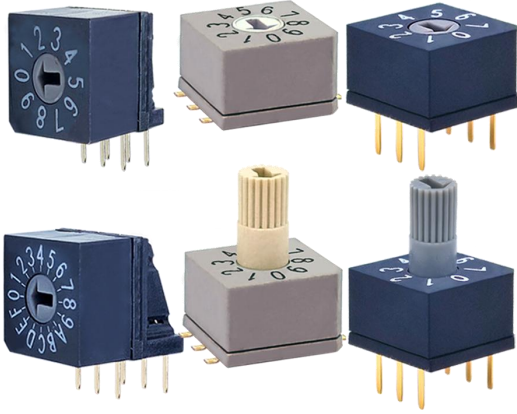


General Specification 基本参数



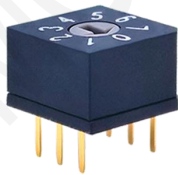
1.Rating: 额定功率	150mA, DC 42V (Switching) 200mA, DC 42V (None-Switching)
2.Contact Resistance: 接触电阻	80mΩ Max.
3.Insulation Resistance: 绝缘电阻	100MΩ Min at DC 250V
4.Operating Force: 操作扭力	700gf Max.
5.Life Cycle: 使用寿命	10,000 steps
6.Sealing: 防护等级	IP67 (Dust& Water proof) (防水防尘)
7.Operating Temperature Range: 使用温度	-40°C +85°C

HOW TO ORDER 选型规则

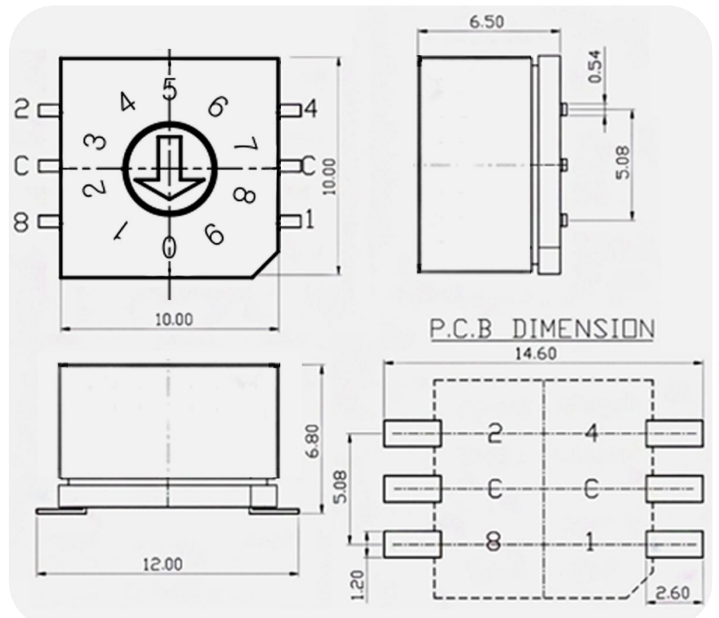
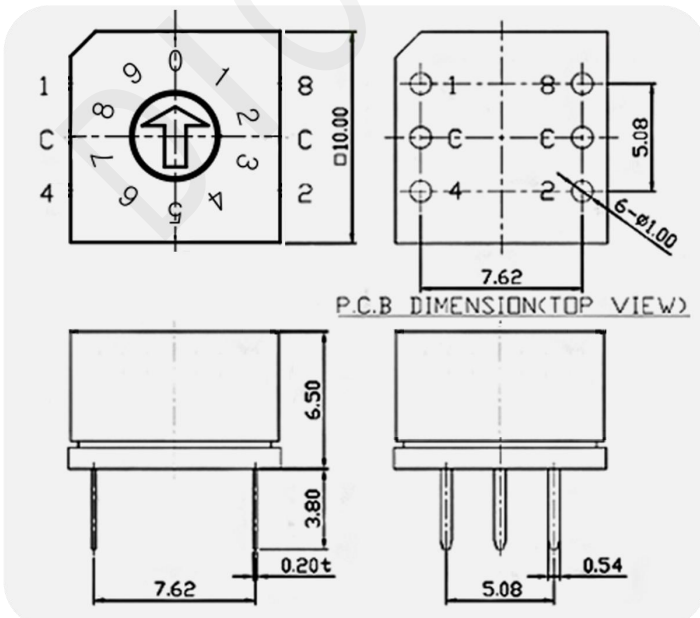
Q	D	R	-	10	S	TR
Cover Type 系列型号	Actuator 旋钮样式	Code 编码方式		Position 档位数	Terminal 引脚	Packing 包装
D Arrow 箭头槽 (Height = 0mm)	R Real Code 二进制正码	04 4 Position		- Through-Hole (Ter' 3x3) 直插3对3脚	- Tube Packing 管装	
E Cross 十字槽 (Height = 0mm)	C Complement Code 二进制反补码	06 6 Position		C Through-Hole (Ter' 3x2) 直插3对2脚	TR Reel Packing 编带	
S 柄高 H7.3mm	G Gray Code 格雷码	08 8 Position		S SMD Gull Wing (Ter' 3x3) 贴片3对3脚		
P 柄高 H1.0mm	特殊编码方式详情 请看下方表格	10 10 Position		SC SMD Gull Wing (Ter' 3x2) 贴片3对2脚		
		16 16 Position		H Right Angle 5.08mm 侧插5.08距		
				H1 Right Angle 2.54mm 侧插2.54距		

1. General Dimension 基本尺寸

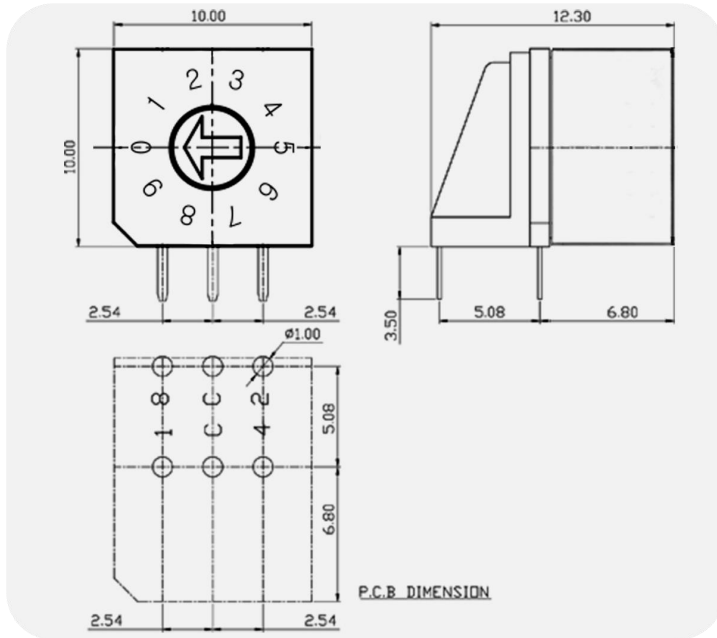
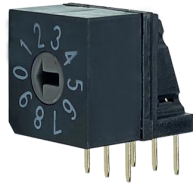
- Through-Hole(3x3)
3对3直插脚



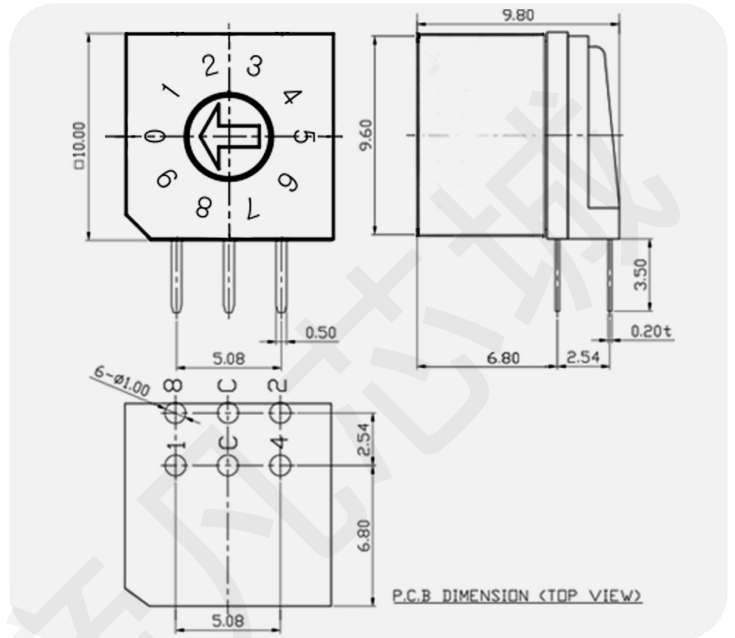
S SMD Gull Wing(3x3)
3对3贴片脚



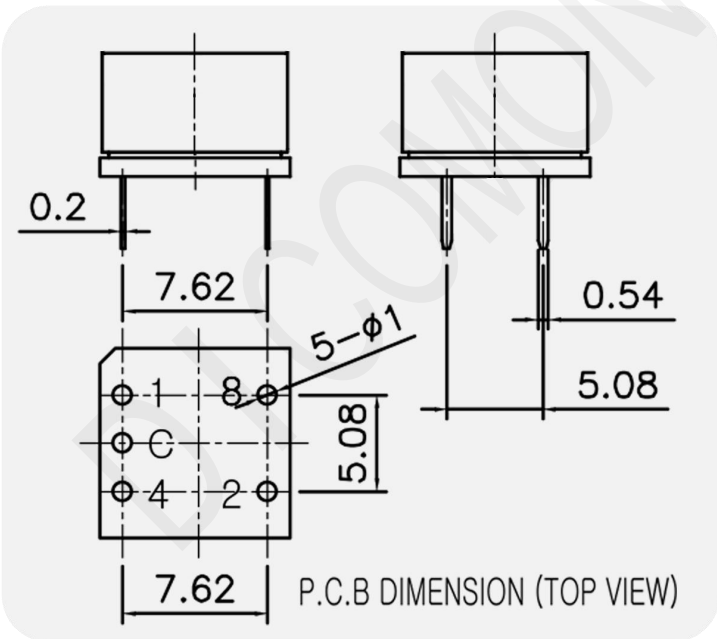
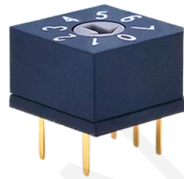
H Right Angle 5.08mm
5.08mm侧插脚



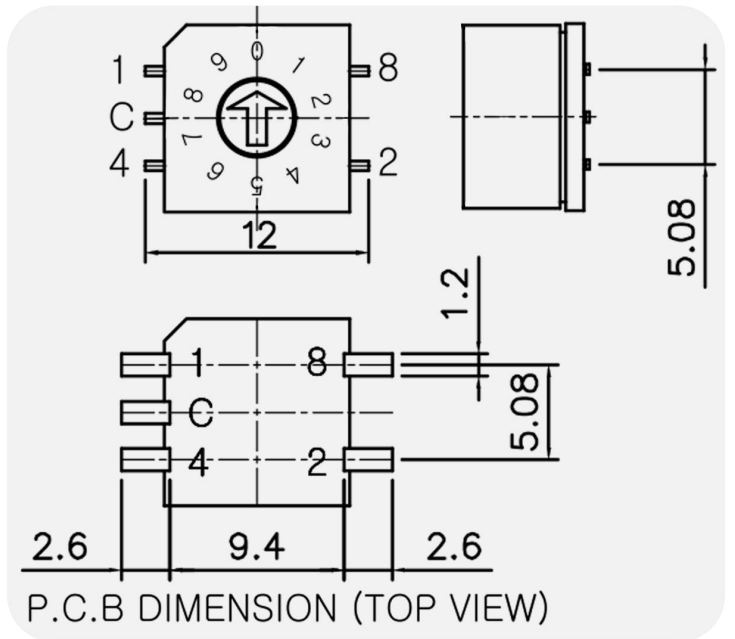
H1 Right Angle 2.54mm
2.54mm侧插脚



C Through-Hole(3x2)
3对2直插脚

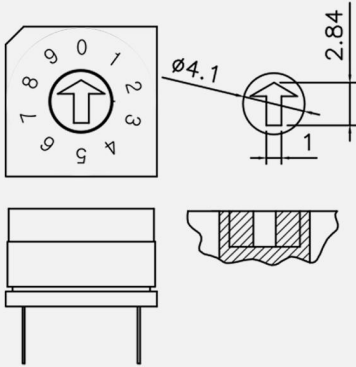


SC SMD Gull Wing(3x2)
3对2贴片脚

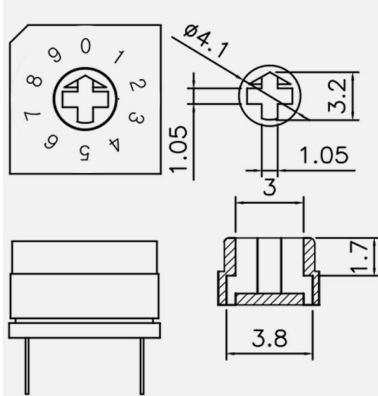


2. Actuator 旋钮样式

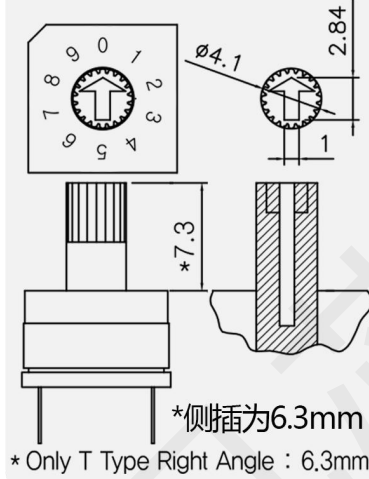
D Arrow (Height = 0mm)



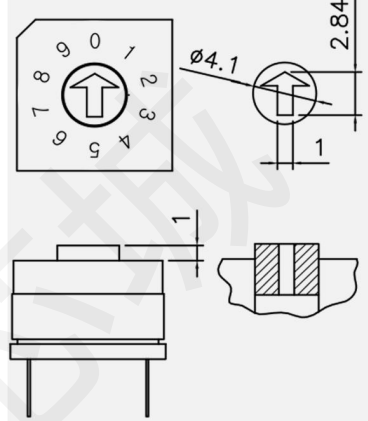
E Cross (Height = 0mm)



S Height = 7.3mm



P Height = 1mm



3. Code & Position 编码方式 & 档位数

R Real Code 二进制正码

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

04 POSITION: 0 2 1 8

06/08/10/16 POSITION: 0 8 2 4 C C 1

C Complement Code 二进制反补码

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

04 POSITION: 0 2 1 8

06/08/10/16 POSITION: 0 8 2 4 C C 1

G Gray Code 格雷码

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

10/16 POSITION: 0 8 2 4 1 C C

B 二进制反补码 (特殊脚)

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

16 POSITION: 0 8 2 4 C C 1

D 0-3四档波段

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

04 POSITION: 0 2 1 4 C C

N 1-4四档波段

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

04 POSITION: 0 4 1 2 C C

L 0-5六档波段

Position	Decimal Code				
	C	1	2	3	4 5
0	0	0	0	0	0
1	0	0	0	0	1
2	0	0	0	0	2
3	0	0	0	0	3
4	0	0	0	0	4
5	0	0	0	0	5

06 POSITION: 0 5 4 3 1 2 C C

Q Series Mini Rotary DIP Switch Specification

Q 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 : 200 mA, DC 42V

2-2 Switching : 150 mA, DC 42V

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 1 kHz shall current contact resistance meter.	80mΩ max.
4-3	Insulation Resistance	250V DC, 1 minute ±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, 42V 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

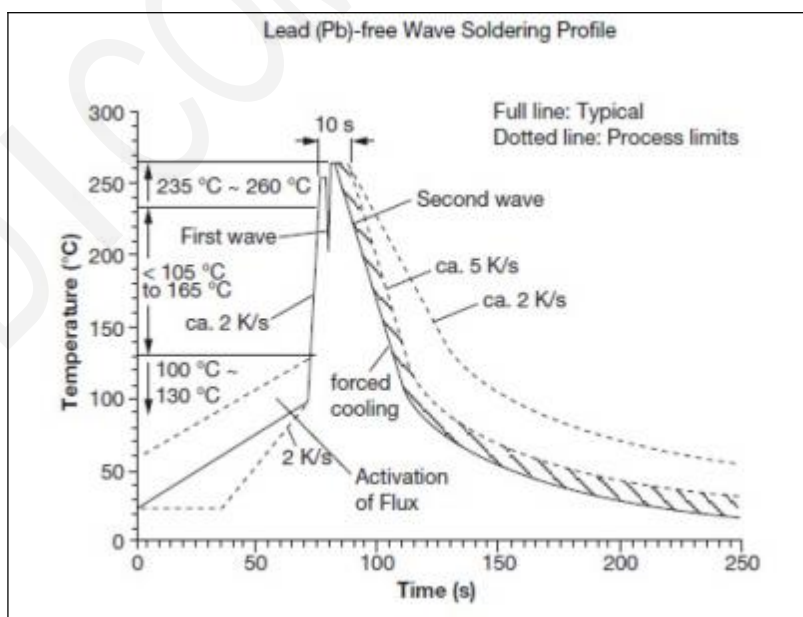
6. Environmental Characteristics

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

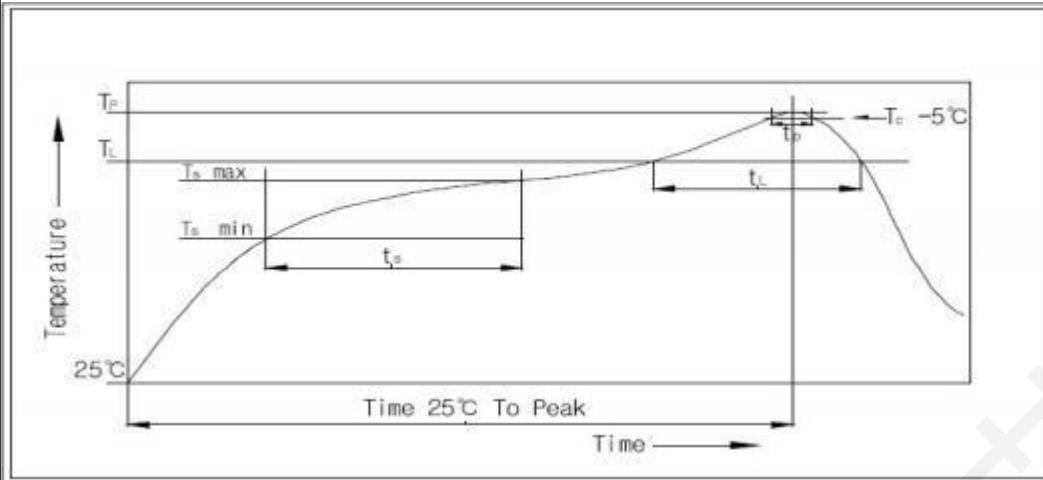
7. This item is "RoHS" Compliant

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) - Temperature Max(T_s max) - Time (t_s min to t_s max)	150°C 200°C 60-180seconds
Time maintained above: - Temperature (T_L) - Time (t_L)	217°C 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