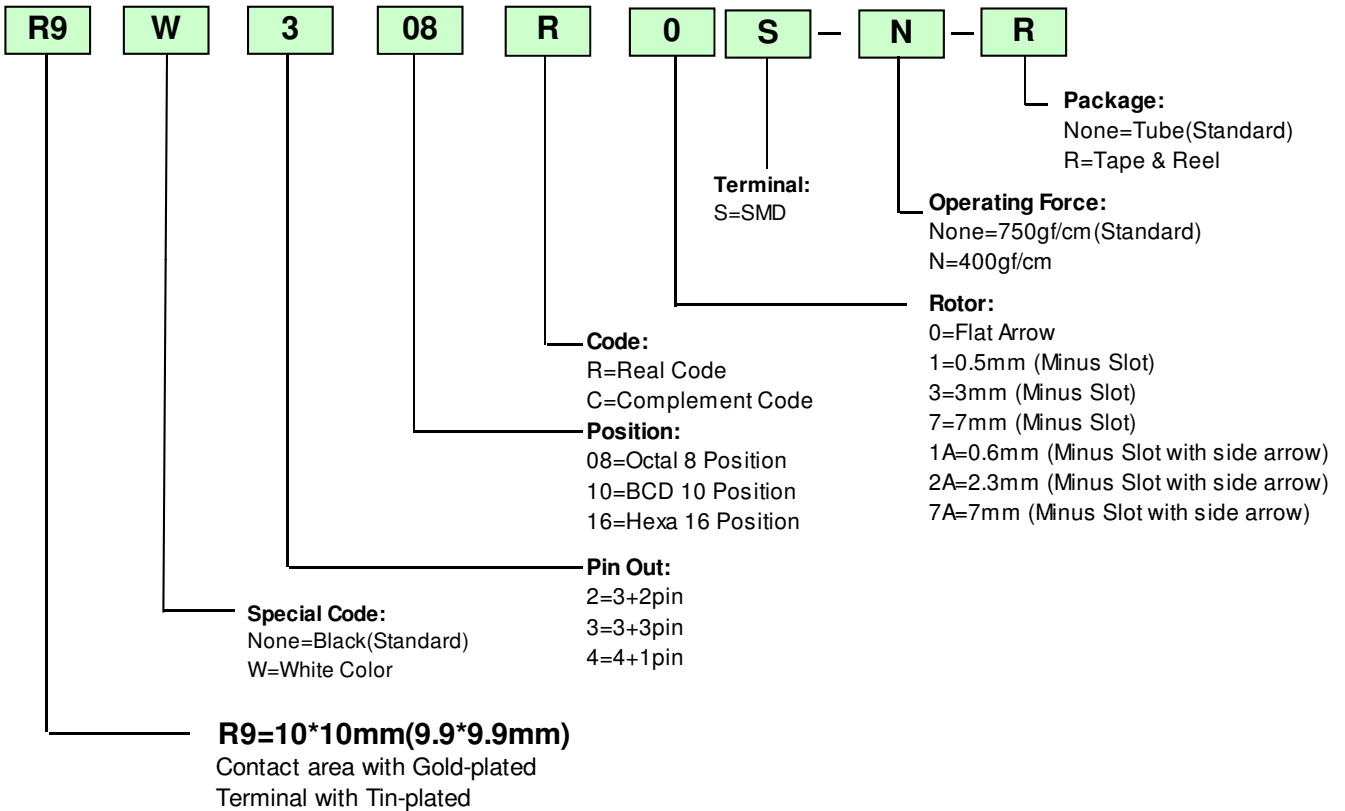


MODEL	SPECIFICATION Rotary Coded SWITCH RoHS&REACH Compliant / Halogen Free	SP-001	Page
R9 series SMD Type			1/5

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

MODEL	SPECIFICATION		Page
R9 series SMD Type	Rotary Coded SWITCH RoHS&REACH Compliant / Halogen Free	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.

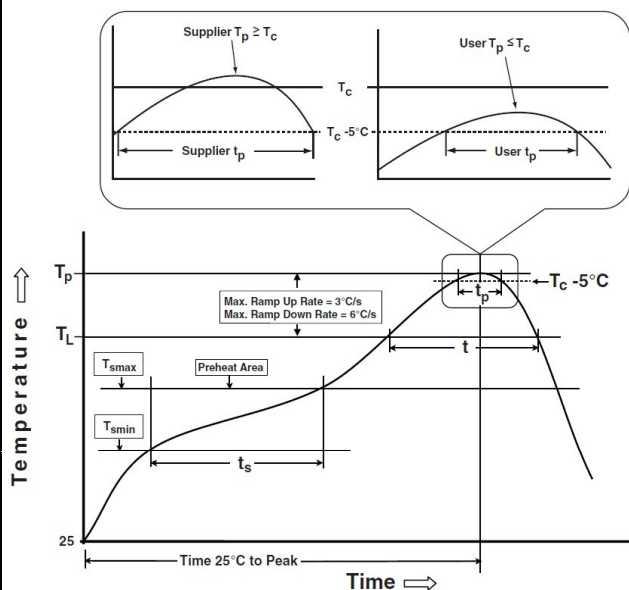
The table copy from IPC/JEDEC J-STD-020 D.1

Profile Feature	Pb-Free Assembly
Preheat / Soak	
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



MODEL	SPECIFICATION Rotary Coded SWITCH RoHS&REACH Compliant / Halogen Free	SP-003	Page
R9 series SMD Type			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



Knob Color

KR2 / KR2A



00 : Blue

02 : Green

03 : Light Grey

04 : Yellow

05 : Dark Grey

KR3 / KR3A



06 : White

08 : Red

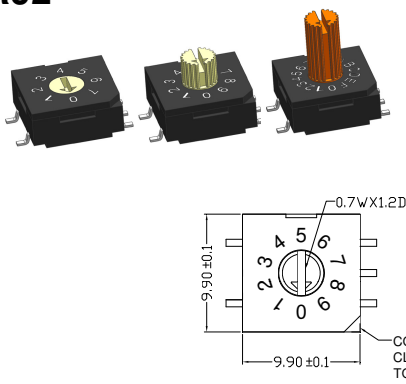
09 : Black

Note:

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

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

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

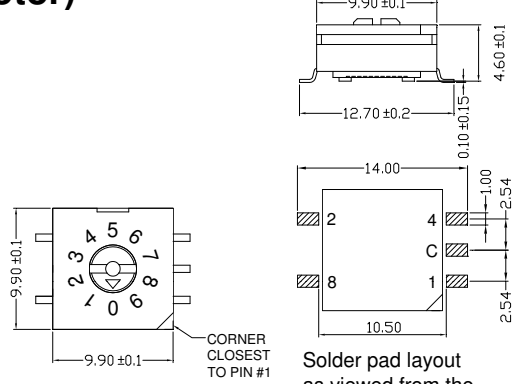
1.00

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

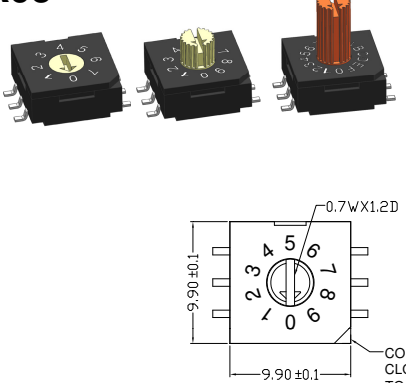
1.00

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

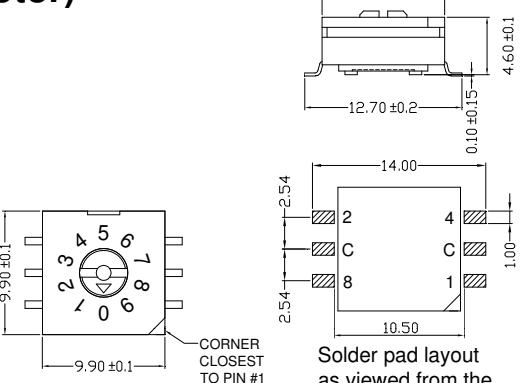
1.00

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

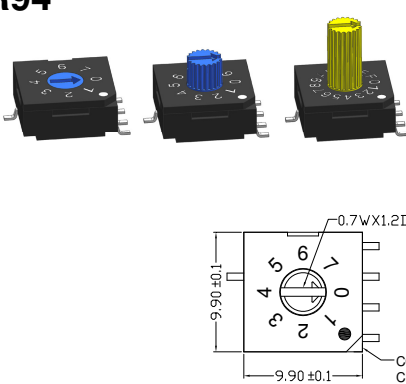
1.00

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

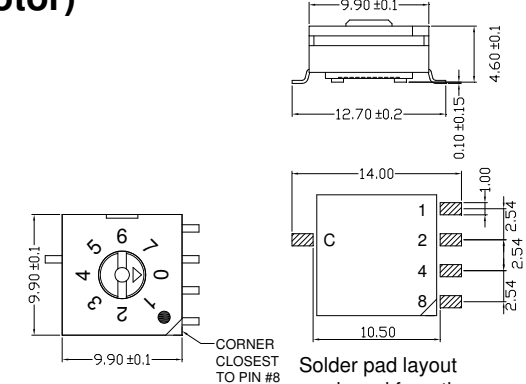
1.00

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							
		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	•		•		•		•	•		•	•		•		•	

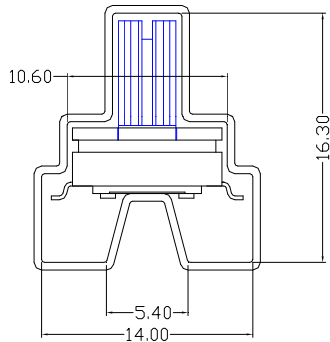
MODEL	SPECIFICATION Rotary Coded SWITCH RoHS&REACH Compliant / Halogen Free	SP-005	Page
R9 series SMD Type			5/5

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

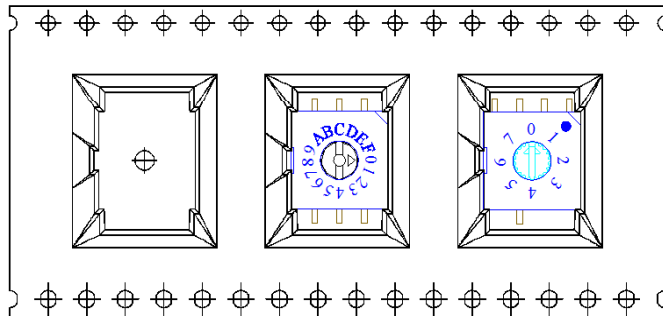
Tube Package

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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