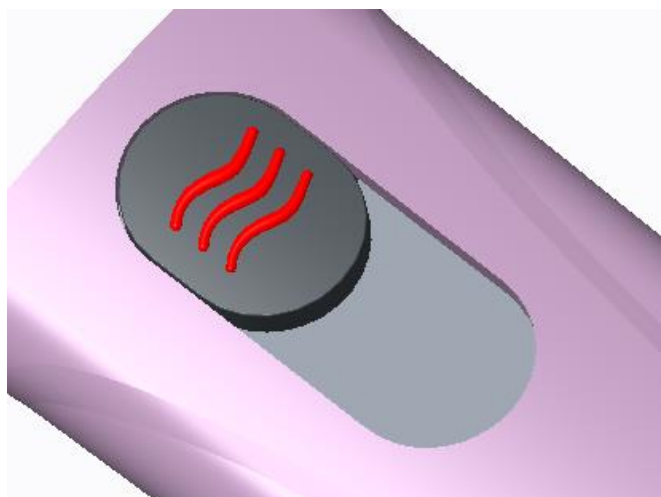
霍尔开关定义

霍尔元件是一种磁敏元件。利用霍尔元件做成的开关，叫做霍尔开关。当磁性物件移近霍尔开关时，开关检测面上的霍尔元件因产生霍尔效应而使开关内部电路状态发生变化，由此识别附近有磁性物体存在，进而控制开关的通或断。这种接近开关的检测对象必须是磁性物体。

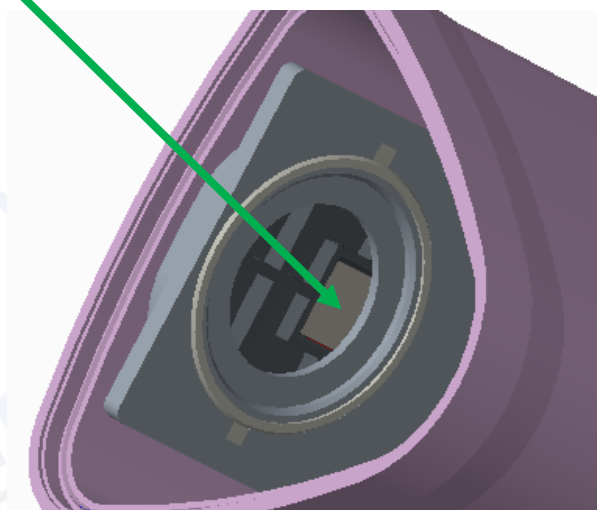
霍尔开关



案例

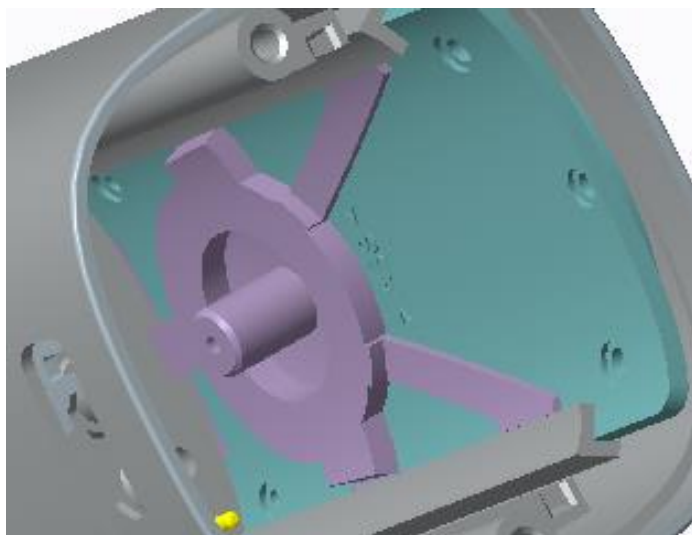
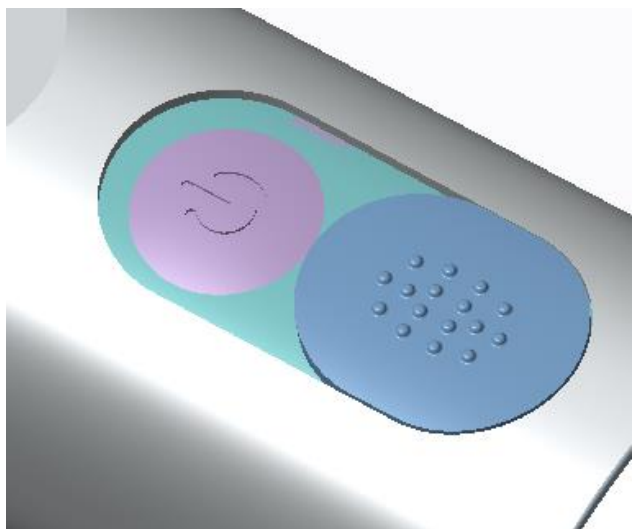
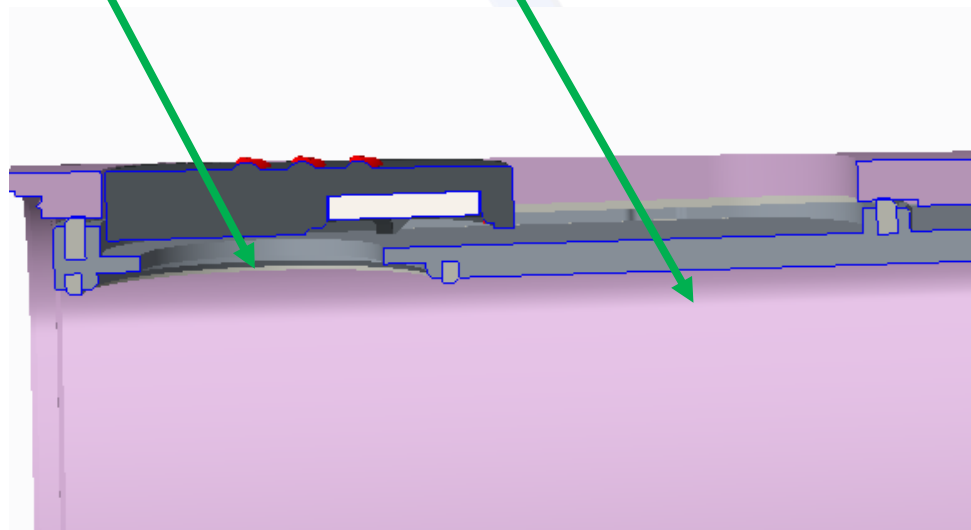


磁铁



雾化口

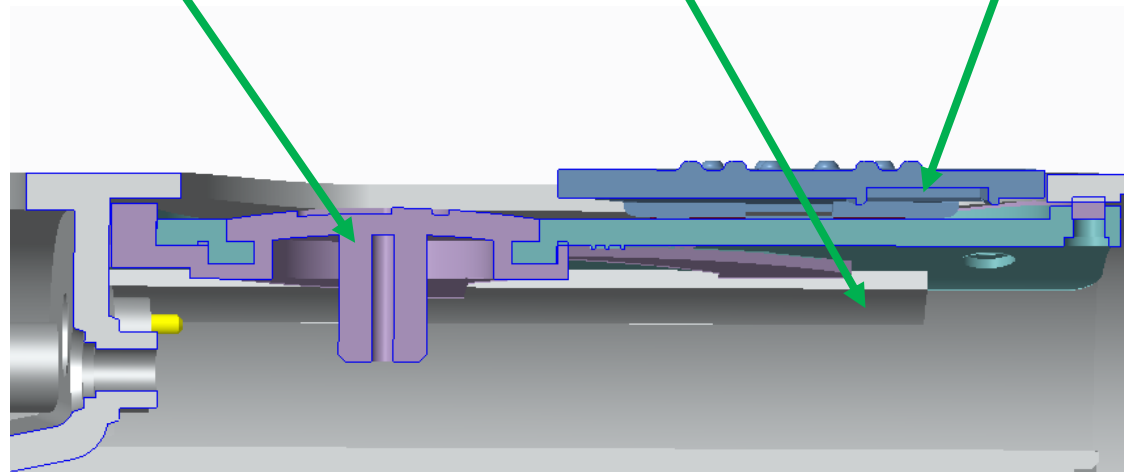
霍尔开关位置



TPU按键包胶

霍尔开关位置

磁铁位置



咪头开关

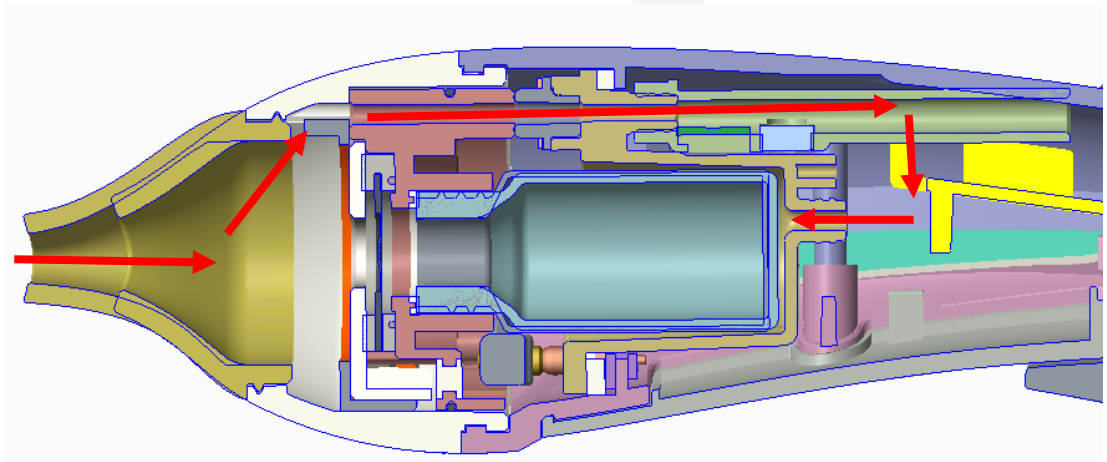
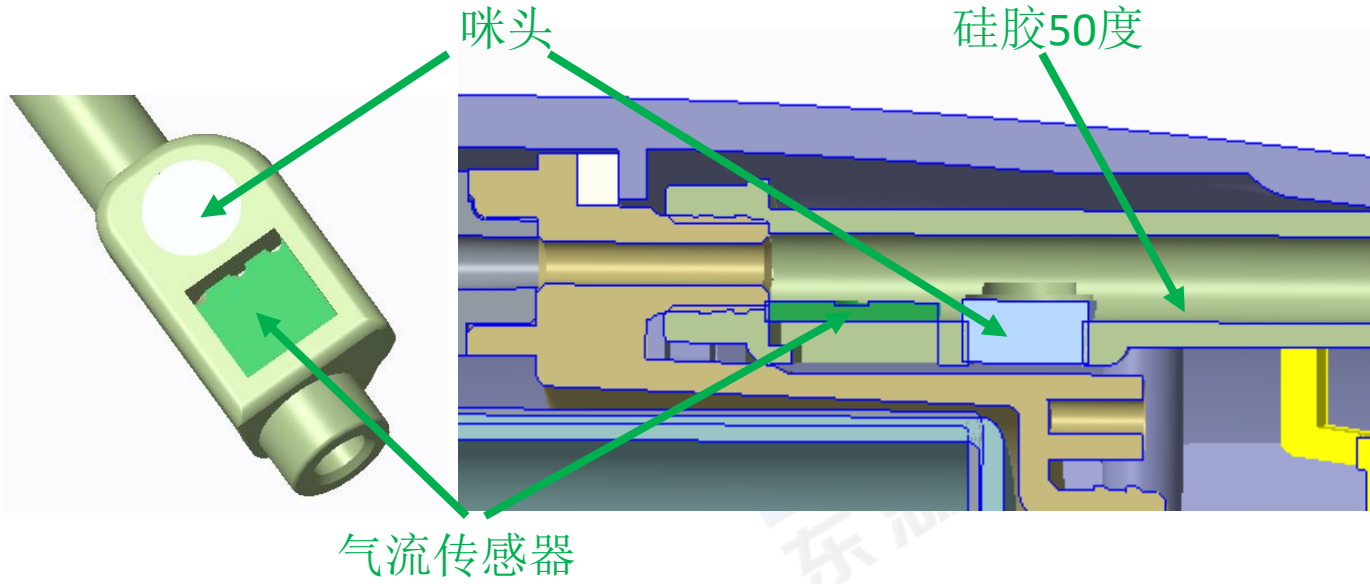
咪头开关定义

咪头开关是电子烟经常使用的一类开关，主要是用于气流式触发电子烟，在电子烟控制板检测到用户有吸烟动作，将触发信号送至控制电路，驱动电热丝雾化烟油产生香烟气味，同时控制相应的显示电路，实现必要的显示功能。

咪头开关



咪头开关案例

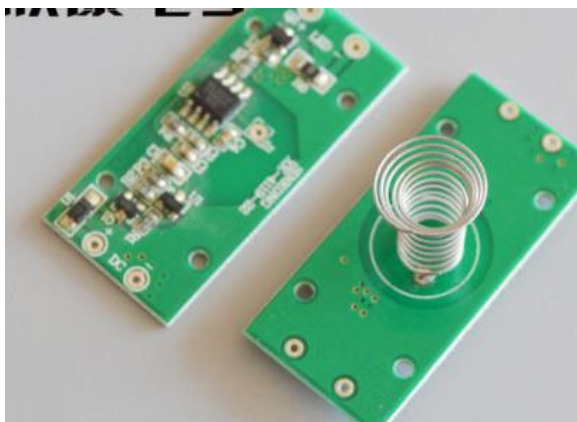


触摸弹簧

触摸弹簧定义

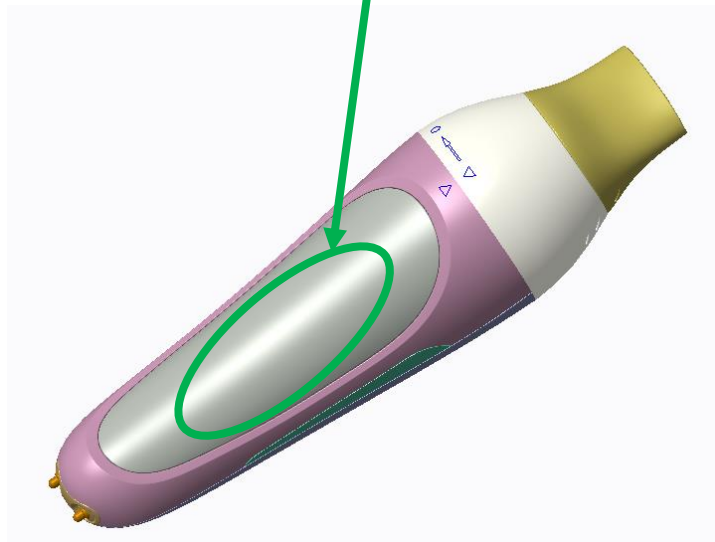
触摸弹簧是指专用于电容式及单片机触摸屏电器的专用弹簧按键。触摸弹簧又称触摸感应弹簧、按键弹簧、接触弹簧。

触摸弹簧

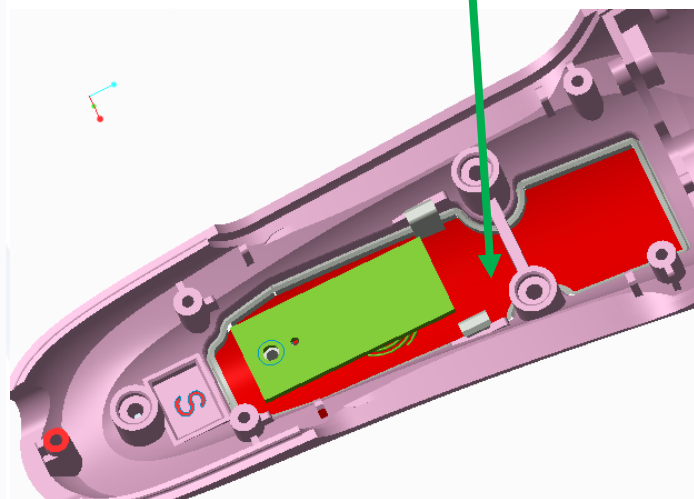


触摸弹簧案例

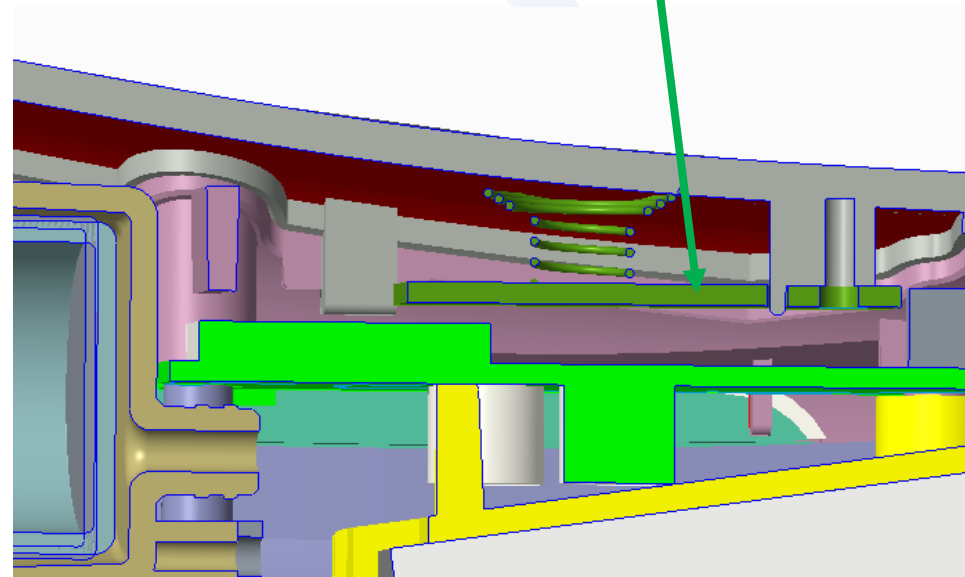
触摸区域



红色面贴锡箔纸
增加触摸区域



触摸弹簧PCB



红外感应开关



其它按键形式

骨位卡住悬臂

