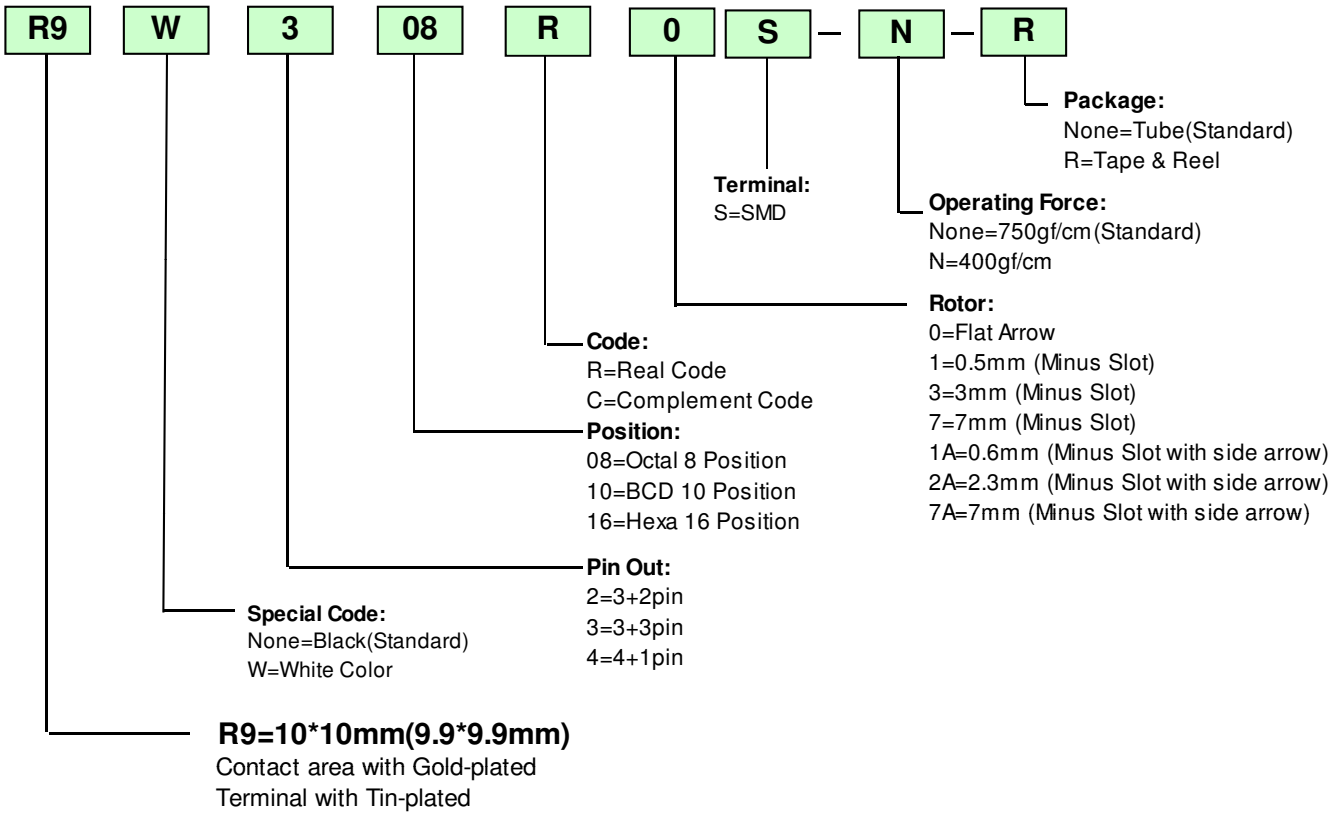


<b>MODEL</b>	<b>SPECIFICATION</b> Rotary Coded SWITCH <b>RoHS&amp;REACH Compliant / Halogen Free</b>	SP-001	Page
<b>R9 series</b> <b>SMD Type</b>			1/5

**Order Information**



**Specifications**

◆ Rating	.....	5VDC 100mA Max./ 20mVDC 1µA Min.
◆ Contact Resistance	.....	100mΩ Max
◆ Insulation Resistance	.....	1,000MΩ/Min. at 100 VDC
◆ Dielectric Strength	.....	250VAC / 1 mintue
◆ Operating Force	.....	750gf/cm (Standard)
	.....	400gf/cm Max. (N type)
◆ Mechanical Life	.....	20,000 Steps
◆ Operating Temperature	.....	-40°C ~ +125°C
◆ Storage Temperature	.....	-40°C ~ +85°C
◆ Waterproof	.....	Meet IP67

**Materials**

◆ Cover & Base	Halogen Free.....	Thermoplastic UL 94 rate, Black/ White
◆ Rotor	Halogen Free.....	Thermoplastic UL 94 rate, White/ Orange/ Blue/ Yellow
◆ Knob	.....	Thermoplastic UL 94 rate
◆ "O" Ring	.....	Silicone Rubber
◆ Step	.....	Stainless Steel
◆ Spacer	.....	Stainless Steel
◆ Movable Contact	.....	Gold-Plated
◆ Terminal Contact	.....	Gold-Plated
◆ Terminal	.....	Tin-Plated

<b>MODEL</b>	<b>SPECIFICATION</b>		Page
<b>R9 series</b> <b>SMD Type</b>	<b>Rotary Coded SWITCH</b> <b>RoHS&amp;REACH Compliant / Halogen Free</b>	SP-002	2/5

### Soldering Information

#### ◆ Hand Soldering

Soldering iron 30W or under at 350°C for 3 sec. max. or at 270°C for 5 sec. max.

#### ◆ Reflow Soldering

260°C +/-5°C within 30sec for reflow, In-line or Batch system.

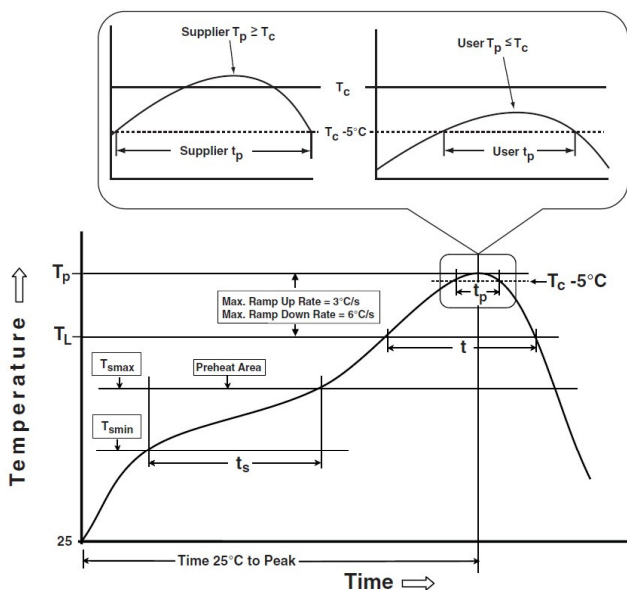
#### The table copy from IPC/JEDEC J-STD-020 D.1

Profile Feature	Pb-Free Assembly
<b>Preheat / Soak</b>	
Temperature Min ( $T_{smin}$ )	150°C
Temperature Max ( $T_{smax}$ )	200°C
Time( $t_s$ ) from ( $T_{smin}$ to $T_{smax}$ )	60 ~120 seconds
Ramp-up Rate ( $T_L$ to $T_p$ )	3°C/second max
Liquidous temperature ( $T_L$ )	217°C
Time ( $t_L$ ) maintained above to $T_L$	60 ~ 150 seconds
Peak package body temperature ( $T_p$ )	For users $T_p$ must not exceed the Classification temp:250°C (Package Thickness>2.5mm) For suppliers $T_p$ must equal or exceed the Classification temp:250°C (Package Thickness>2.5mm)
Time ( $t_p$ ) within 5°C of specified classification temperature ( $T_c$ )	30 seconds
Ramp-Down Rate ( $T_p$ to $T_L$ )	6°C/second max
Time 25°C to Peak Temperature	8 minutes max
* Tolerance for peak profile temperature( $T_p$ ) is defined as a supplier minimum and a user maximum	

Note 1: All temperatures refer to topside of the package, measured on the package body surface.

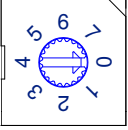
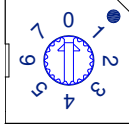
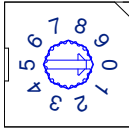
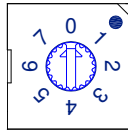
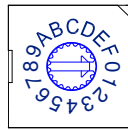
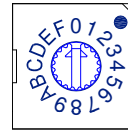
Note 2: Time within 5 °C of actual peak temperature ( $t_p$ ) specified for the reflow profiles is a "supplier" minimum and "user" maximum.

#### Classification Reflow Soldering Profiles

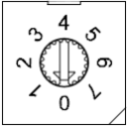
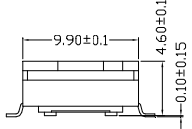
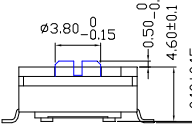
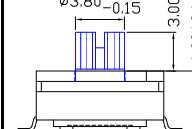
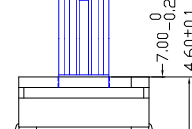

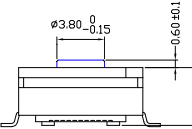
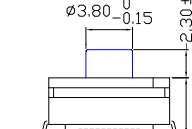
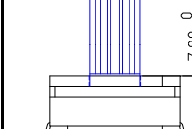


<b>MODEL</b>	<b>SPECIFICATION</b> Rotary Coded SWITCH <b>RoHS&amp;REACH Compliant / Halogen Free</b>	SP-003	Page
<b>R9 series</b> <b>SMD Type</b>			3/5

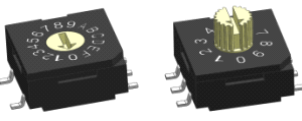
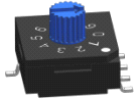
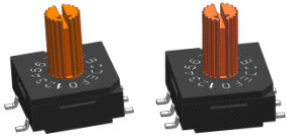
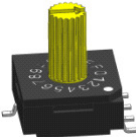
### Position

8 Position		10 Position		16 Position	
R92/93	R94	R92/93	R94	R92/93	R94
					

### Rotor Style

Standard Rotor	0 (Flat Type)	1 (0.5mm)	3 (3mm)	7 (7mm)
				
A type Rotor	1A (0.6mm)	2A (2.3mm)	7A (7mm)	
				

### Rotor Color

Real Code		Complement Code	
R93/R92 (White)	R94 (Blue)	R93/R92 (Orange)	R94 (Yellow)
			

### Knob Order information

**KR1**

**08**

**KR1**



**KR2 / KR2A**



**KR3 / KR3A**



**Knob Color**

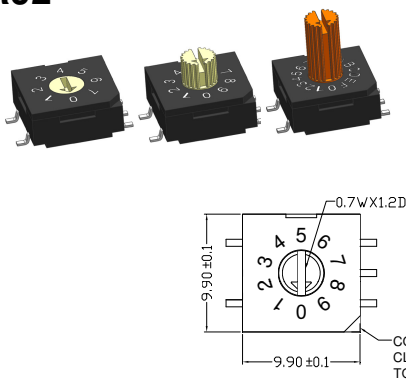
- 00 : Blue
- 02 : Green
- 03 : Light Grey
- 04 : Yellow
- 05 : Dark Grey
- 06 : White
- 08 : Red
- 09 : Black

**Note:**

1. All caps are not allowed to pass through soldering process.
2. All caps should be assembled after all soldering process finished.

<b>MODEL</b>	<b>SPECIFICATION</b>	<b>Page</b>
<b>R9 series</b> <b>SMD Type</b>	<b>Rotary Coded SWITCH</b> <b>RoHS&amp;REACH Compliant / Halogen Free</b>	<b>SP-004</b> <b>4/5</b>

**R92**



0.7Wx1.2D

9.90 ±0.1

9.90 ±0.1

CORNER CLOSEST TO PIN #1

9.90 ±0.1

12.70 ±0.2

4.60 ±0.1

0.10 ±0.15

14.00

10.50

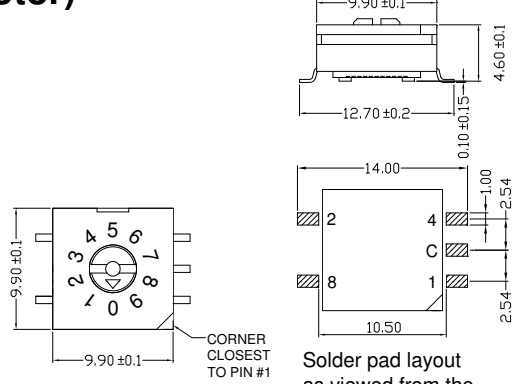
1.00

2.54

2.54

Solder pad layout as viewed from the top of the switch

**R92(A Rotor)**



9.90 ±0.1

9.90 ±0.1

CORNER CLOSEST TO PIN #1

9.90 ±0.1

12.70 ±0.2

4.60 ±0.1

0.10 ±0.15

14.00

10.50

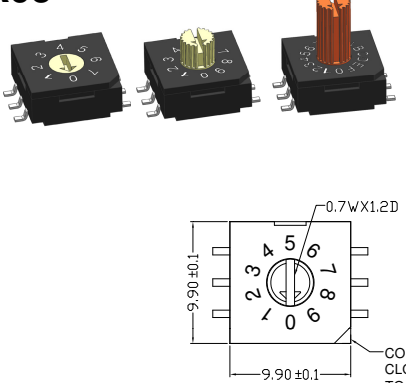
1.00

2.54

2.54

Solder pad layout as viewed from the top of the switch

**R93**



0.7Wx1.2D

9.90 ±0.1

9.90 ±0.1

CORNER CLOSEST TO PIN #1

9.90 ±0.1

12.70 ±0.2

4.60 ±0.1

0.10 ±0.15

14.00

10.50

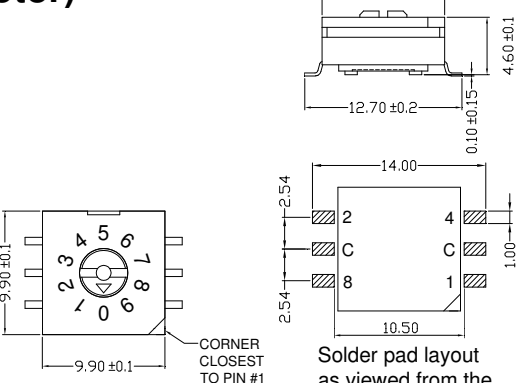
1.00

2.54

2.54

Solder pad layout as viewed from the top of the switch

**R93(A Rotor)**



9.90 ±0.1

9.90 ±0.1

CORNER CLOSEST TO PIN #1

9.90 ±0.1

12.70 ±0.2

4.60 ±0.1

0.10 ±0.15

14.00

10.50

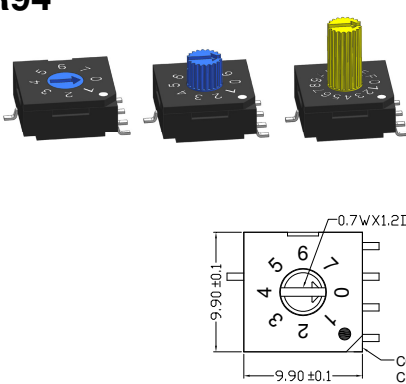
1.00

2.54

2.54

Solder pad layout as viewed from the top of the switch

**R94**



0.7Wx1.2D

9.90 ±0.1

9.90 ±0.1

CORNER CLOSEST TO PIN #8

9.90 ±0.1

12.70 ±0.2

4.60 ±0.1

0.10 ±0.15

14.00

10.50

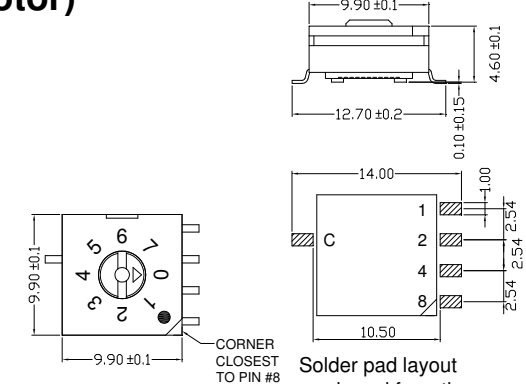
1.00

2.54

2.54

Solder pad layout as viewed from the top of the switch

**R94(A Rotor)**



9.90 ±0.1

9.90 ±0.1

CORNER CLOSEST TO PIN #8

9.90 ±0.1

12.70 ±0.2

4.60 ±0.1

0.10 ±0.15

14.00

10.50

1.00

2.54

2.54

Solder pad layout as viewed from the top of the switch

**Code Format**

No. of Positions		16 Positions																
		08 Postions							10 Positions									
		Position	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Code	Real Code	8								•	•	•	•	•	•	•	•	•
		4				•	•	•	•					•	•	•	•	•
		2			•	•			•	•			•	•			•	•
	1		•		•		•		•		•		•		•		•	
Complementary Code	8	•	•	•	•	•	•	•	•									
	4	•	•	•	•					•	•	•	•					
	2	•	•			•	•			•	•			•	•			
	1	•		•		•		•		•		•		•		•		

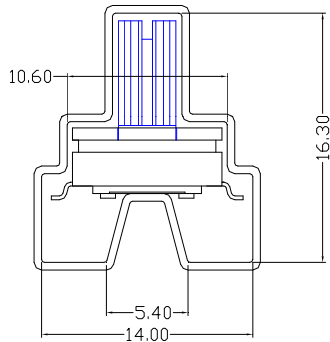
<b>MODEL</b>	<b>SPECIFICATION</b> Rotary Coded SWITCH <b>RoHS&amp;REACH Compliant / Halogen Free</b>	SP-005	Page
<b>Blue series</b> <b>SMD Type</b>			5/5

### Part Number Table

Pin Out	No. Pos.	Real Code			Complementary Code		
		S Type 0.5mm Rotor Tube Package	S Type 7mm Rotor Tube Package	S Type Flat Rotor Taping Reel	S Type 3mm Rotor Tube Package	S Type 7mm Rotor Tube Package	S Type 0.6mm Rotor Taping Reel
3+2	08	R9208R1S	R9208R7S	R9208R0S-R	R9208C3S	R9208C7S	R9208C1AS-R
	10	R9210R1S	R9210R7S	R9210R0S-R	R9210C3S	R9210C7S	R9210C1AS-R
	16	R9216R1S	R9216R7S	R9216R0S-R	R9216C3S	R9216C7S	R9216C1AS-R
3+3	08	R9308R1S	R9308R7S	R9308R0S-R	R9308C3S	R9308C7S	R9308C1AS-R
	10	R9310R1S	R9310R7S	R9310R0S-R	R9310C3S	R9310C7S	R9310C1AS-R
	16	R9316R1S	R9316R7S	R9316R0S-R	R9316C3S	R9316C7S	R9316C1AS-R
4+1	08	R9408R1S	R9408R7S	R9408R0S-R	R9408C3S	R9408C7S	R9408C1AS-R
	10	R9410R1S	R9410R7S	R9410R0S-R	R9410C3S	R9410C7S	R9410C1AS-R
	16	R9416R1S	R9416R7S	R9416R0S-R	R9416C3S	R9416C7S	R9416C1AS-R

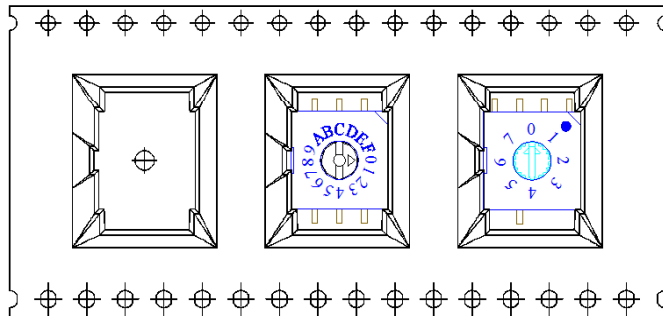
### Tube Package

ROTOR	0mm ~7mm
Per TUBE (pcs)	50
BOX (pcs)	2000
CTN 1 (pcs)	4000
CTN 2 (pcs)	8000



### Tape & Reel Package

ROTOR	0 ~ 1mm	2 ~ 3mm	7mm
Per REEL (pcs)	600	350	200
BOX (pcs)	1800	1050	600
CTN 1 (pcs)	3600	2100	1200



### Box Dimension

- ◆ Tube ..... 57.0cm x 13.0cm x 12.5cm
- ◆ Tape & Reel ..... 34.5cm x 34.5cm x 15.0cm

### Carton Dimension

- ◆ Tube
  - 2 Boxes..... 58.5cm x 29.0cm x 15.0cm
  - 4 Boxes..... 58.5cm x 28.0cm x 27.0cm
- ◆ Tape & Reel
  - 1 Box..... 34.5cm x 34.5cm x 15.0cm
  - 2 Boxes..... 36.0cm x 27.5cm x 37.0cm

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