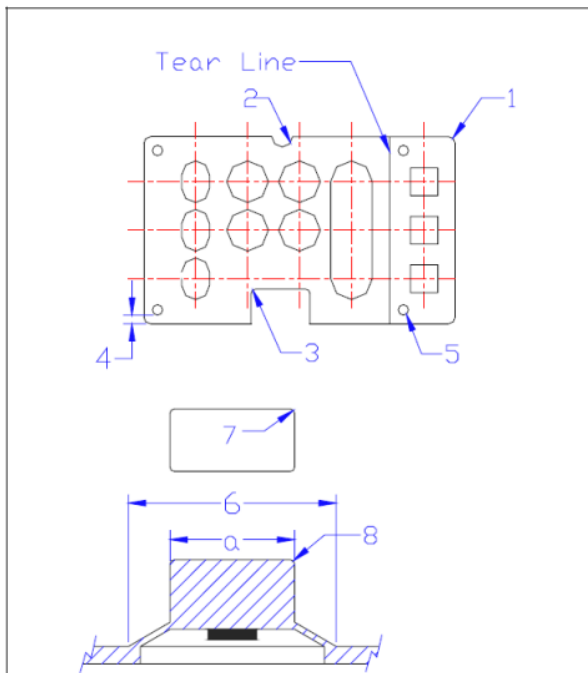# RUBBER KEY DESIGN GUIDE

1. Typical outside radius is 1.0 to 1.5mm.
2. Minimum radius is 0.3mm.
3. Minimum inside radius is 0.2mm.
4. Spacing between the edges of a rubber dome and a guide hole is 1.0mm or more.
5. Guide holes are a min. 1.0mm in diameter.
6. The width of a rubber dome base is typically 2.0mm more than a.
7. The minimum radius for the side edges of key top is 0.25mm.
8. The minimum radius for the top edges of key top is 0.2mm.

a. Actuation force: 130 ± 35 grams

b. Tactile feedback required.

c. Expected life cycle: $1 \times 10_5$ minimum

d. Silicone rubber hardness: $50 \sim 60°$.

e. Contact resistance less than 200 ohms

f. Stroke = 1.0 (or1.5) mm.

g. Thickness of carbon pill = 1.0mm.

h. Contact bounce less than 12m seconds.

i. Pad color: optional.

j. Graphic printing: optional.

Rubber with Plastic cover

	A & B : dimensions of plastic 塑膠殼鍵孔的尺寸 a & b : dimensions rubber 矽橡膠鍵鈕的尺寸 合理比例為 A − a ≥ 0.3mm, B − b > 0.2mm (具體取值見下表)
	R : the corner radius of plastic 塑膠鍵孔圓角的半徑 r : the corner radius of rubber 矽橡膠鍵鈕圓角的半徑 1mm ≤ R ≤ 1.25mm, 0.75mm ≤ r ≤ 1mm is better 合理比例為 1mm ≤ R ≤ 1.25mm, 0.75mm ≤ r ≤ 1mm
	H : the dimension of key tops & plastic 鍵鈕露出膠殼的高度 S : the stroke of key pad 鍵鈕的行程 合理比例為 H − S ≥ 0.5mm
	D-d = 1.5 ~ 2.0mm is preferred 合理比例為 D-d = 1.5 ~ 2.0mm
	P : diameter of post 小柱直徑 t : the gap between post & conductive pill 小柱與導電粒頂部之間的距離 P: 1.0mm is preferred 標准尺寸 1.0mm. t = 0.1 ~ 0.15mm is preferred 標准尺寸 t=0.1 ~ 0.15mm
	Fc : click force 按觸點動 Fc= F1 - F2 >25g is preferred 標准數据 Fc=F1 - F2 >25g

Recommendation for the gap between rubber and plastic cover (one side)

a. Rubber key travel: 1.00m

分類 \ Size	1 ~ 10	10 ~ 20	20 ~ 30	30 ~ 40	40 ~ 50	50 ~
◎	0.10	0.10	0.12	0.15	0.30	------

b. Rubber key travel: 1.50m

分類 ＼ 尺寸	0～10	10～20	20～30	30～40	40～50	50～
◎	0.10	0.12	0.14	0.16	-----	-----
△	0.12	0.14	0.16	-----	-----	-----
⬜ (顯示器)	0.12	0.14	0.16	----	-----	-----
多邊形	-----	-----	0.20	0.30	-----	-----
異形	-----	0.16	0.20	-----	-----	-----

b. Rubber key travel: 2.00m

分類 ＼ 尺寸	0～10	10～20	20～30	30～40	40～50	50～
◎	0.10	0.12	0.14	0.16	-----	-----
△	0.12	0.16	0.18	-----	-----	-----
⬜ (顯示器)	0.12	0.16	0.18	----	-----	-----
▭	-----	-----	0.25	0.35	-----	-----
異形	-----	0.18	0.22	-----	-----	-----