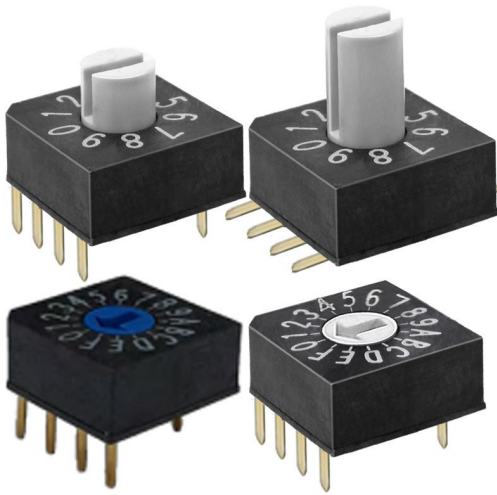


General Specification 基本参数



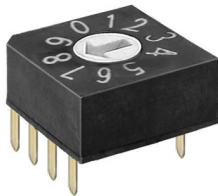
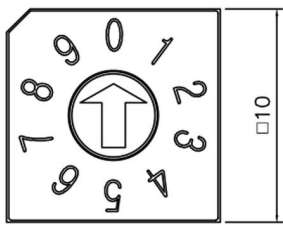
1.Rating: 额定功率	25mA, DC 12V (Switching) 25mA, DC 24V (None-Switching)
2.Contact Resistance: 接触电阻	100mΩ Max.
3.Insulation Resistance: 绝缘电阻	100MΩ Min at DC 250V
4.Operating Force: 操作扭力	700gf Max.
5.Life Cycle: 使用寿命	10,000 steps
6.Sealing: 防护等级	IP67 (Dust& Water proof) (防水防尘)
7.Operating Temperature Range: 使用温度	-40°C +85°C

HOW TO ORDER 选型规则

H	D	R	-	10	S	TR
Cover Type 系列型号	Actuator 旋钮样式	Code 编码方式		Position 档位数	Terminal 引脚	Packing 包装
H Square (Ter' 4x1) Position of Number 0 = 0° 方形薄款 0位对0°(空边) HA Square (Ter' 4x1) Position of Number 0 = -90° 0位对90°(4脚边)	D Arrow 箭头槽 (Height = 0mm) E Cross 十字槽 (Height = 0mm) S 柄高 H7.3mm M 柄高 H3.2mm	R Real Code 二进制正码 C Complement Code 二进制反补码 G Gray Code 格雷码 特殊编码方式详情 请看下方表格		04 4 Position 06 6 Position 08 8 Position 10 10 Position 16 16 Position	- Through-Hole (Ter' 4x1) 直插脚 (4对1脚) S SMD Gull Wing (Ter' 4x1) 贴片 (4对1脚) K Crimped	- Tube Packing 管装 TR Reel Packing 编带

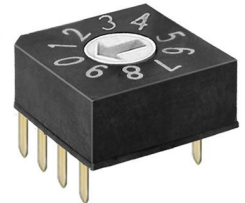
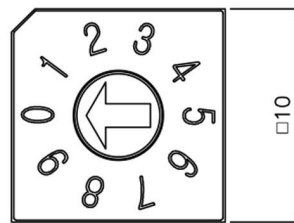
1. Cover Type 系列型号

H Type (Square) 0=0°



H Type

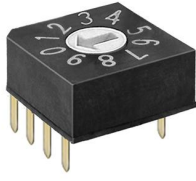
HA Type (Square) 0=90°



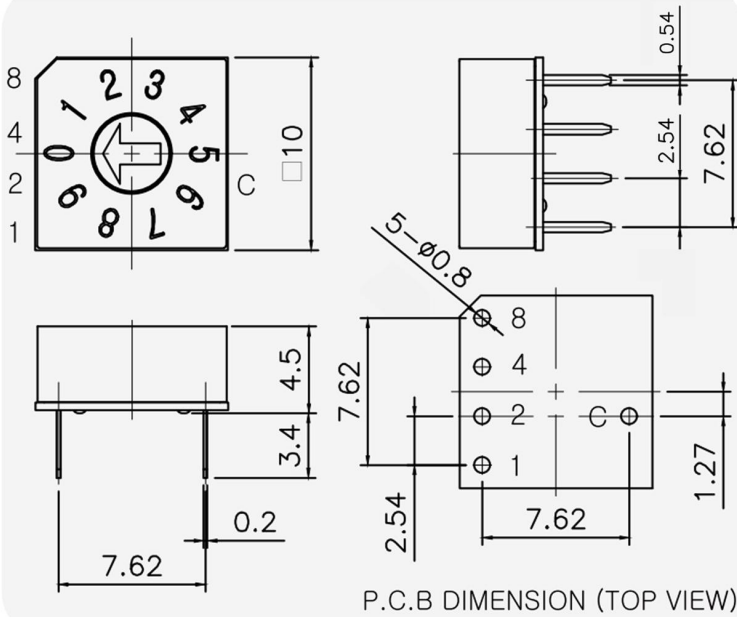
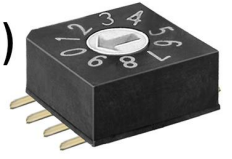
HA Type

2. General Dimension 基本尺寸

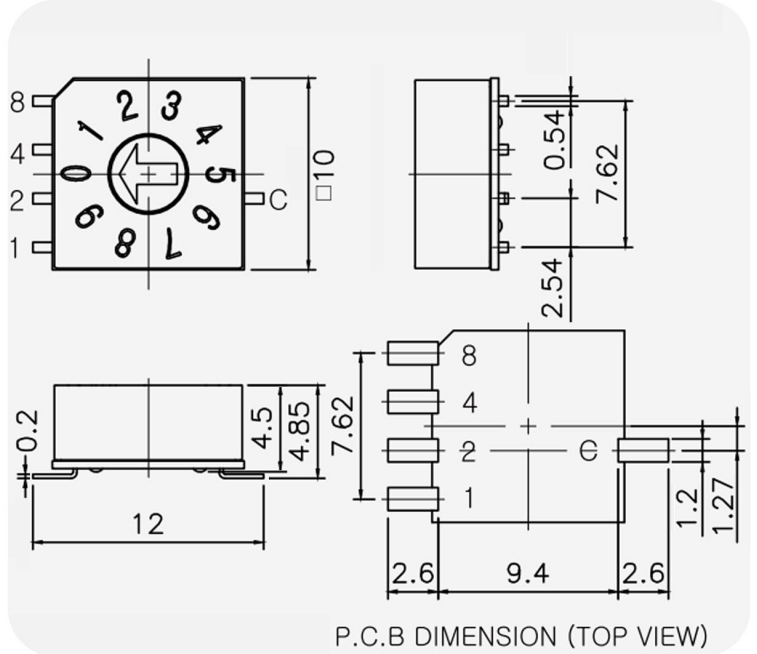
- Through-Hole(4x1)
4对1直插脚



S SMD Gull Wing(4x1)
4对1贴片脚

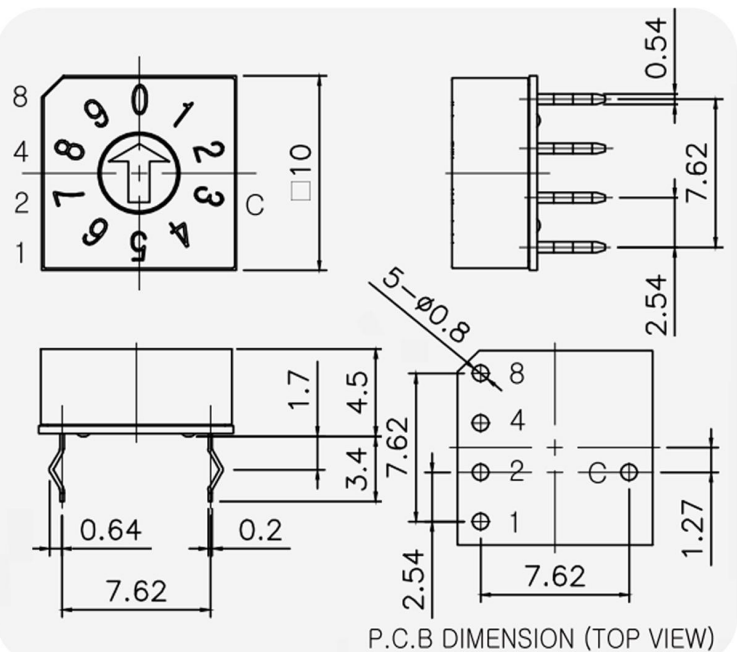
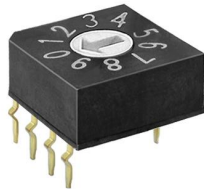


P.C.B DIMENSION (TOP VIEW)



P.C.B DIMENSION (TOP VIEW)

K Crimped
弯曲插脚

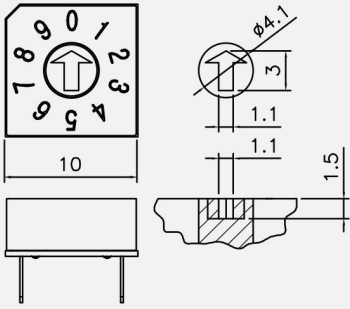


P.C.B DIMENSION (TOP VIEW)

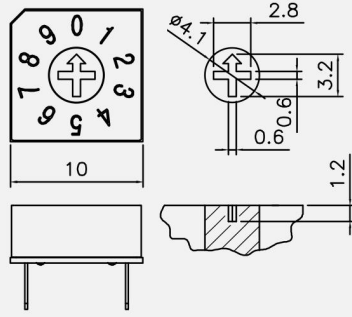
3. Actuator 旋钮样式



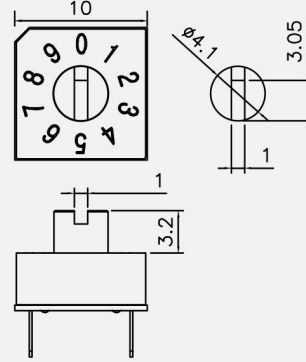
D Arrow (Height = 0mm)
箭头槽



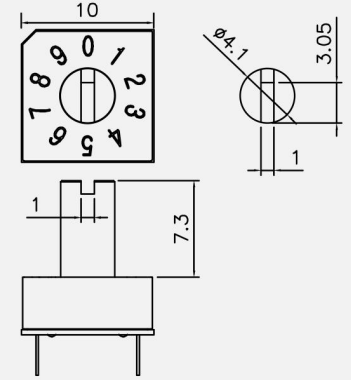
E Cross (Height = 0mm)
十字槽



M Slotted Spindle
(Height = 3.2mm)
3.2mm开槽圆柄



S Slotted spindle
(Height = 7.3mm)
7.3mm开槽圆柄



4. Code & Position 编码方式 & 档位数



R Real Code 二进制正码

Position	Real Code			
	C	1	2	8
0	0	0	0	0
1	0	0	1	0
2	0	0	0	1
3	0	1	0	0
4	0	1	1	0
5	0	1	0	1
6	1	0	0	0
7	1	0	1	0
8	1	0	0	1
9	1	1	0	0
10	1	1	1	0
11	1	1	0	1
12	0	0	0	0
13	0	0	1	0
14	0	0	0	1
15	0	1	0	0

04/06/08/10/16 POSITION

C Complement Code 二进制反补码

Position	Complement Code			
	C	1	2	8
0	0	1	1	1
1	0	1	0	1
2	0	1	1	0
3	0	0	1	1
4	0	0	0	1
5	0	0	1	0
6	1	1	1	0
7	1	1	0	1
8	1	1	1	1
9	1	0	1	1
10	1	0	0	1
11	1	0	1	0
12	0	1	1	1
13	0	1	0	1
14	0	1	1	0
15	0	0	1	1

04/06/08/10/16 POSITION

G Gray Code 格雷码

Position	Gray Code			
	C	1	2	8
0	0	0	0	0
1	0	0	1	0
2	0	0	0	1
3	0	1	0	0
4	0	1	1	0
5	0	1	0	1
6	1	0	0	0
7	1	0	1	0
8	1	0	0	1
9	1	1	0	0
10	1	1	1	0
11	1	1	0	1
12	0	0	0	0
13	0	0	1	0
14	0	0	0	1
15	0	1	0	0

04/06/08/10/16 POSITION

S Decimal Code 1对1波段

Position	Decimal Code			
	C	1	2	3
1	0	0	0	0
2	0	0	1	0
3	0	1	0	0
4	0	1	1	0

04 POSITION

H / HA Series Mini Rotary DIP Switch Specification

H / HA 系列编码开关 电气参数

1. Description:

1-1 Operating / Storage Temperature Range : -40°C ~ +85°C

2. Rating:

2-1 None-Switching : 25 mA, DC 24V

2-2 Switching : 25 mA, DC 12V

3. Type of Actuation : Rotating

4. Electrical Characteristics

ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
4-1	Visual Examination	By visual examination check without any out pressure & testing.	There shall be no defects that affect the serviceability of the product.
4-2	Contact Resistance	① To be measured between the two terminals associated with each switch pole. ② Measurements shall be made with a 1kHz shall current contact resistance meter.	100mΩ max.
4-3	Insulation Resistance	250V DC, 1minute ±5seconds	100 MΩ min.
4-4	Dielectric withstanding Voltage	250V AC(50Hz or 60Hz)shall be applied between all the adjacent terminal and between the terminal and the frame for 1 minute.	There shall be no breakdown or flashover.

5. Mechanical Characteristics

ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
5-1	Operation Force	Operating direction shall be clockwise or counter clockwise direction	700gf ·cm max
5-2	Operation Life	Measurements shall be made following the test set forth below: 1)150mA, 24V DC resistive load 2)Rate of operation: 15~20 cycles/ minute 3)Step of operation: 10,000 steps	1)As shown in item 4-3, 4-4 2)Contact Resistance: 200mΩ max

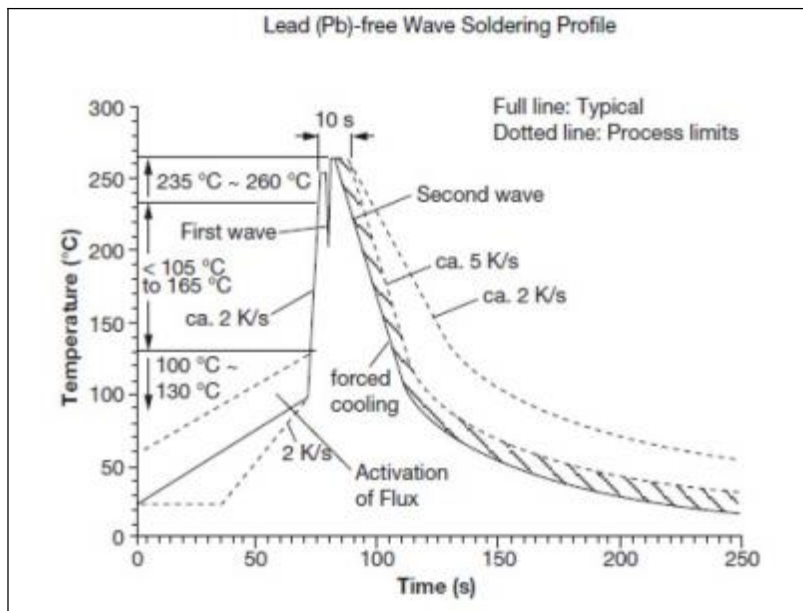
6. Environmental Characteristics

ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
6-1	Resistance Low Temperature	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before measurements are made: 1)Temperature: $-40^{\circ}\text{C} \pm 3^{\circ}\text{C}$ 2)Time: 96 hours	1)As shown in item 4-3, 4-4, 5-1 2)Contact Resistance: 200m Ω max
6-2	Resistance High Temperature	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before measurements are made: 1)Temperature: $85^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 2)Time: 96 hours	1)As shown in item 4-3, 4-4, 5-1 2)Contact Resistance: 200m Ω max
6-3	Resistance Humidity	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before measurements are made: 1)Temperature: $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 2)Relative humidity: 90~95% 3)Time: 96 hours	1)As shown in item 4-4, 5-1 2)Contact Resistance: 200m Ω max 3)Insulation Resistance: 10 M Ω min

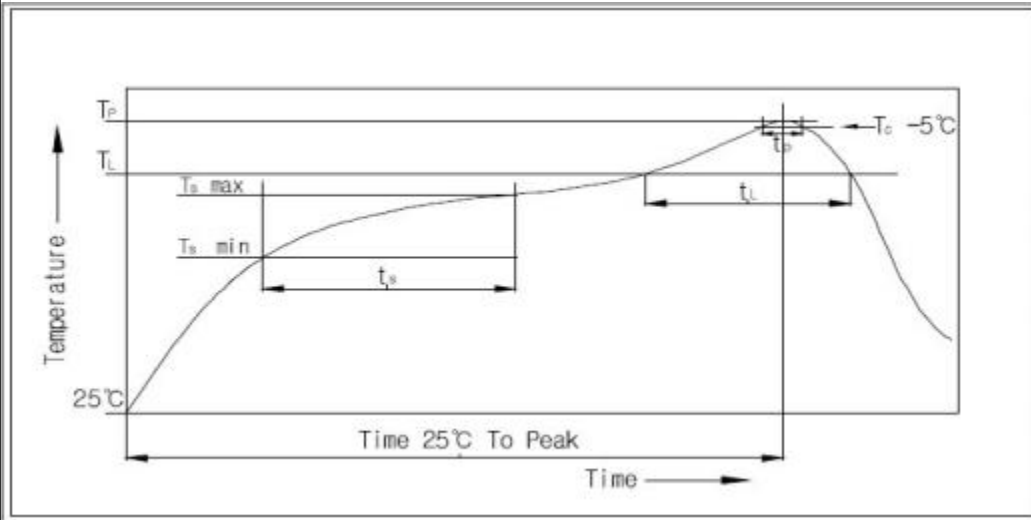
7. This item is "RoHS" Compliant

8. Manual Soldering : Max 350°C, 3 sec.

9. Wave Soldering Conditions:



10. Reflow Soldering Conditions: (SMD type only)



10-1 Condition for Soldering

Profile Feature	Pb- Free Assembly
Average Ramp-UP Rate(T_s max to T_P)	3°C/second max
Preheat	
- Temperature Min(T_s min)	150°C
- Temperature Max(T_s max)	200°C
- Time (t_s min to t_s max)	60-180seconds
Time maintained above:	
- Temperature (T_L)	217°C
- Time (t_L)	60-150seconds
Peak/ Classification Temperature(T_P)	260°C +0°C/ -5°C
Time within 5°C of actual Peak Temperature(T_P)	5~10 seconds
Ramp-Down Rate	6°C/sec max
Time 25°C to Peak Temperature	8 minutes max