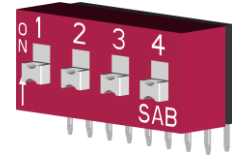
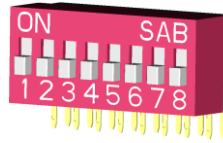




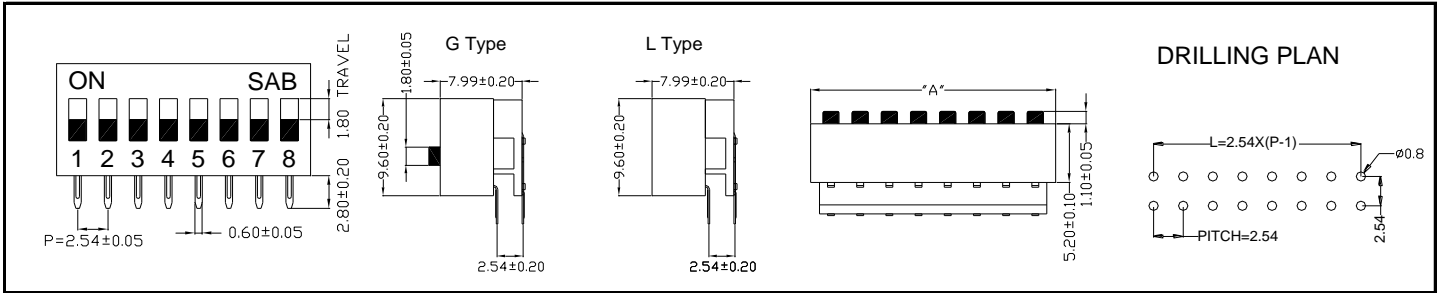
RoHS Compliant

Features

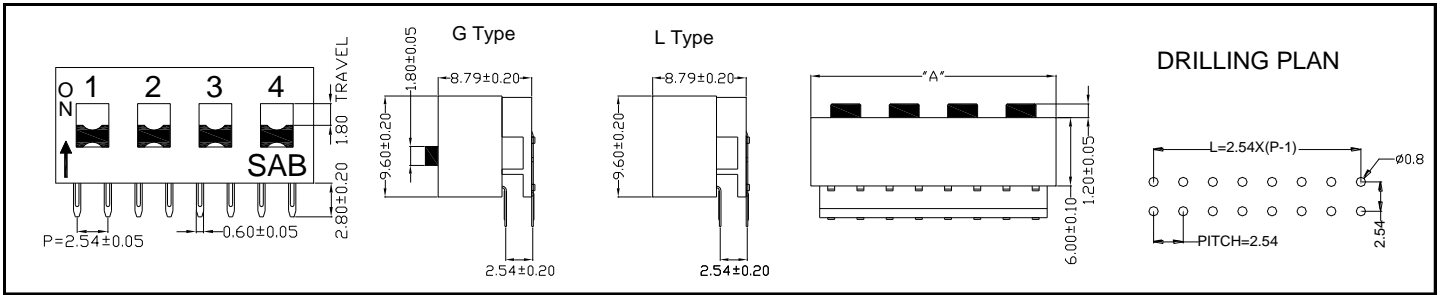
- ◆ Unique Back Support design provides easiness for PCB manual assembly and high resistance to actuation shock
- ◆ Gold-plated contact points & double movable contacts to ensure reliability and longer life expectancy
- ◆ Unique twin suspended springs offer high resistance to physical shock & vibration
- ◆ Clear ON/OFF actuation clicks
- ◆ Insert-molding technology avoids epoxy and water from intruding



BA



BA2F



Specifications

- ◆ Contact Rating
 - Switching 25mA, 24VDC
 - Non-Switching 100mA, 50VDC
- ◆ Contact Resistance
 - Initial 50mΩ Max
 - After Life Test 100mΩ Max.
- ◆ Insulation Resistance 100MΩ min at 500VDC
- ◆ Dielectric Strength 500VAC/ 1 minute
- ◆ Operating Force..... 1,000g Max
- ◆ Mechanical Life..... 5,000 cycles
- ◆ Electrical Life..... 2,000 cycles

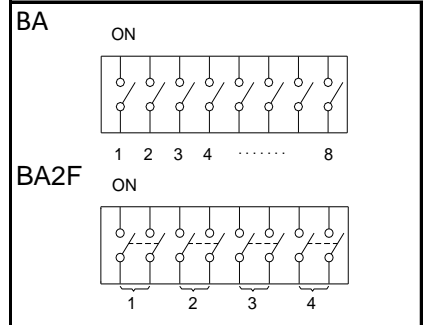
Materials

- ◆ Cover: Thermoplastic UL 94V-0; Blue, Red or Black
- ◆ Base: Thermoplastic UL 94-HB, Black
- ◆ Support: Thermoplastic UL 94-HB, Black
- ◆ Actuator: Thermoplastic UL 94-HB, White
- ◆ Contact: Copper Alloy, Gold-plated
- ◆ Terminal: Copper Alloy, Pure-Tin-plated
- ◆ Tape Sealed: Polyester Film

Packaging Information

- ◆ All DIP switches are shipped in Tube
- ◆ Actuators all in "OFF" position

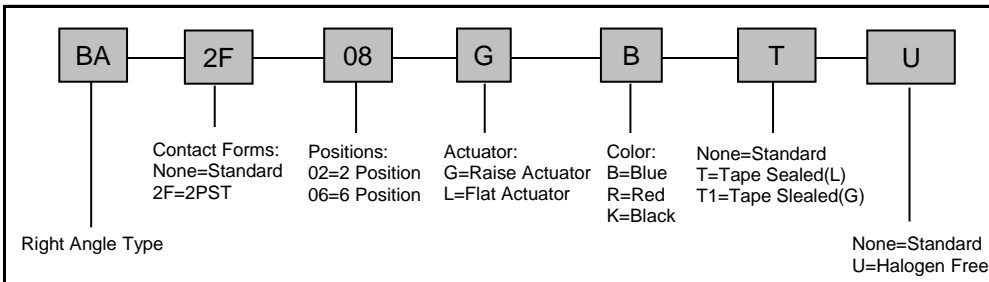
Wiring Diagram



Soldering Information

- ◆ Hand Soldering
 - Soldering Iron 30W(or under) at 350°C for 3 sec. Max. or at 270°C for 5 sec. Max.
- ◆ Wave Soldering
 - 260±5°C for 10 sec. max.
- ◆ Keep all actuators in "OFF" position during soldering and cleaning process

Order Information



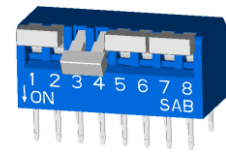
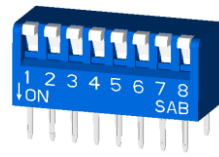
Package

| P/N | No. Of Pole | Dim. A | Quantity per Tube |
|--------|-------------|---------|-------------------|
| BA02 | 2 | 6.08mm | 85 |
| BA03 | 3 | 8.62mm | 61 |
| BA04 | 4 | 11.16mm | 47 |
| BA05 | 5 | 13.70mm | 38 |
| BA06 | 6 | 16.24mm | 32 |
| BA07 | 7 | 18.78mm | 28 |
| BA08 | 8 | 21.32mm | 24 |
| BA09 | 9 | 23.86mm | 22 |
| BA10 | 10 | 26.40mm | 20 |
| BA12 | 12 | 31.48mm | 16 |
| BA2F01 | 1 | 6.08mm | 85 |
| BA2F02 | 2 | 11.16mm | 47 |
| BA2F03 | 3 | 16.24mm | 32 |
| BA2F04 | 4 | 21.32mm | 24 |
| BA2F05 | 5 | 26.40mm | 20 |
| BA2F06 | 6 | 31.48mm | 16 |

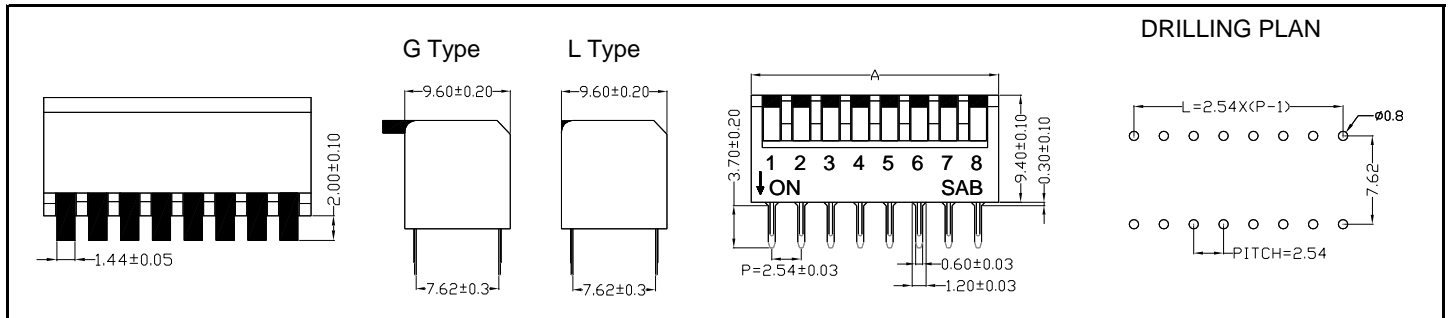


Features

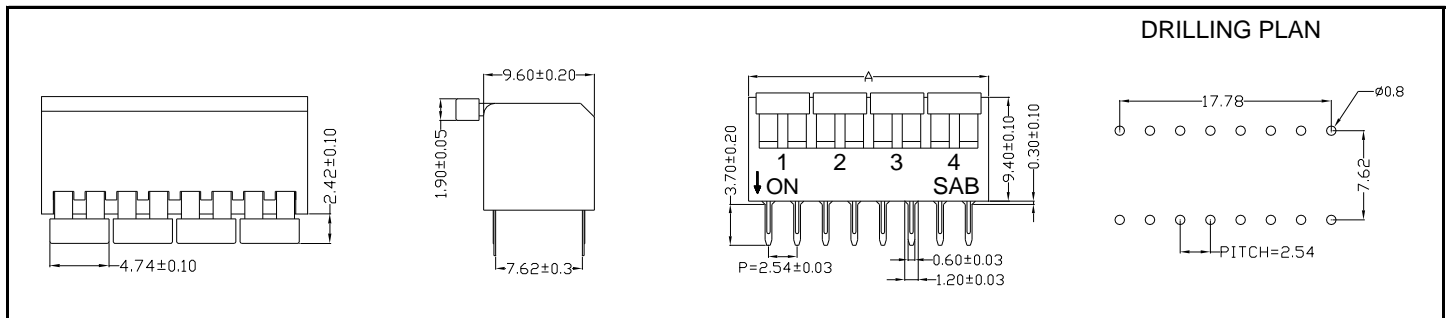
- ◆ Gold-plated contact points & double movable contacts to ensure reliability and longer life expectancy
- ◆ Unique twin suspended springs offer high resistance to physical shock & vibration
- ◆ Clear ON/OFF actuation clicks
- ◆ Insert-molding technology avoids epoxy and water from intruding



BP



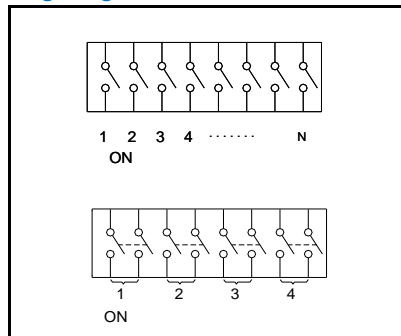
BP2F



Specifications

- ◆ Contact Rating
 - Switching 25mA, 24VDC
 - Non-Switching 100mA, 50VDC
- ◆ Contact Resistance
 - Initial 50mΩ Max
 - After Life Test 100mΩ Max.
- ◆ Insulation Resistance 100MΩ min at 500VDC
- ◆ Dielectric Strength 500VAC/ 1 minute
- ◆ Operating Force..... 1,000g Max
- ◆ Mechanical Life..... 5,000 cycles
- ◆ Electrical Life..... 2,000 cycles

Wiring Diagram



| P/N | No. Of Pole | Dim. A | Quantity per Tube |
|--------|-------------|---------|-------------------|
| BP01 | 1 | 3.54mm | 148 |
| BP02 | 2 | 6.08mm | 85 |
| BP03 | 3 | 8.62mm | 61 |
| BP04 | 4 | 11.16mm | 47 |
| BP05 | 5 | 13.70mm | 38 |
| BP06 | 6 | 16.24mm | 32 |
| BP07 | 7 | 18.78mm | 28 |
| BP08 | 8 | 21.32mm | 24 |
| BP09 | 9 | 23.86mm | 22 |
| BP10 | 10 | 26.40mm | 20 |
| BP12 | 12 | 31.48mm | 16 |
| BP2F01 | 1 | 6.08mm | 85 |
| BP2F02 | 2 | 11.16mm | 47 |
| BP2F03 | 3 | 16.24mm | 32 |
| BP2F04 | 4 | 21.32mm | 24 |
| BP2F05 | 5 | 26.40mm | 20 |
| BP2F06 | 6 | 31.48mm | 16 |

Soldering information

- ◆ Hand Soldering
 - Soldering Iron 30W(or under) at 350°C for 3 sec. max. or at 270°C for 5 sec. max.
- ◆ Wave Soldering
 - 260±5°C for 10 sec. max.
- ◆ Keep all actuators in "OFF" position during soldering and cleaning process

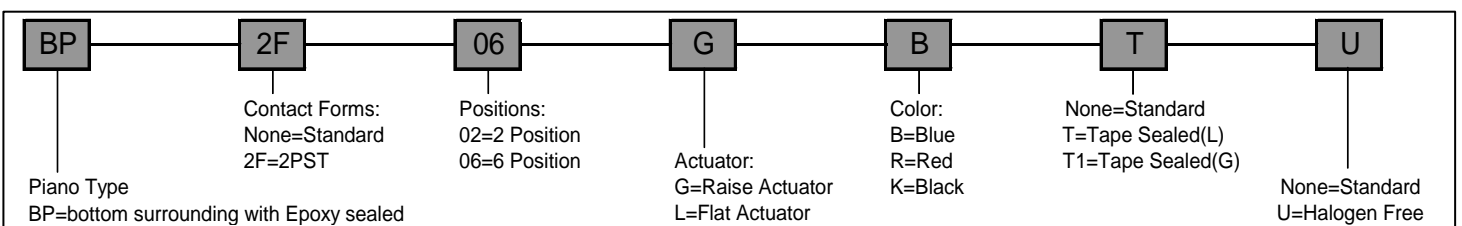
Materials

- ◆ **Cover:** Thermoplastic UL 94V-0; Blue, Red & Black
- ◆ **Base:** Thermoplastic UL 94-HB, Black
- ◆ **Actuator:** Thermoplastic UL 94-HB, White
- ◆ **Contact:** Copper Alloy, Gold-plated
- ◆ **Terminal:** Copper Alloy, Pure-Tin-plated
- ◆ **Tape Sealed:** Polyester Film

Packaging Information

- ◆ All DIP switches are shipped in Tube
- ◆ Actuators all in "OFF" position

Order Information

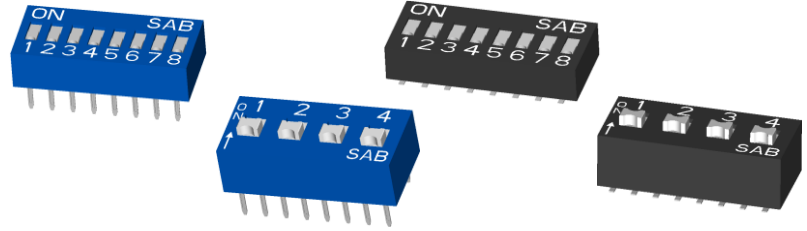




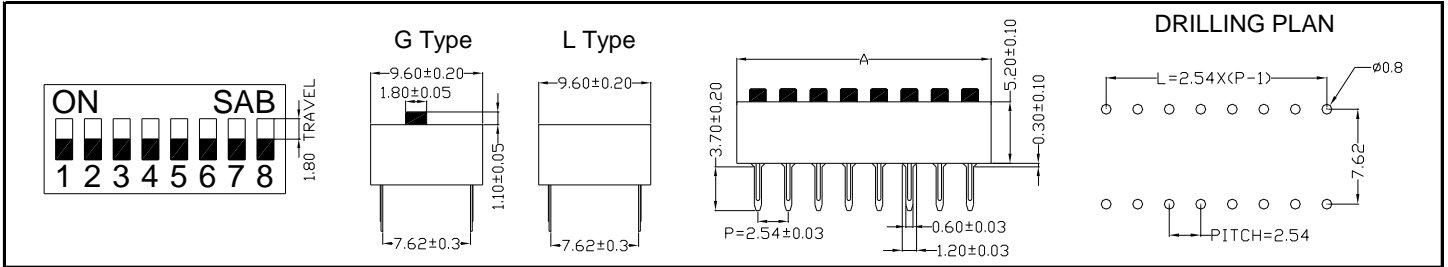
BS Series—Slide Type DIP Switch

Features

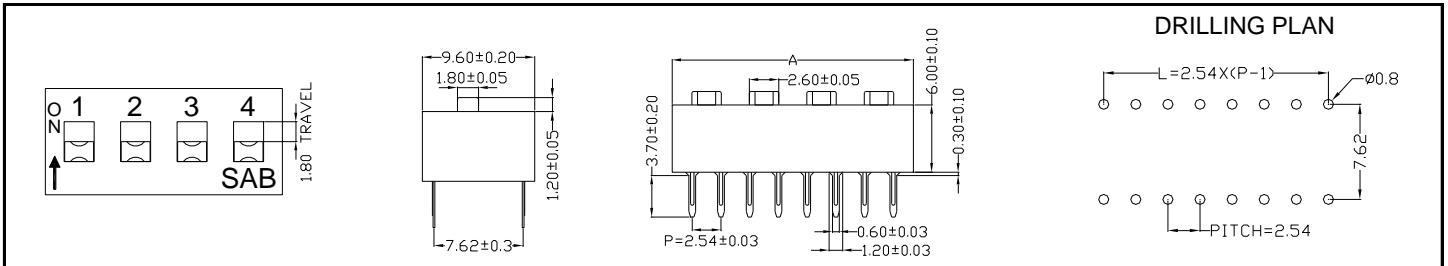
- ◆ Gold-plated contact points & double movable contacts to ensure reliability and longer life expectancy
- ◆ Unique twin suspended springs offer high resistance to physical shock & vibration
- ◆ Clear ON/OFF actuation clicks
- ◆ Insert-molding technology avoids epoxy and water from intruding



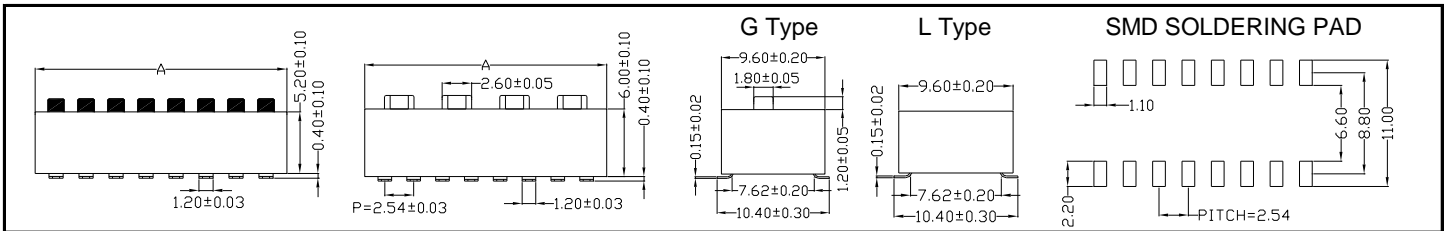
BS/BSE



BS2F



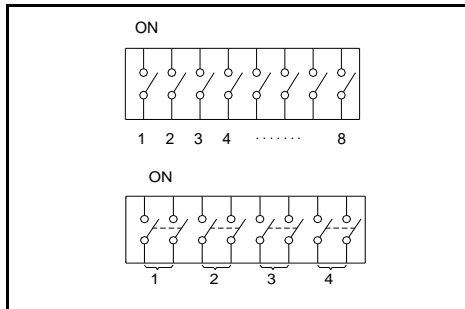
BSM/BSM2F



Specifications

- ◆ Contact Rating
 - Switching 25mA, 24VDC
 - Non-Switching 100mA, 50VDC
- ◆ Contact Resistance
 - Initial 50mΩ Max
 - After Life Test 100mΩ Max.
- ◆ Insulation Resistance 100MΩ min at 500VDC
- ◆ Dielectric Strength 500VAC/ 1 minute
- ◆ Operating Force 1,000g Max
- ◆ Mechanical Life 5,000 cycles
- ◆ Electrical Life 2,000 cycles

Wiring Diagram



Materials

- ◆ **Cover:** Thermoplastic UL 94V-0; Blue, Red & Black
- ◆ **Base:** Thermoplastic UL 94-HB or UL 94V-0, Black
- ◆ **Actuator:** Thermoplastic UL 94-HB, White
- ◆ **Contact:** Copper Alloy, Gold-plated
- ◆ **Terminal:** Copper Alloy, Pure-Tin-plated
- ◆ **Tape Sealed:** Polyester Film

Packaging Information

- ◆ Tape & Reel: BSM
- ◆ Tube: BS/ BSE/ BS2F
- ◆ Actuators all in "OFF" position

| P/N | No. Of Pole | Dim. A | Quantity per Tube |
|-------------|-------------|---------|-------------------|
| BS/BSM01 | 1 | 3.54mm | 148 |
| BS/BSM02 | 2 | 6.08mm | 85 |
| BS(E)/BSM03 | 3 | 8.62mm | 61 |
| BS(E)/BSM04 | 4 | 11.16mm | 47 |
| BS(E)/BSM05 | 5 | 13.70mm | 38 |
| BS(E)/BSM06 | 6 | 16.24mm | 32 |
| BS(E)/BSM07 | 7 | 18.78mm | 28 |
| BS(E)/BSM08 | 8 | 21.32mm | 24 |
| BS(E)/BSM09 | 9 | 23.86mm | 22 |
| BS(E)/BSM10 | 10 | 26.40mm | 20 |
| BS(E)/BSM12 | 12 | 31.48mm | 16 |
| BS2F01 | 1 | 6.08mm | 85 |
| BS2F02 | 2 | 11.16mm | 47 |
| BS2F03 | 3 | 16.24mm | 32 |
| BS2F04 | 4 | 21.32mm | 24 |
| BS2F05 | 5 | 26.40mm | 20 |
| BS2F06 | 6 | 31.48mm | 16 |

Soldering Information

- ◆ Hand Soldering
 - Soldering Iron 30W(or under) at 350°C for 3 sec. max. or at 270°C for 5 sec. max.
- ◆ Wave Soldering
 - BS: 260±5°C for 10 sec. max.
 - BSE: 260±5°C for 5 sec. max.
- ◆ Reflow Soldering
 - Peak temperature: 245°C max. The time above 240°C must be 30 sec. max.
- ◆ Keep all actuators in "OFF" position during soldering and cleaning process

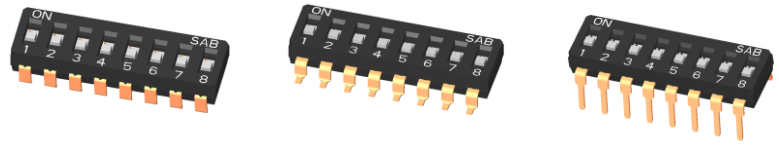
Order Information

| BS | M | 2F | 06 | G | B | T | R | U |
|--|-------------------------------------|--|--|--|---|--|---------------------------------|---------------------------------|
| Box Slide Type BS=bottom surrounding with Epoxy sealed BSE=bottom surrounding without Epoxy sealed **BSE type not provide 1& 2 position | Terminal: None=Straight M=SMD | Contact Forms: None=Standard 2F=2PST | Positions: 02=2 Position 06=6 Position | Actuator: G=Raise Actuator L=Flat Actuator | Color: B=Blue R=Red K=Black(BSM) | None=Standard T=Tape Sealed(L) T1=Tape Sealed(G) | None=Tube R=Tape & Reel(SMD) | None=Standard U=Halogen Free |

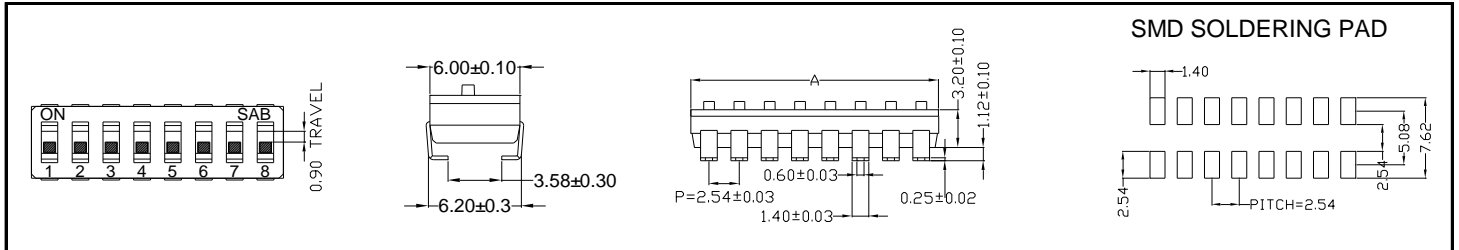


Features

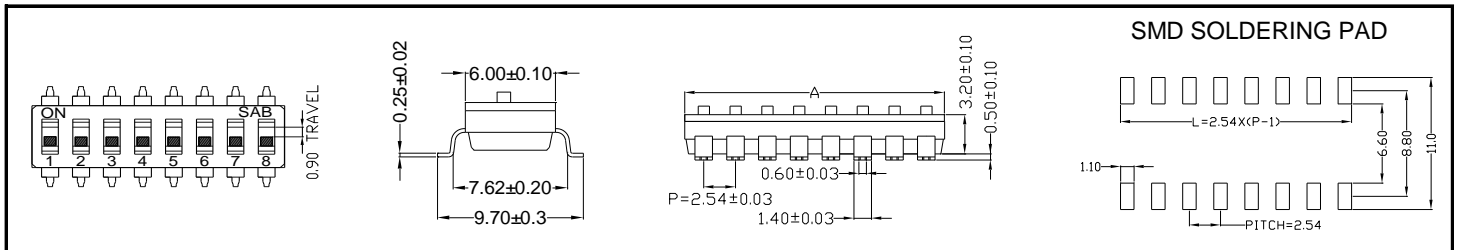
- ◆ Twin contacts designed to ensure stable contact
- ◆ Highly resistant to physical shock & vibration
- ◆ Tape sealed version available to ensure washability
- ◆ Low profile to save PCB space
- ◆ Light click feeling
- ◆ Heat resistance: 260°C for 10 sec.



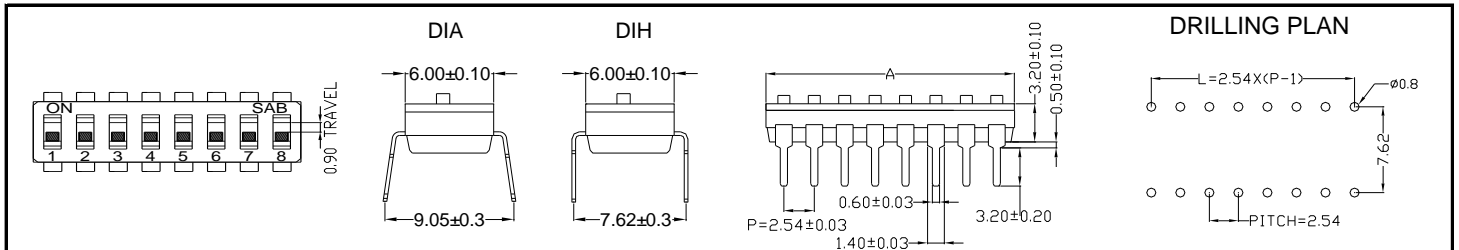
DIJ



DIS



DIA/H



Specifications

- ◆ Contact Rating
 - Switching 25mA, 24VDC
 - Non-Switching 100mA, 50VDC
- ◆ Contact Resistance
 - Initial 50mΩ Max.
 - After Life Test 100mΩ Max.
- ◆ Insulation Resistance 100MΩ min at 500VDC
- ◆ Dielectric Strength 500VAC/ 1 minute
- ◆ Operating Force..... 1,000g Max.
- ◆ Mechanical Life..... 5,000 cycles
- ◆ Electrical Life..... 2,000 cycles

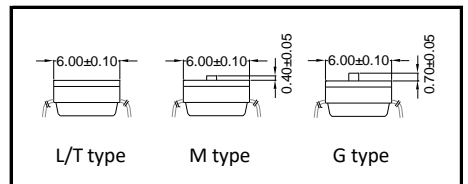
Materials

- ◆ Cover & Base: Thermoplastic UL 94V-0, Black
- ◆ Actuator: Thermoplastic UL 94-HB, White
- ◆ Movable Contact: Copper Alloy, Gold- or Pure-Tin-plated
- ◆ Terminal Contact & Terminal: Copper Alloy, Gold- or Pure-Tin-plated
- ◆ Tape Sealed: Polyimide film

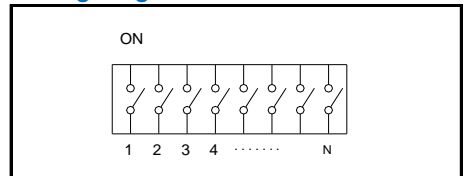
Packaging Information

- ◆ Tube: DIS/ DIA/ DIH
- ◆ Tape & Reel: DIS/ DIJ
- ◆ Actuators all in "OFF" position.

Actuator



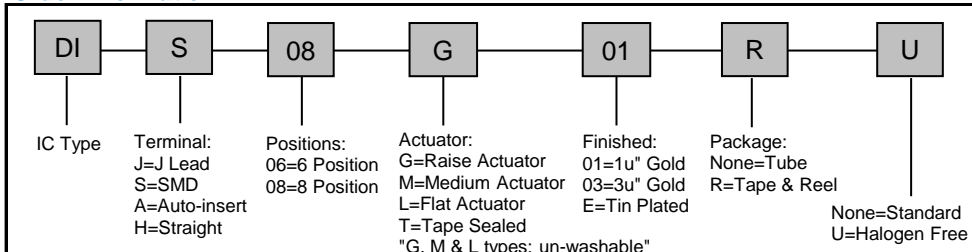
Wiring Diagram



Soldering Information

- ◆ Hand Soldering
 - Soldering Iron of 30W or under at 350°C for 3 sec. max. or at 270°C for 5 sec. max.
- ◆ Wave Soldering
 - 260±5°C for 10 sec. max.
- ◆ Reflow Soldering.
 - Peak temperature: 245 or 250°C max. The time above 240 or 245°C must be 30 sec. max.
- ◆ Keep all actuators in "OFF" position during soldering and cleaning process

Order Information



Package

| P/N | No. Of Pole | Dim. A | Quantity per Tube |
|-----------|-------------|---------|-------------------|
| DIS/A/H01 | 1 | 2.98mm | 174 |
| DIS/A/H02 | 2 | 5.52mm | 95 |
| DIS/A/H03 | 3 | 8.06mm | 65 |
| DIS/A/H04 | 4 | 10.60mm | 48 |
| DIS/A/H05 | 5 | 13.14mm | 39 |
| DIS/A/H06 | 6 | 15.68mm | 33 |
| DIS/A/H07 | 7 | 18.22mm | 28 |
| DIS/A/H08 | 8 | 20.76mm | 25 |
| DIS/A/H09 | 9 | 23.30mm | 22 |
| DIS/A/H10 | 10 | 25.84mm | 20 |
| DIS/A/H12 | 12 | 30.92mm | 17 |



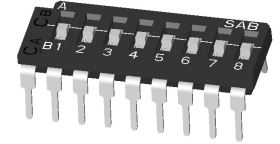
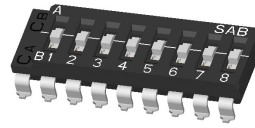
RoHS Compliant

BIWIN / Sab®

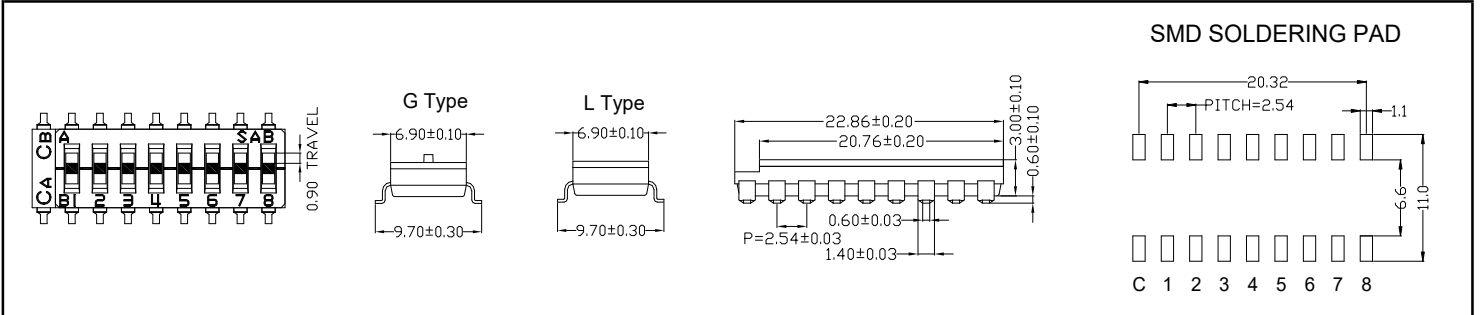
DMIS/A/H Series—Multi-Pole Type DIP Switch

Features

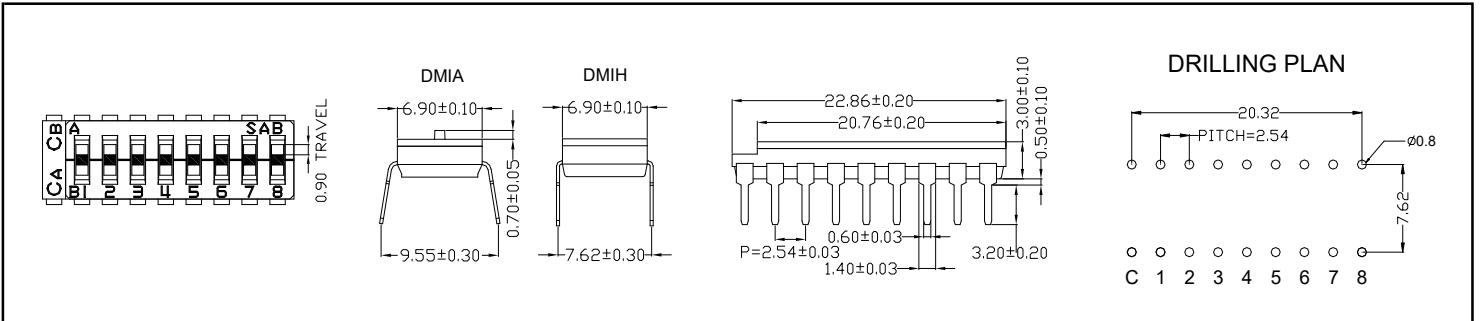
- ◆ On-Off-On Multi-Pole in one
 - Replace Toggle SW/ Slide SW circuit
 - Replace SPDT SW
- ◆ Recode function :
8 positions = 3^8 with one common pin Connection circuit



DMIS



DMIA/H



Specifications

- ◆ Contact Rating
 - Switching 25mA, 24VDC
 - Non-Switching..... 100mA, 50VDC
- ◆ Contact Resistance
 - Initial 50mΩ Max.
 - After Life Test 100mΩ Max.
- ◆ Insulation Resistance 100MΩ min at 500VDC
- ◆ Dielectric Strength 500VAC/ 1 minute
- ◆ Operating Force..... 1,000g Max.
- ◆ Mechanical Life..... 3,000 cycles
- ◆ Electrical Life..... 2,000 cycles

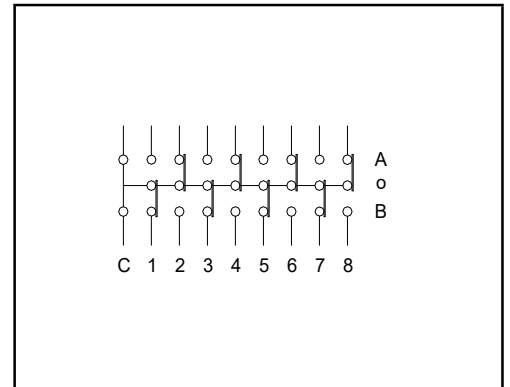
Materials

- ◆ **Cover & Base:** Thermoplastic UL 94V-0, Black
- ◆ **Actuator:** Thermoplastic UL 94-HB, White
- ◆ **Movable Contact:** Copper Alloy, Gold- or Pure-Tin-plated
- ◆ **Terminal & Terminal Contact:** Copper Alloy, Gold- or Pure-Tin-plated
- ◆ **Tape Sealed:** Polyimide film

Packaging Information

- ◆ Tube: DMIS/ DMIA/ DMIH
- ◆ Tape & Reel: DMIS
- ◆ Actuators all in "OFF" position

Wiring Diagram



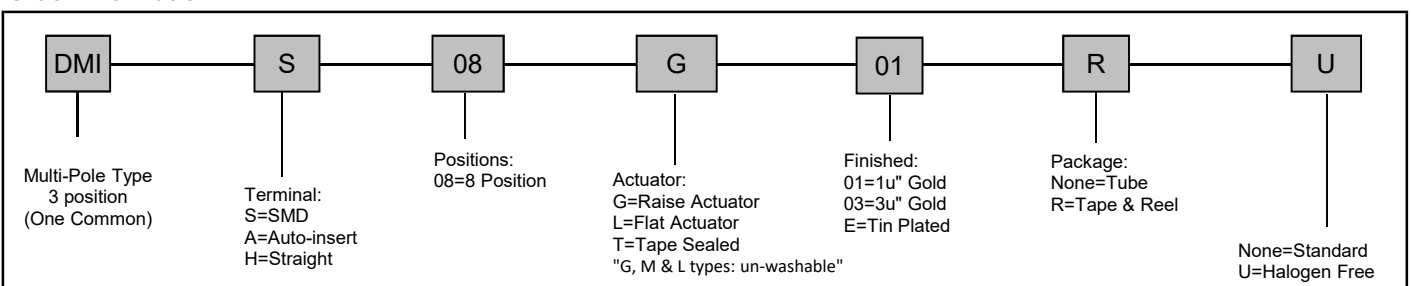
Soldering Information

- ◆ Hand Soldering
Soldering Iron of 30W or under at 350°C for 3 sec. max. or at 270°C/ 5 sec. max.
- ◆ Wave Soldering
260±5°C for 10 sec. max.
- ◆ Reflow Soldering.
Peak temperature: 245 or 250°C max. The time above 240 or 245°C must be 30 sec. max.
- ◆ Keep all actuators in "OFF" position during soldering and cleaning process

Package

| P/N | No. Of Pole | Dim. A | Quantity per Tube |
|------------|-------------|---------|-------------------|
| DMIS/A/H08 | 8 | 21.06mm | 22 |

Order Information



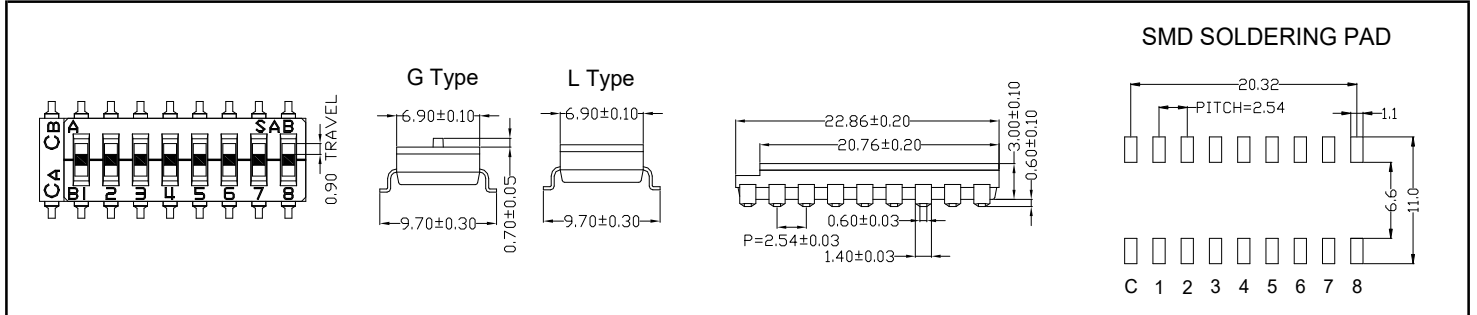
DMXS/A/H Series—Multi-Pole Type DIP Switch

Features

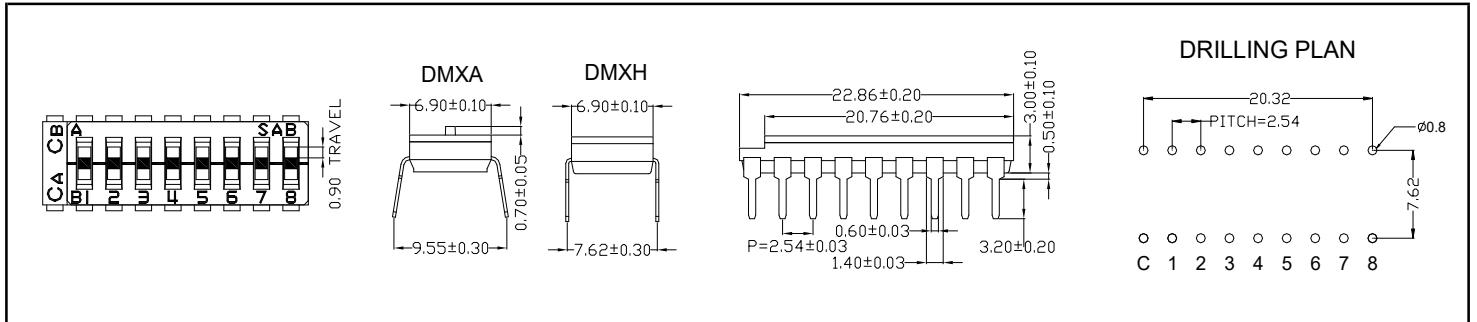
- ◆ On-Off-On Multi-Pole in one
 - Replace Toggle SW/ Slide SW circuit
 - Replace SPDT SW
- ◆ Recode function :
 - 8 positions = 3⁸ with two common pin Connection circuit



DMXS



DMXA/H



Specifications

- ◆ Contact Rating
 - Switching 25mA, 24VDC
 - Non-Switching..... 100mA, 50VDC
- ◆ Contact Resistance
 - Initial 50mΩ Max.
 - After Life Test 100mΩ Max.
- ◆ Insulation Resistance 100MΩ min at 500VDC
- ◆ Dielectric Strength 500VAC/ 1 minute
- ◆ Operating Force..... 1,000g Max.
- ◆ Mechanical Life..... 3,000 cycles
- ◆ Electrical Life..... 2,000 cycles

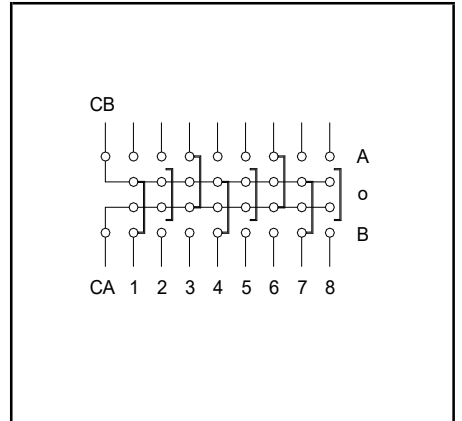
Materials

- ◆ **Cover & Base:** Thermoplastic UL 94V-0, Black
- ◆ **Actuator:** Thermoplastic UL 94-HB, White
- ◆ **Movable Contact:** Copper Alloy, Gold- or Pure-Tin-plated
- ◆ **Terminal & Terminal Contact:** Copper Alloy, Gold- or Pure-Tin-plated
- ◆ **Tape Sealed:** Polyimide film

Packaging Information

- ◆ Tube: DMXS/ DMXA/ DMXH
- ◆ Tape & Reel: DMXS
- ◆ Actuators all in "OFF" position

Wiring Diagram



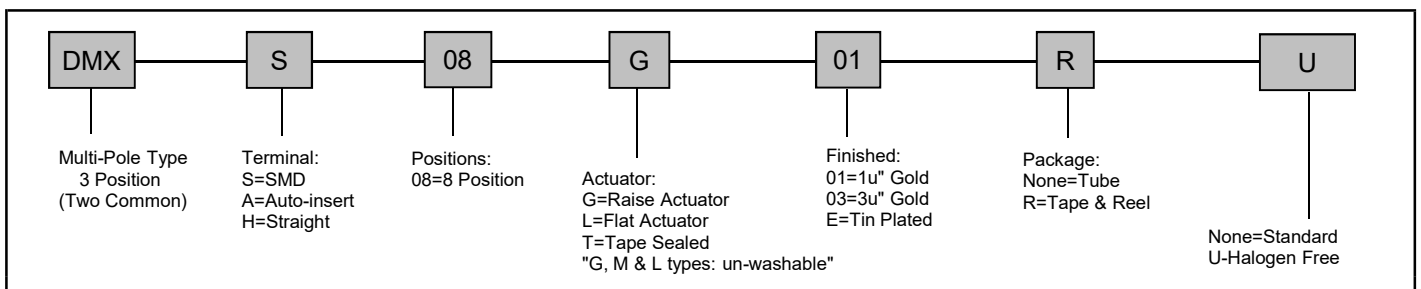
Soldering Information

- ◆ Hand Soldering
 - Soldering Iron of 30W or under at 350°C for 3 sec. max. or at 270°C for 5 sec. max.
- ◆ Wave Soldering
 - 260±5°C for 10 sec. max.
- ◆ Reflow Soldering
 - Peak temperature: 245 or 250°C max. The time above 240 or 245°C must be 30 sec. max.
- ◆ Keep all actuators in "OFF" position during soldering and cleaning process

Package

| P/N | No. Of Pole | Dim. A | Quantity per Tube |
|------------|-------------|---------|-------------------|
| DMXS/A/H08 | 8 | 21.06mm | 22 |

Order Information



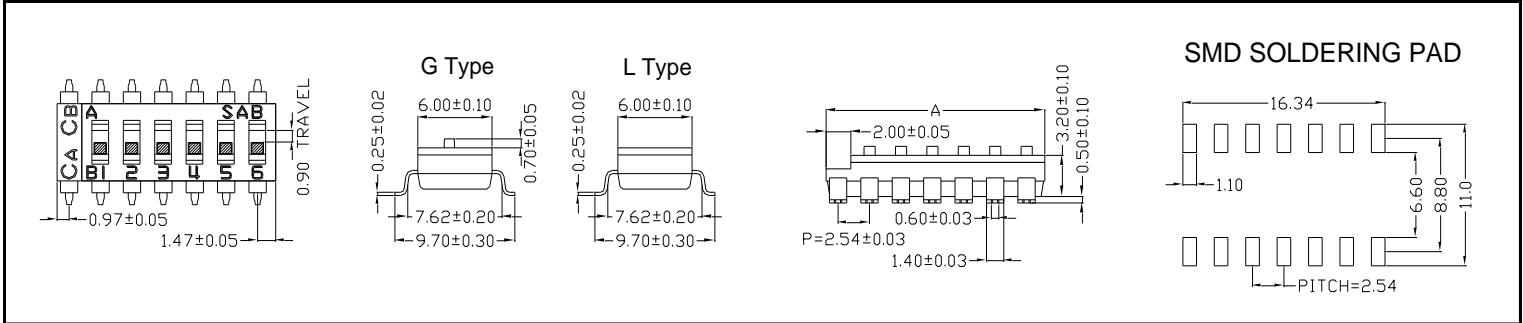


Features

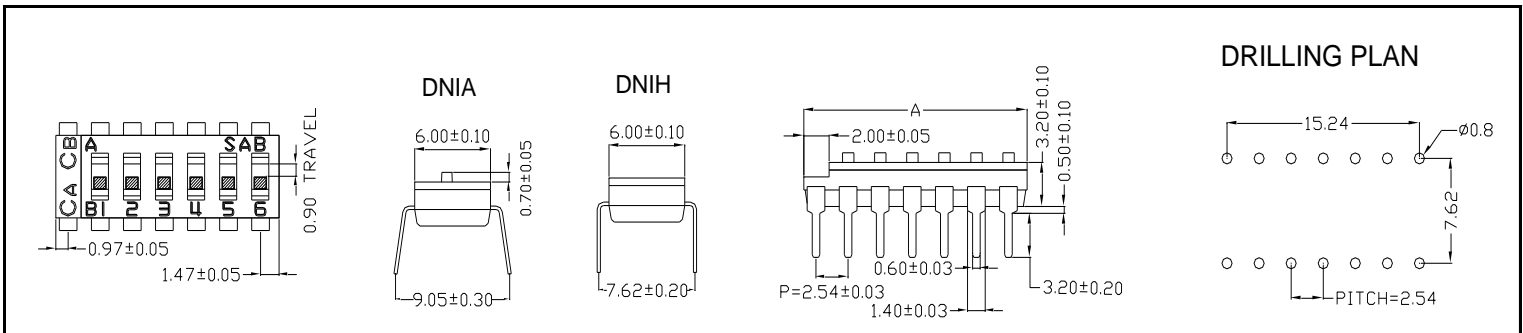
- ◆ SPDT Multipole DIP Switch
- ◆ **Design Patented**
- ◆ Save space for the PCB
- ◆ More Function than the SIP Switch & choice
- ◆ Change over signal circuit



DNIS



DNIA/H



Specifications

- ◆ **Contact Rating**
 Switching 25mA, 24VDC
 Non-Switching..... 100mA, 50VDC
- ◆ **Contact Resistance**
 Initial 50mΩ Max.
 After Life Test 100mΩ Max.
- ◆ **Insulation Resistance** 100MΩ min at 500VDC
- ◆ **Dielectric Strength** 500VAC/ 1 minute
- ◆ **Operating Force**..... 1,000g Max.
- ◆ **Mechanical Life**..... 5,000 cycles
- ◆ **Electical Life**..... 2,000 cycles

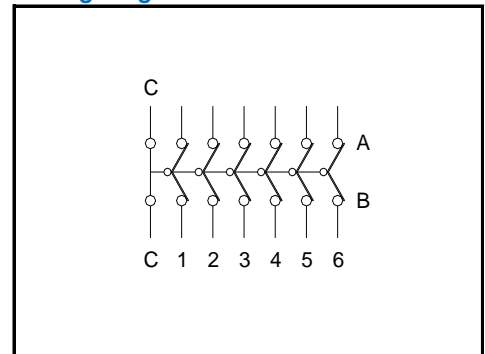
Materials

- ◆ **Cover & Base:** Thermoplastic UL 94V-0, Black
- ◆ **Actuator:** Thermoplastic UL 94-HB, White
- ◆ **Movable Contact:** Copper Alloy, Gold- or Pure-Tin-plated
- ◆ **Terminal & Terminal Contact:** Copper Alloy, Gold- or Pure-Tin-plated
- ◆ **Tape Sealed:** Polyimide film

Packaging Information

- ◆ Tube: DMIS/ DMIA/ DMIH
- ◆ Tape & Reel: DMIS
- ◆ Actuators all in "OFF" position

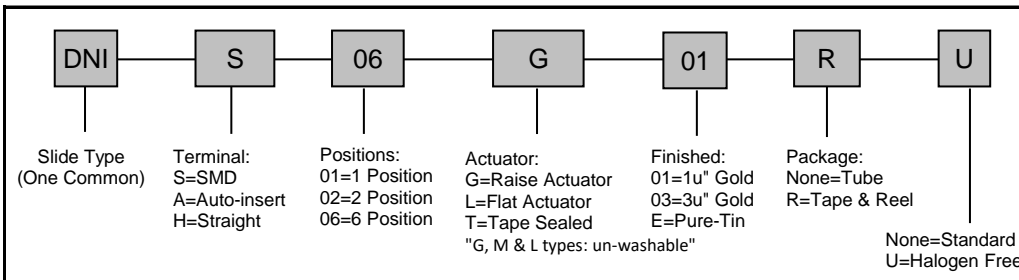
Wiring Diagram



Soldering Information

- ◆ **Hand Soldering**
 Soldering Iron of 30W or under at 350°C for 3 sec. max. or at 270°C/ 5 sec. max.
- ◆ **Wave Soldering**
 260±5°C for 10 sec. max.
- ◆ **Reflow Soldering.**
 Peak temperature: 245 or 250°C max. The time above 240 or 245°C must be 30 sec. max.
- ◆ Keep all actuators in "OFF" position during soldering and cleaning process

Order Information



Package

| P/N | No. Of Pole | Dim. A | Quantity per Tube |
|------------|-------------|---------|-------------------|
| DNIS/A/H01 | 1 | 4.98mm | 105 |
| DNIS/A/H02 | 2 | 7.52mm | 69 |
| DNIS/A/H06 | 6 | 17.68mm | 28 |



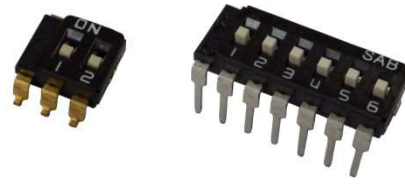
RoHS Compliant

BIWIN / SAB

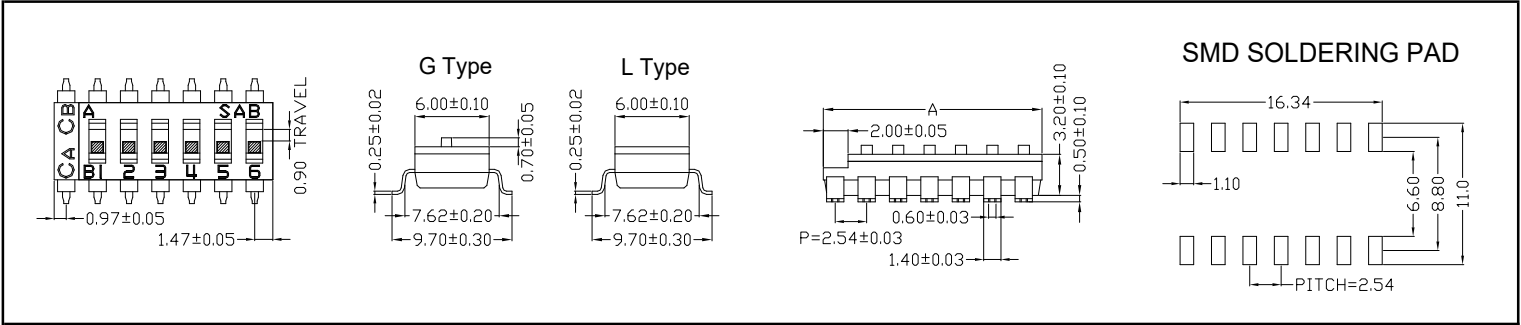
DNXS/A/H Series—Slide Switch

Features

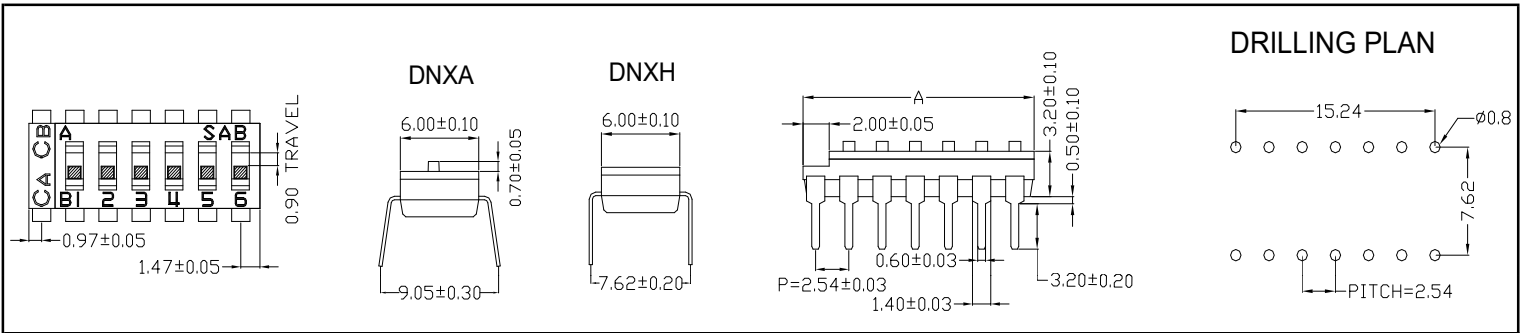
- ◆ SPDT Multipole DIP Switch
- ◆ Design Patented
- ◆ Save sapce for the PCB
- ◆ More Function than the SIP Switch & choice
- ◆ Change over signal circuit



DNXS



DNXA/H



Specifications

- ◆ Contact Rating
 - Switching 25mA, 24VDC
 - Non-Switching 100mA, 50VDC
- ◆ Contact Resistance
 - Initial 50mΩ Max.
 - After Life Test 100mΩ Max.
- ◆ Insulation Resistance 100MΩ min at 500VDC
- ◆ Dielectric Strength 500VAC/ 1 minute
- ◆ Operating Force..... 1,000g Max.
- ◆ Mechanical Life.....5,000 cycles
- ◆ Electrical Life.....2,000 cycles

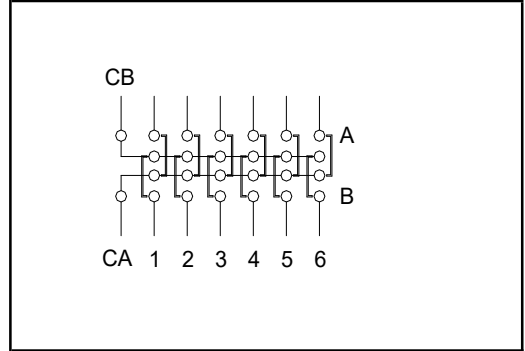
Materials

- ◆ **Cover & Base:** Thermoplastic UL 94V-0, Black
- ◆ **Actuator:** Thermoplastic UL 94-HB, White
- ◆ **Movable Contact:** Copper Alloy, Gold- or Pure-Tin-plated
- ◆ **Terminal & Terminal Contact:** Copper Alloy, Gold- or Pure-Tin-plated
- ◆ **Tape Sealed:** Polyimide film

Packaging Information

- ◆ Tube: DMIS/ DMA/ DMIH
- ◆ Tape & Reel: DMIS
- ◆ Actuators all in "OFF" position

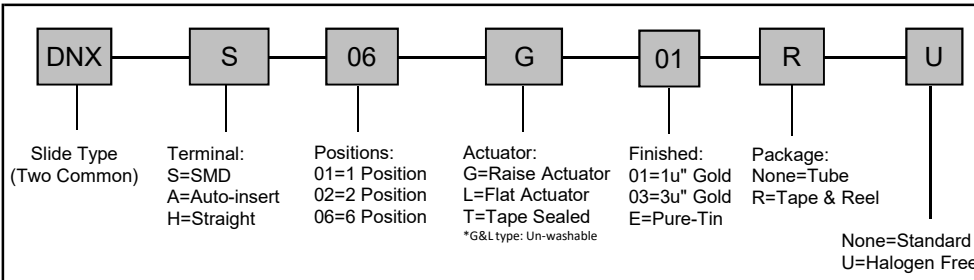
Wiring Diagram



Soldering Information

- ◆ Hand Soldering
 - Soldering Iron of 30W or under at 350°C for 3 sec. max. or at 270°C/ 5 sec. max.
- ◆ Wave Soldering
 - 260±5°C for 10 sec. max.
- ◆ Reflow Soldering.
 - Peak temperature: 245 or 250°C max. The time above 240 or 245°C must be 30 sec. max.
- ◆ Keep all actuators in "OFF" position during soldering and cleaning process

Order Information



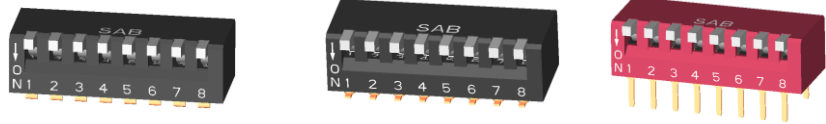
Package

| P/N | No. Of Pole | Dim. A | Quantity per Tube |
|------------|-------------|---------|-------------------|
| DNXS/A/H01 | 1 | 4.98mm | 105 |
| DNXS/A/H02 | 2 | 7.52mm | 69 |
| DNXS/A/H06 | 6 | 17.68mm | 28 |

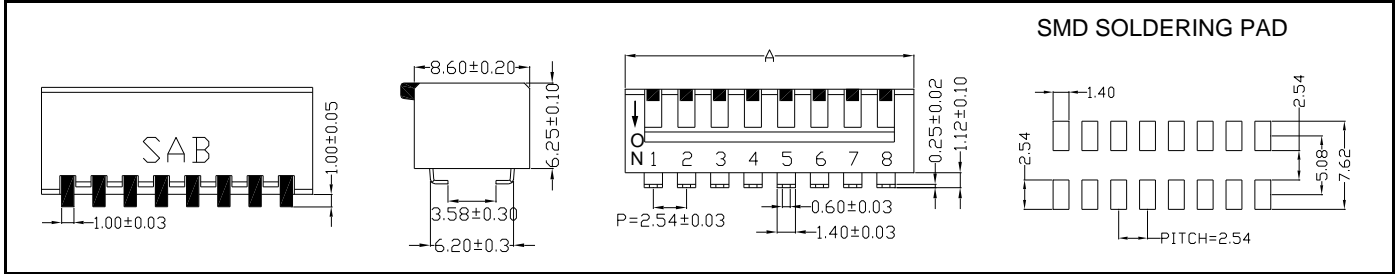


Features

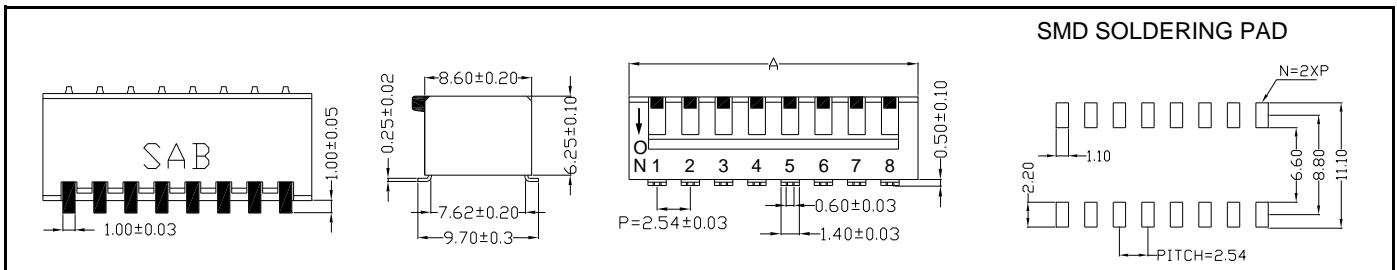
- ◆ Twin contacts designed to ensure stable contact
- ◆ Highly resistant to physical shock & vibration
- ◆ Thru-hole, Gull Wing or J lead available
- ◆ Smaller size to save space



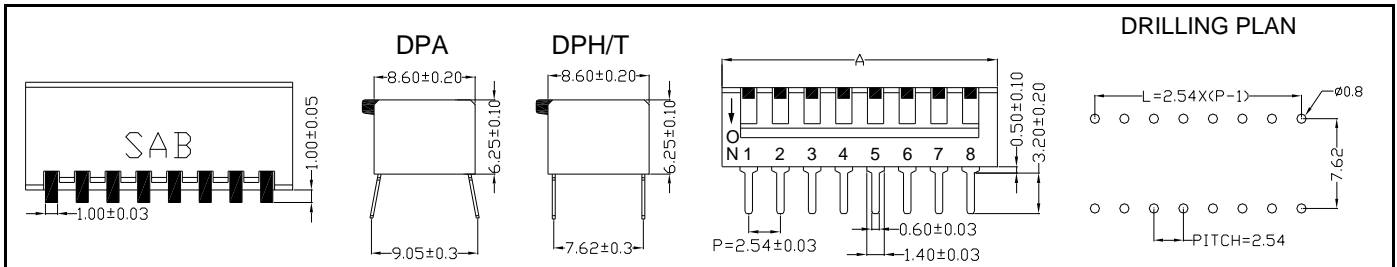
DPJ



DPS



DPA/H/T



Specifications

- ◆ Contact Rating
 - Switching 25mA, 24VDC
 - Non-Switching..... 100mA, 50VDC
- ◆ Contact Resistance
 - Initial 50mΩ Max.
 - After Life Test 100mΩ Max.
- ◆ Insulation Resistance 100MΩ min at 500VDC
- ◆ Dielectric Strength 500VAC/ 1 minute
- ◆ Operating Force..... 1,000g Max.
- ◆ Mechanical Life..... 3,000 cycles
- ◆ Electrical Life..... 2,000 cycles

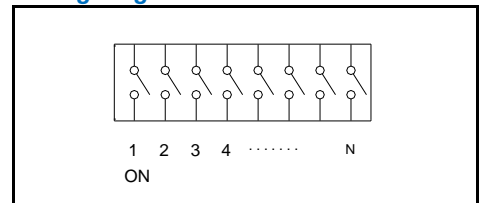
Materials

- ◆ **Cover:** Thermoplastic UL 94V-0; Black, Red & Blue
- ◆ **Base:** Thermoplastic UL 94V-0, Black
- ◆ **Actuator:** Thermoplastic UL 94-HB, White
- ◆ **Movable Contact:** Copper Alloy, Gold- or Pure-Tin plated
- ◆ **Terminal Contact & Terminal:** Copper Alloy, Gold- or Pure-Tin-plated
- ◆ **Tape Sealed:** Polyester Film

Packaging Information

- ◆ Tube: DPS/ DPA/ DPH/ DPT
- ◆ Tape & Reel: DPJ/ DPS
- ◆ Actuators all in "OFF" position

Wiring Diagram



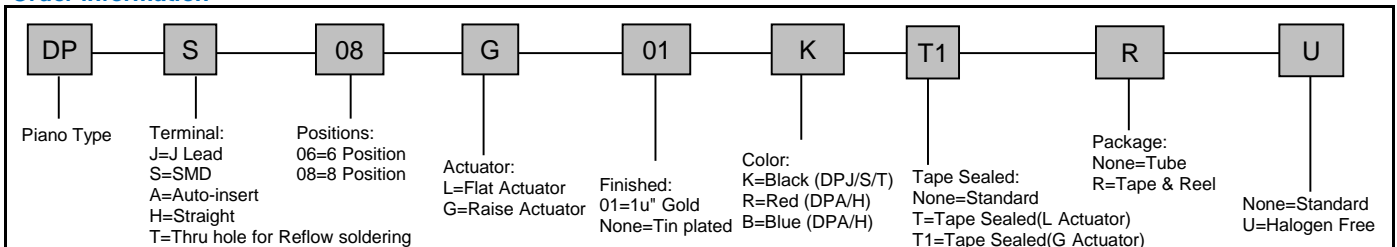
Soldering Information

- ◆ Hand Soldering
 - Soldering Iron of 30W or under at 350°C for 3 sec. max. or at 270°C for 5 sec. max.
- ◆ Wave Soldering
 - 260±5°C for 10 sec. max.
- ◆ Reflow Soldering
 - Peak temperature: 245°C max. The time above 240°C must be 30 sec. max.
- ◆ Keep all actuators in "OFF" position during soldering and cleaning process

Package

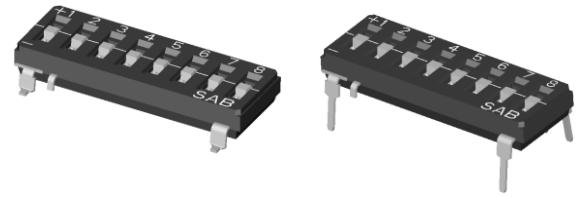
| P/N | No. Of Pole | Dim. A | Quantity per Tube |
|---------------|-------------|---------|-------------------|
| DPJ/S/A/H/T02 | 2 | 6.40mm | 82 |
| DPJ/S/A/H/T03 | 3 | 8.94mm | 59 |
| DPJ/S/A/H/T04 | 4 | 11.90mm | 44 |
| DPJ/S/A/H/T05 | 5 | 14.44mm | 36 |
| DPJ/S/A/H/T06 | 6 | 16.98mm | 31 |
| DPJ/S/A/H/T08 | 8 | 22.06mm | 24 |
| DPJ/S/A/H/T10 | 10 | 27.14mm | 19 |

Order Information

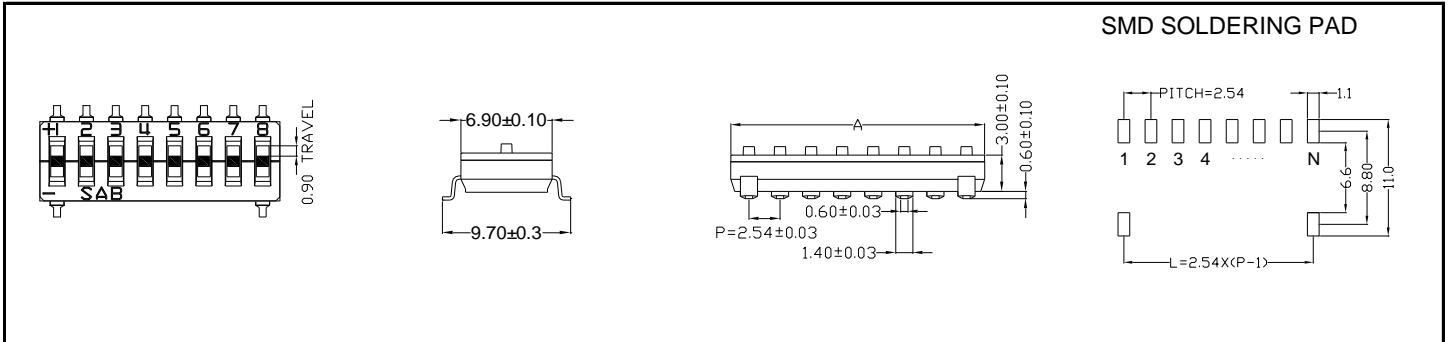


Features

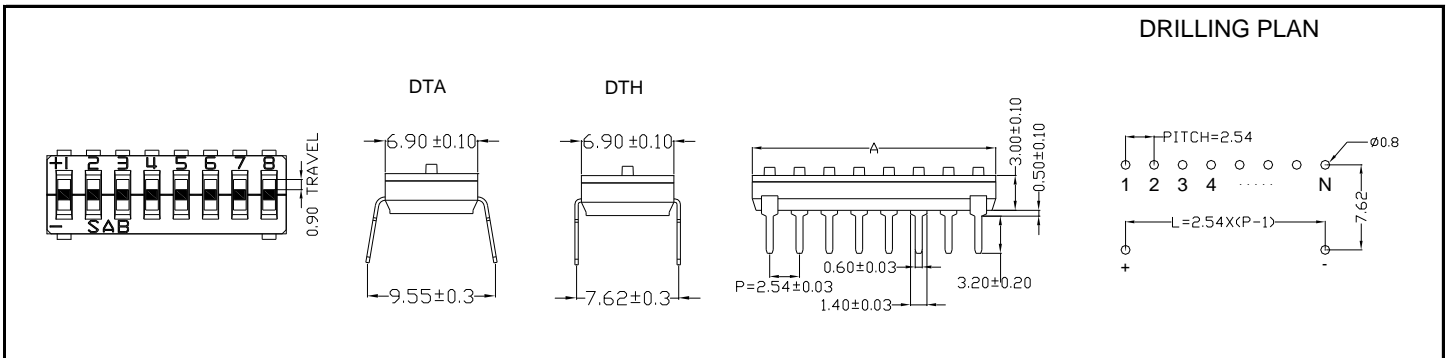
- ◆ Twin contacts designed to ensure stable contact
- ◆ Highly resistant to physical shock & vibration
- ◆ Tape sealed version available to ensure washability
- ◆ Low profile to save PCB space
- ◆ Tri-State(+,0,-) setting function
- 8 poles=(3³)=6,561 codes
- 10 poles=(3¹⁰)=59,049 codes
- ◆ Light click feeling
- ◆ Heat resistance: 260°C for 10 sec.



DTS



DTA/H



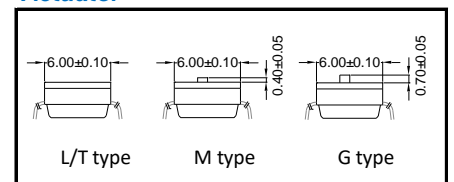
Specifications

- ◆ Contact Rating
 - Switching 25mA, 24VDC
 - Non-Switching 100mA, 50VDC
- ◆ Contact Resistance
 - Initial 50mΩ Max.
 - After Life Test 100mΩ Max.
- ◆ Insulation Resistance 100MΩ min at 500VDC
- ◆ Dielectric Strength 500VAC/ 1 minute
- ◆ Operating Force..... 1,000g Max.
- ◆ Mechanical Life..... 3,000 cycles
- ◆ Electrical Life..... 2,000 cycles

Materials

- ◆ **Cover & Base:** Thermoplastic UL 94V-0, Black
- ◆ **Actuator:** Thermoplastic UL 94-HB, White
- ◆ **Movable Contact:** Copper Alloy, Gold- or Pure-Tin-plated
- ◆ **Terminal & Terminal Contact:** Copper Alloy, Gold- or Pure-Tin-plated
- ◆ **Tape Sealed:** Polyimide film

Actuator



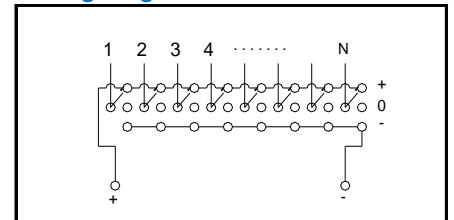
Packaging Information

- ◆ Tube: DTS/ DTA/ DTH
- ◆ Tape & Reel: DTS
- ◆ Actuators all in "OFF" position

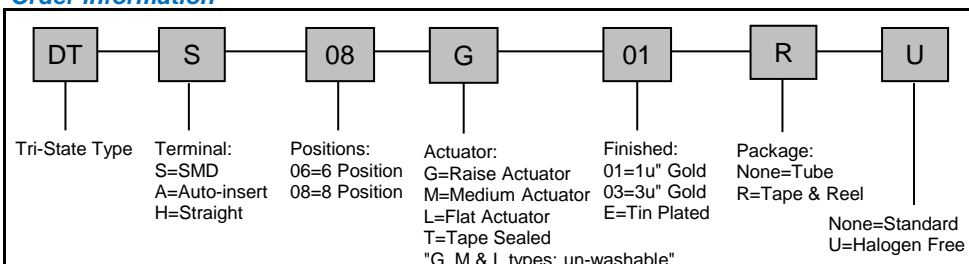
Soldering Information

- ◆ Hand Soldering
 - Soldering Iron of 30W or under at 350°C for 3 sec. max. or at 270°C for 5 sec. max.
- ◆ Wave Soldering
 - 260±5°C for 10 sec. max.
- ◆ Reflow Soldering
 - Peak temperature: 245 or 250°C max. The time above 240 or 245°C must be 30 sec. max.
- ◆ Keep all actuators in "OFF" position during soldering and cleaning process

Wiring Diagram



Order Information



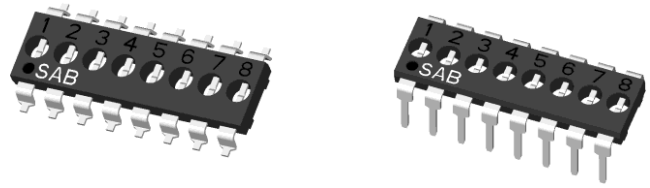
Package

| P/N | No. Of Pole | Dim. A | Quantity per Tube |
|-----------|-------------|---------|-------------------|
| DTS/A/H02 | 2 | 5.52mm | 95 |
| DTS/A/H03 | 3 | 8.06mm | 65 |
| DTS/A/H04 | 4 | 10.60mm | 48 |
| DTS/A/H06 | 6 | 15.68mm | 33 |
| DTS/A/H07 | 7 | 18.22mm | 28 |
| DTS/A/H08 | 8 | 20.76mm | 25 |
| DTS/A/H09 | 9 | 23.30mm | 22 |
| DTS/A/H10 | 10 | 25.84mm | 20 |
| DTS/A/H12 | 12 | 30.92mm | 17 |

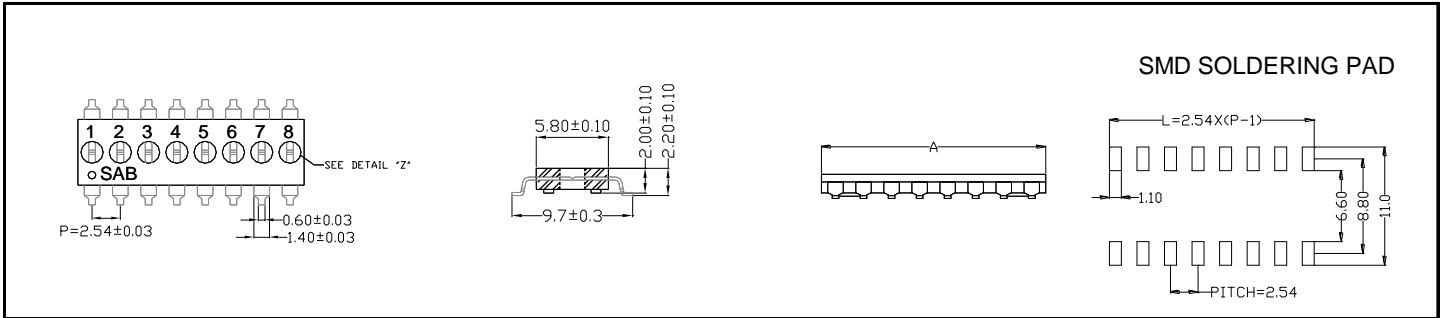


Features

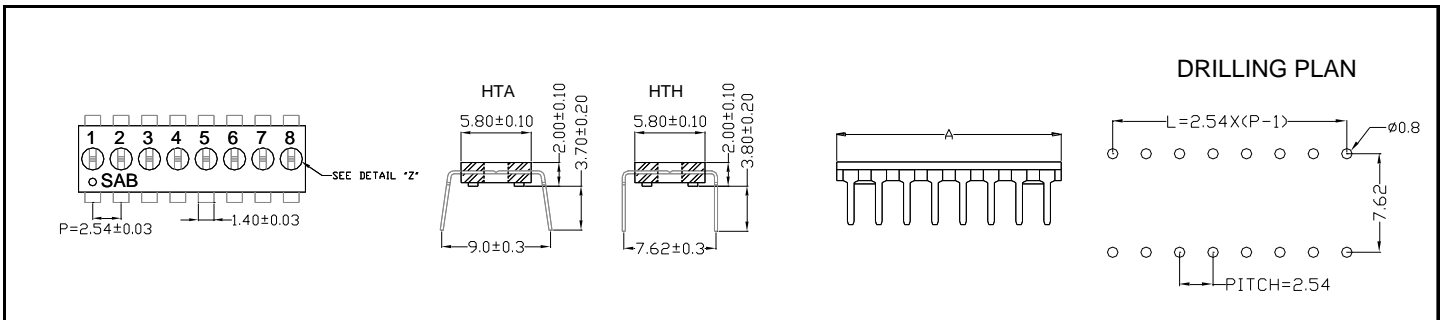
- ◆ Cost effective DIP shunt designed for switches with only one-time setup
- ◆ Connected terminal can be easily separated with a ball pen
- ◆ All shunts can be supplied either un-programmed or preprogrammed



HTS



HTA/H



Specifications

- ◆ Rating..... 1A
- ◆ Insulation Resistance 100MΩ min at 500VDC
- ◆ Dielectric Strength 500VAC/ 1 minute
- ◆ Operating Temperature..... -55°C~150°C

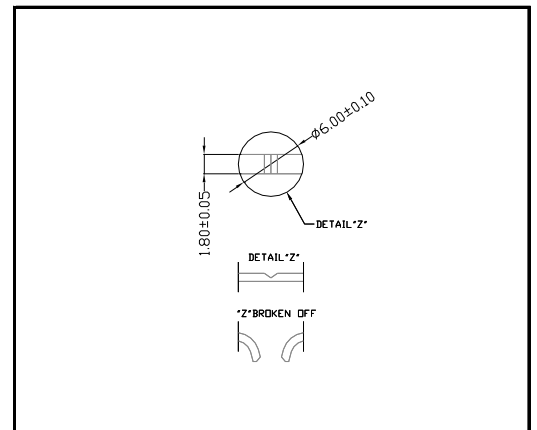
Materials

- ◆ **Base:** Thermoplastic UL 94V-0, Black
- ◆ **Terminal:** Copper Alloy, Pure-Tin-plated
- ◆ **Tape Sealed:** Polyimide film

Packaging Information

- ◆ Tube: HTS/ HTA/ HTH
- ◆ Tape & Reel: HTS

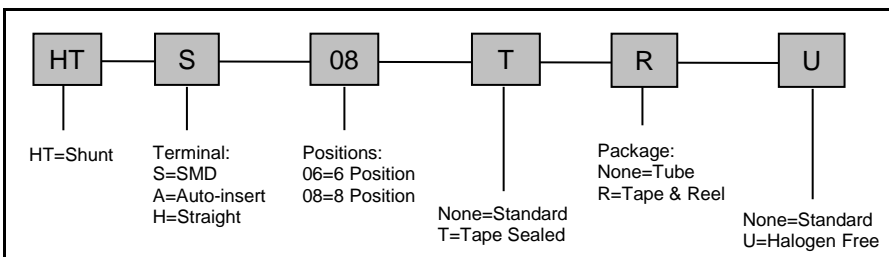
Wiring Diagram



Soldering Information

- ◆ Hand Soldering
Soldering Iron of 30W or under at 350°C for 3 sec. max. or at 270°C for 5 sec. max.
- ◆ Wave Soldering
260±5°C for 10 sec. max.
- ◆ Reflow Soldering.
Peak temperature: 260°C max. The time above 255°C must be 30 sec. max.

Order Information

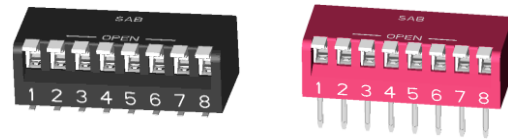


Package

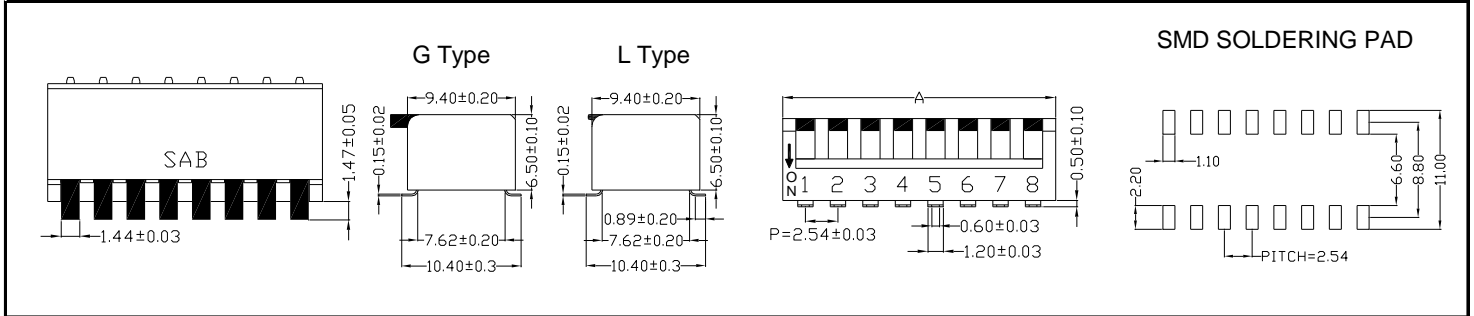
| P/N | No. Of Pole | Dim. A | Quantity per Tube |
|----------------|-------------|---------|-------------------|
| HTS / A / H 02 | 2 | 5.08mm | 105 |
| HTS / A / H 03 | 3 | 7.62mm | 70 |
| HTS / A / H 04 | 4 | 10.16mm | 52 |
| HTS / A / H 05 | 5 | 12.70mm | 42 |
| HTS / A / H 06 | 6 | 15.24mm | 35 |
| HTS / A / H 07 | 7 | 17.78mm | 30 |
| HTS / A / H 08 | 8 | 20.32mm | 26 |
| HTS / A / H 09 | 9 | 22.86mm | 23 |
| HTS / A / H 10 | 10 | 25.40mm | 21 |
| HTS / A / H 12 | 12 | 30.48mm | 17 |

Features

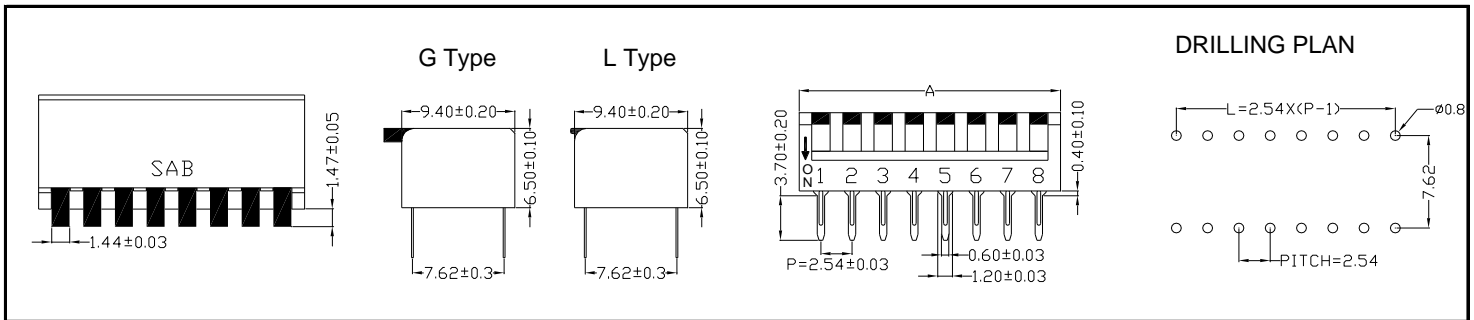
- ◆ Gold-plated contact points & double movable contacts to ensure reliability and longer life expectancy
- ◆ Unique twin suspended springs offer high resistance to physical shock & vibration
- ◆ Clear ON/OFF actuation clicks
- ◆ Insert-molding technology avoids epoxy and water from intruding
- ◆ Thru-Hole or SMD available



NPS



NPH/NPT



Specifications

- ◆ Contact Rating
 - Switching 25mA, 24VDC
 - Non-Switching..... 100mA, 50VDC
- ◆ Contact Resistance
 - Initial 50mΩ Max.
 - After Life Test 100mΩ Max.
- ◆ Insulation Resistance .. 100MΩ min at 500VDC
- ◆ Dielectric Strength 500VAC/ 1 minute
- ◆ Operating Force..... 1,000g Max.
- ◆ Mechanical Life..... 5,000 cycles
- ◆ Electrical Life 2,000 cycles

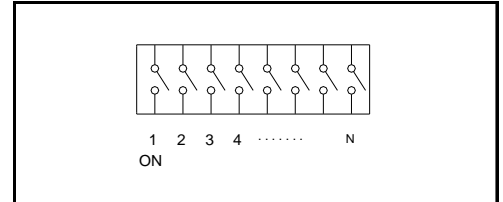
Materials

- ◆ **Cover:** Thermoplastic UL 94V-0; Black, Red & Blue
- ◆ **Actuator:** Thermoplastic UL 94-HB or UL 94V-0, White
- ◆ **Contact:** Copper Alloy, Gold-plated
- ◆ **Terminal:** Copper Alloy, Pure-Tin-plated
- ◆ **Tape Sealed:** Polyester Film

Packaging Information

- ◆ Tape & Reel: NPS
- ◆ Tube: NPS/ NPH/ NPT
- ◆ Actuators all in "OFF" position

Wiring Diagram



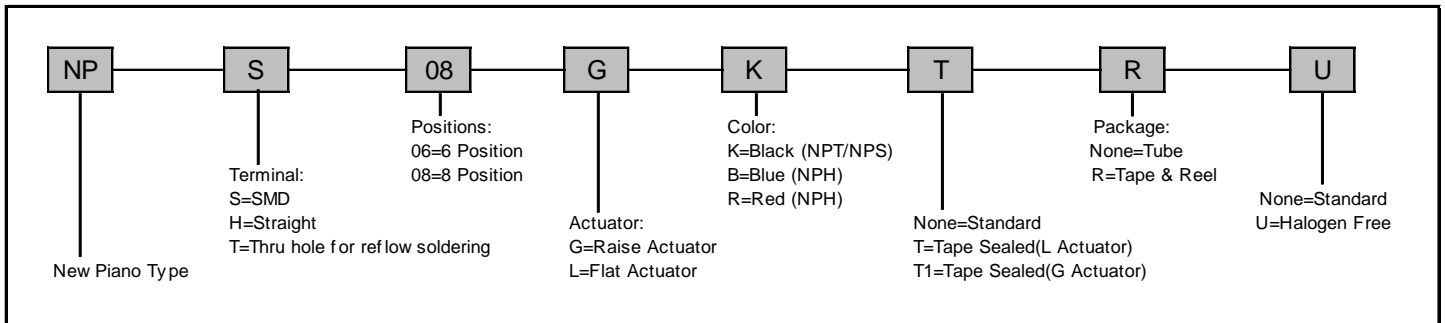
Soldering Information

- ◆ Hand Soldering
 - Soldering Iron of 30W or under at 350°C for 3 sec. max. or at 270°C for 5 sec. max.
- ◆ Wave Soldering
 - 260±5°C for 10 sec. max.
- ◆ Reflow Soldering.
 - Peak temperature: 245°C max. The time above 240°C must be 30 sec. max.
- ◆ Keep all actuators in "OFF" position during soldering and cleaning process

Package

| P/N | No. Of Pole | Dim. A | Quantity per Tube |
|-----------|-------------|---------|-------------------|
| NPH/S/T02 | 2 | 6.08mm | 85 |
| NPH/S/T03 | 3 | 8.62mm | 61 |
| NPH/S/T04 | 4 | 11.16mm | 47 |
| NPH/S/T05 | 5 | 13.70mm | 38 |
| NPH/S/T06 | 6 | 16.24mm | 32 |
| NPH/S/T07 | 7 | 18.78mm | 28 |
| NPH/S/T08 | 8 | 21.32mm | 24 |
| NPH/S/T10 | 10 | 26.40mm | 20 |
| NPH/S/T12 | 12 | 31.48mm | 16 |

Order Information



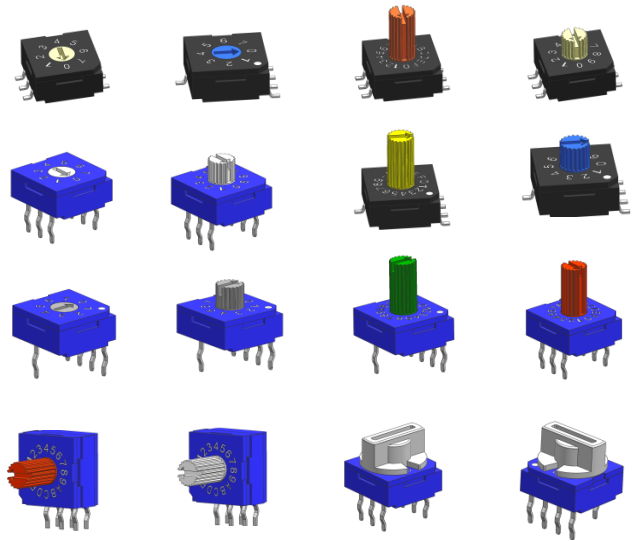


Features

- ◆ Sealed Construction, No Tape Seal Required
- ◆ Surface Mount, Thru-Hole and Right Angle 2.54 & 5.08mm
- ◆ Octal, Decimal and Hexadecimal Code in Real or Complement
- ◆ Gold-Plated Contacts
- ◆ Flush or Extended Rotors
- ◆ Knobs available
- ◆ Washable meet IP67

Specifications

- ◆ Contact Rating
 - Switching : 5VDC 20mA (Min. AC/DC 20mA 1µA)
 - Non Switching : Max. 50VDC 100mA
- ◆ Contact Resistance : 100mΩ Max
- ◆ Insulation Resistance : 1,000MΩ Min. at 100VDC
- ◆ Dielectric Strength : 250VAC for 1 minute
- ◆ Operating Force : 400gf/cm Max. (Standard)
: 200gf/cm Max. (N type)
- ◆ Life : 20,000 Steps
- ◆ Operating Temperature : -40°C ~+85°C
- ◆ Storage Temperature : -40°C ~+85°C
- ◆ Hand Soldering : 350°C 3 Sec. max
- ◆ Wave Soldering : 260±5°C for 10 sec. max.
- ◆ Reflow Soldering : Peak temp.: 245°C max. The time above 240 must be 30 sec. max.



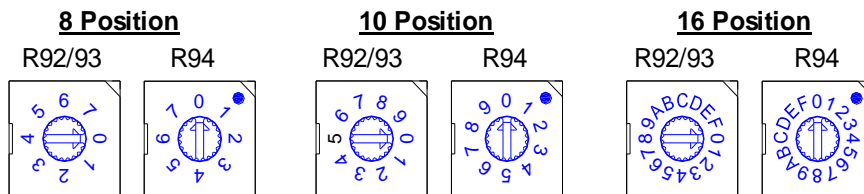
Code Format

| No. of positions | | (10 positions) | | | | | | | | | | (16 positions) | | | | | | |
|------------------|--------------------|----------------|---|---|---|---|---|---|---|---|---|----------------|---|---|---|---|---|---|
| | | (08 positions) | | | | | | | | | | | | | | | | |
| | | Position | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
| Code | Real code | 8 | | | | | | | | | | • | • | • | • | • | • | |
| | | 4 | | | | | • | • | • | • | | | | • | • | • | • | |
| | | 2 | | | • | • | | | | | | | | • | • | | • | • |
| | Complementary code | 8 | • | • | • | • | • | • | • | • | • | | | | | | | |
| | | 4 | • | • | • | • | | | | | • | • | • | • | | | | |
| | | 2 | • | • | | | • | • | | | • | • | | | • | • | | |
| | 1 | • | • | | | • | • | | | • | • | | | • | • | | | |

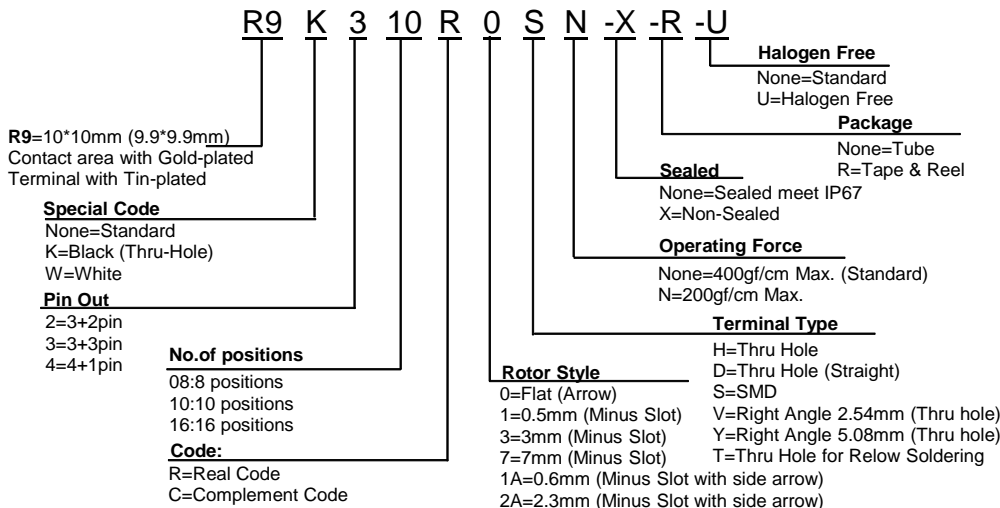
Package

| P/N | No. Of Pole | Quantity per Tube |
|-------------|--------------|-------------------|
| R92_H/D/T/S | 08 / 10 / 16 | 50 |
| R92_V/Y | 08 / 10 / 16 | 45 |
| R93_H/D/T/S | 08 / 10 / 16 | 50 |
| R93_V/Y | 08 / 10 / 16 | 45 |
| R94_H/D/T/S | 08 / 10 / 16 | 50 |
| R94_V | 08 / 10 / 16 | 45 |
| P/N | No. Of Pole | Quantity per Reel |
| R9_0/1S-R | 08 / 10 / 16 | 600 |
| R9_2/3S-R | 08 / 10 / 16 | 350 |
| R9_7S-R | 08 / 10 / 16 | 200 |
| R9_7H/T-R | 08 / 10 / 16 | 140 |

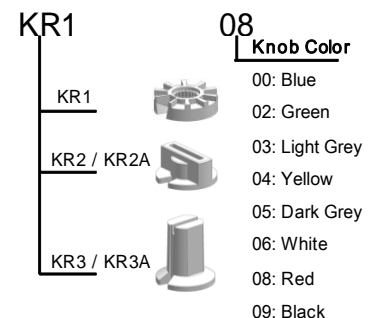
Position



Order Information



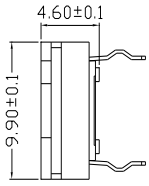
Knob Order Information



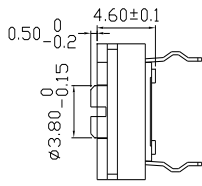


Rotor

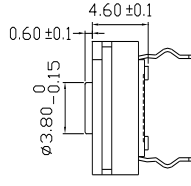
Flat



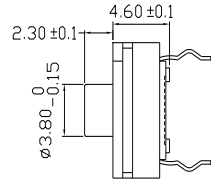
0.5mm



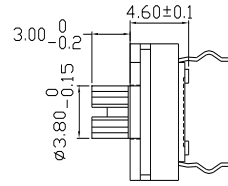
0.6mm



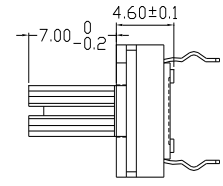
2.3mm



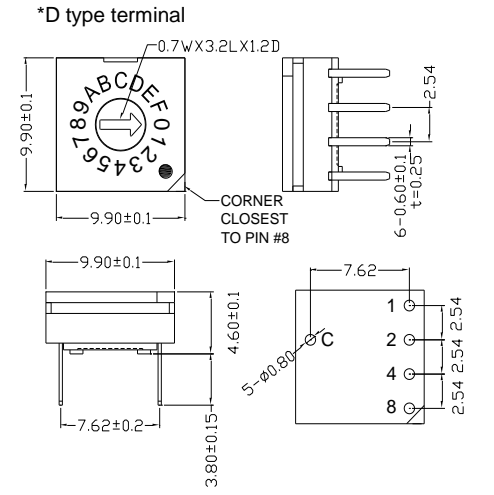
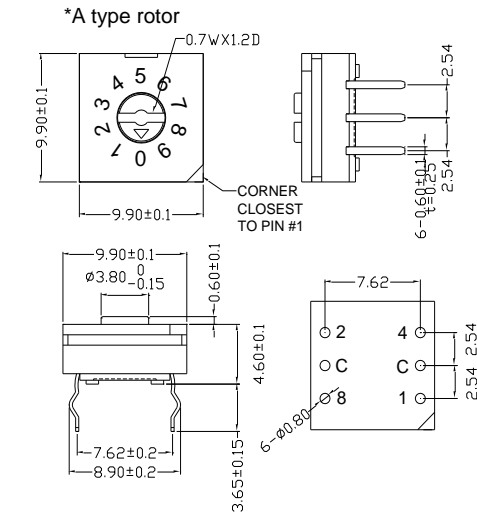
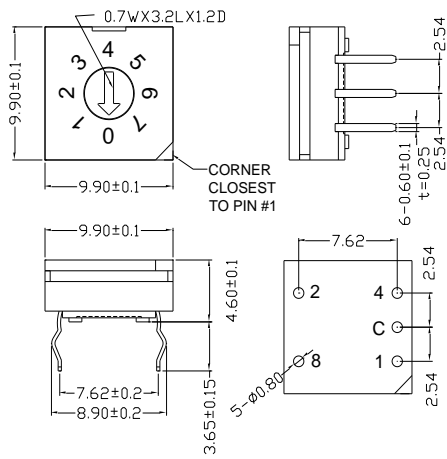
3mm



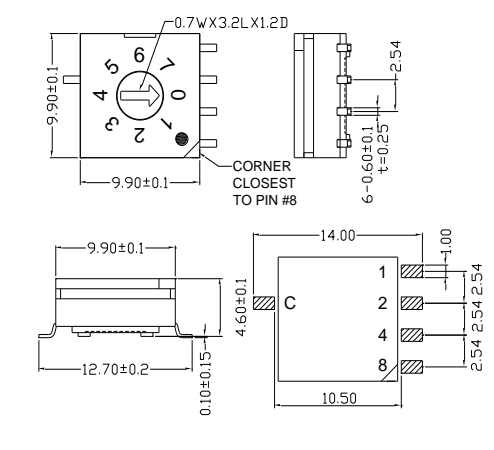
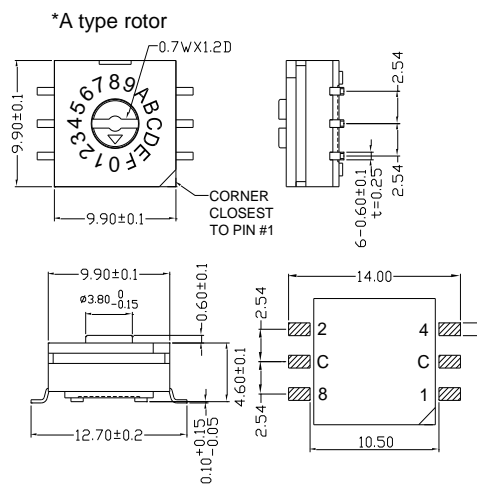
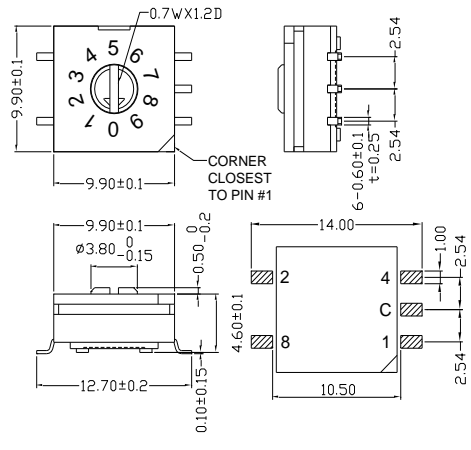
7mm



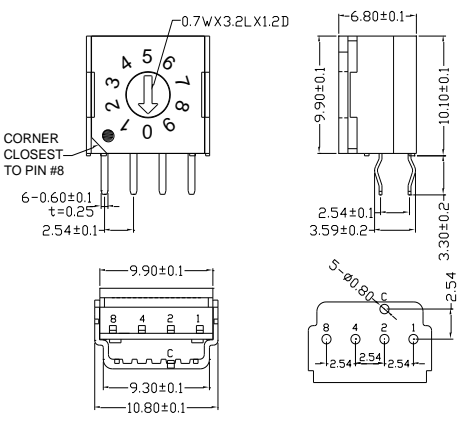
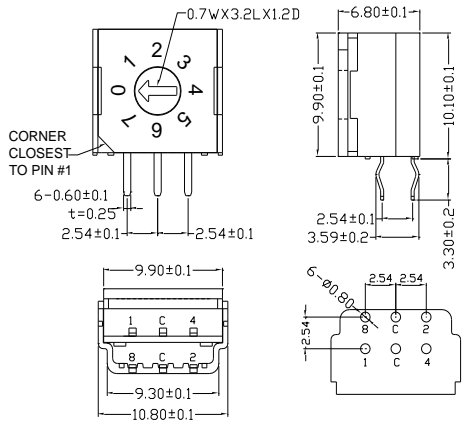
R9 - H/D (Thru-Hole)



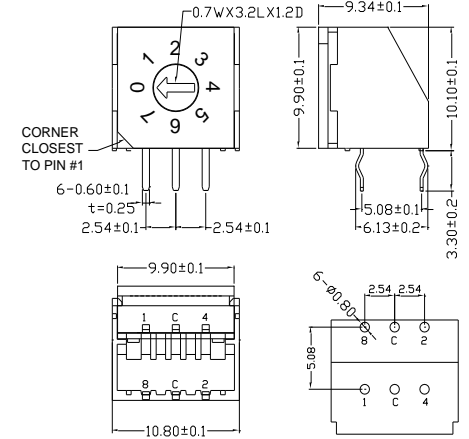
R9 - S (SMD)



R9 - V (Right Angle 2.54mm)



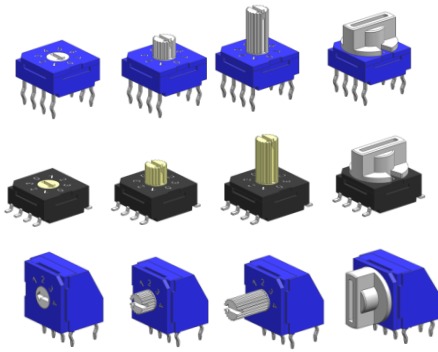
R9 - Y (Right Angle 5.08mm)





Features

- ◆ Washable Meet IP67
- ◆ Gold plated contacts
- ◆ Surface Mount, Thru-Hole and Right Angle
- ◆ Flush or Extended Rotors
- ◆ Knobs available



Standard Specifications :

| | |
|-----------------------------|---------------------|
| Operating temperature range | : -40°C ~ +85°C |
| Storage temperature range | : -25°C ~ +70°C |
| Sealing | : Washable "O" ring |
| Mechanical Life | : 20,000 Steps |

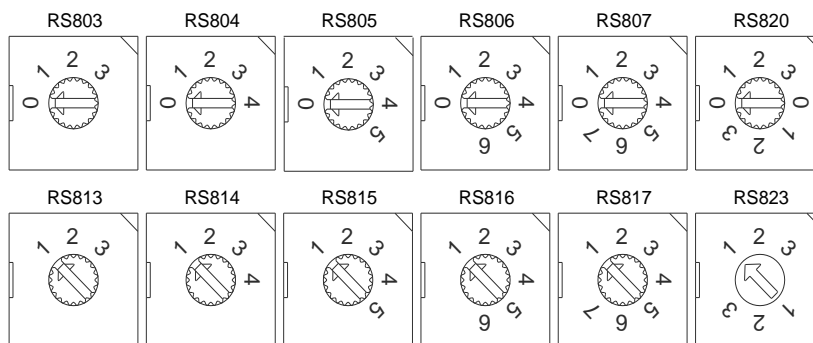
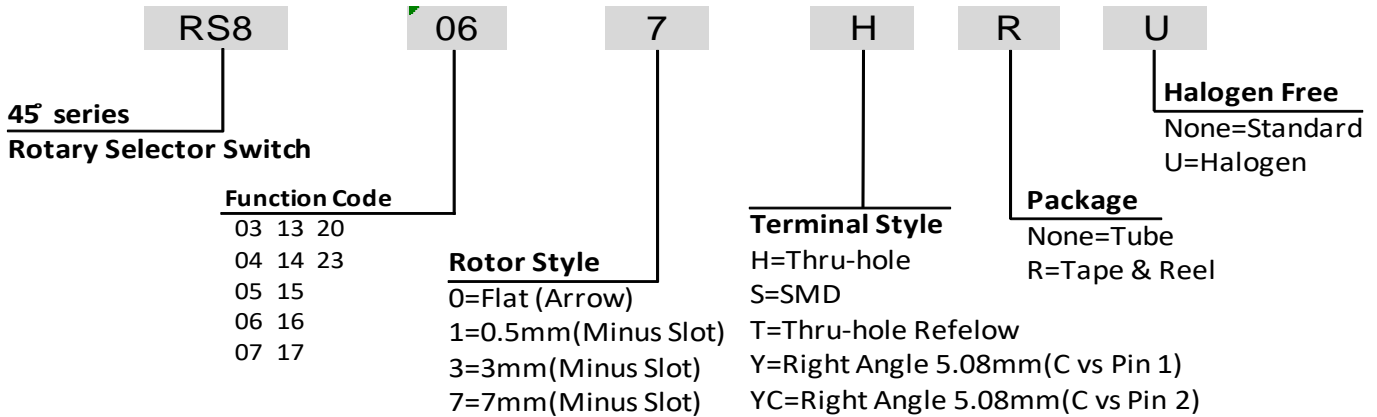
Electrical Characteristics

| | |
|---|-----------------|
| Contact rating : | |
| Non-switching | : DC 50V, 100mA |
| Switching | : DC 5V, 100mA |
| Minimum | : DC 20mV, 1μ A |
| Contact timing : Non-shorting | |
| Contact resistance (Initial/after operating life) : 60mΩ /100mΩ | |
| Insulation resistance : 100MΩ (DC 100V) Max. | |
| Dielectric strength : 300VAC/ 1 minute | |

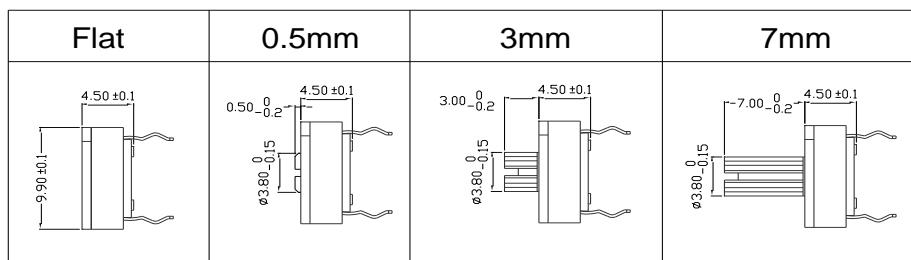
Soldering Information :

| | |
|------------------|---|
| Wave soldering | : 260±5°C for 5 sec. max. |
| Reflow soldering | : Peak temp. 245°C max. The time above 240 must be 30 sec. max. |
| Hand soldering | : 350°C 3 Sec. max. |

Order Information



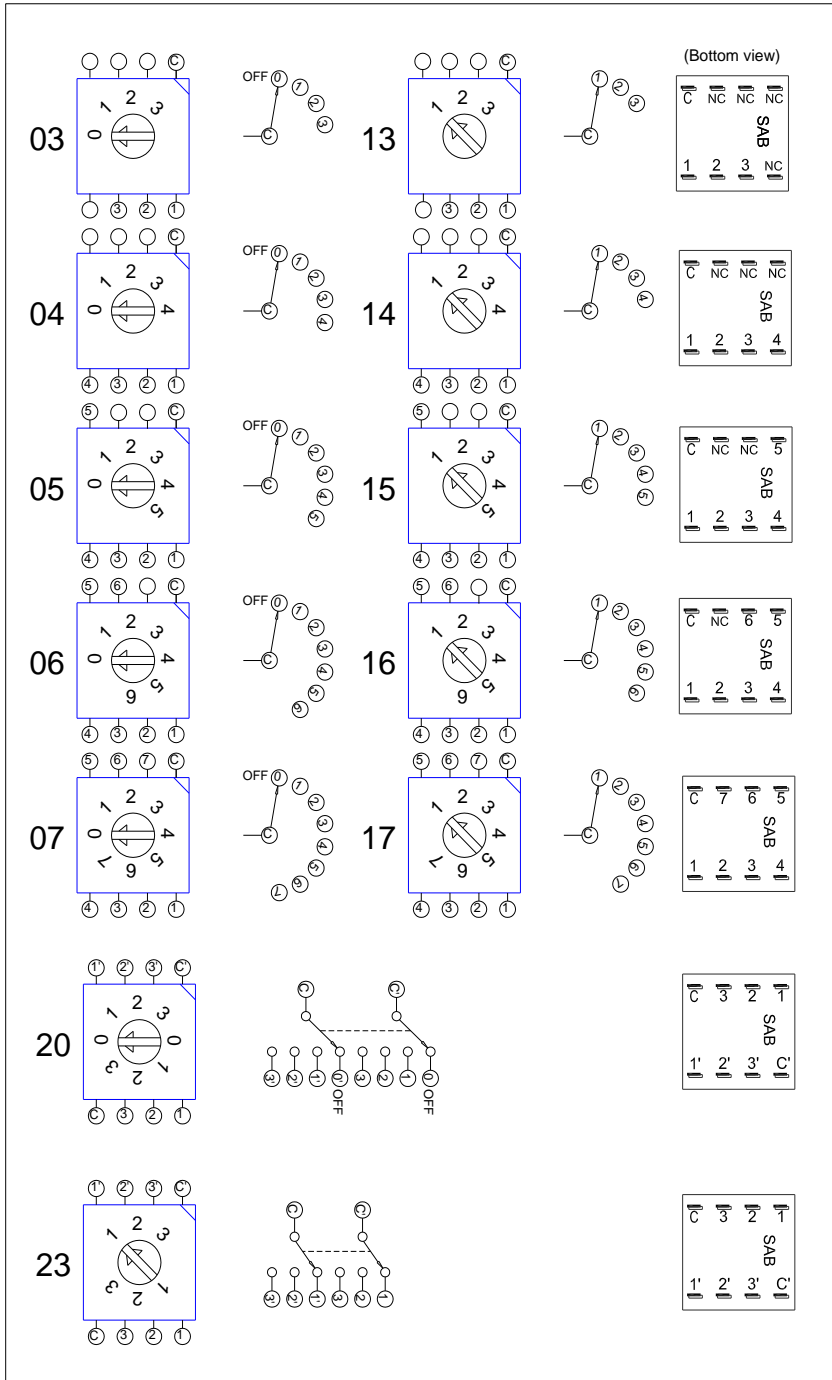
Rotor Style





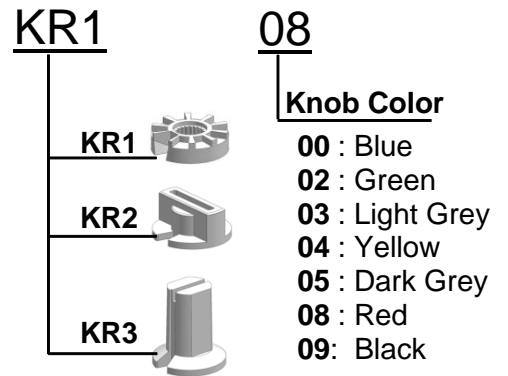
Schematic & Terminal Connection

Package



| P/N | Function Code | Quantity per Tube |
|------------|----------------|-------------------|
| RS8_H/T | 03,04,05,06,07 | 50 |
| RS8_H/T | 13,14,15,16,17 | 50 |
| RS8_H/T | 20,23 | 50 |
| RS8_S | 03,04,05,06,07 | 50 |
| RS8_S | 13,14,15,16,17 | 50 |
| RS8_S | 20,23 | 50 |
| RS8_Y | 03,04,05,06,07 | 45 |
| RS8_Y | 13,14,15,16,17 | 45 |
| RS8_Y | 20,23 | 45 |
| P/N | Function Code | Quantity per Reel |
| RS8_0/1S-R | 03,04,05,06,07 | 600 |
| RS8_0/1S-R | 13,14,15,16,17 | 600 |
| RS8_0/1S-R | 20,23 | 600 |
| RS8_3S-R | 03,04,05,06,07 | 350 |
| RS8_3S-R | 13,14,15,16,17 | 350 |
| RS8_3S-R | 20,23 | 350 |
| RS8_7S-R | 03,04,05,06,07 | 200 |
| RS8_7S-R | 13,14,15,16,17 | 200 |
| RS8_7S-R | 20,23 | 200 |
| RS8_7H/T-R | 03,04,05,06,07 | 140 |
| RS8_7H/T-R | 13,14,15,16,17 | 140 |
| RS8_7H/T-R | 20,23 | 140 |

Knob Order Information



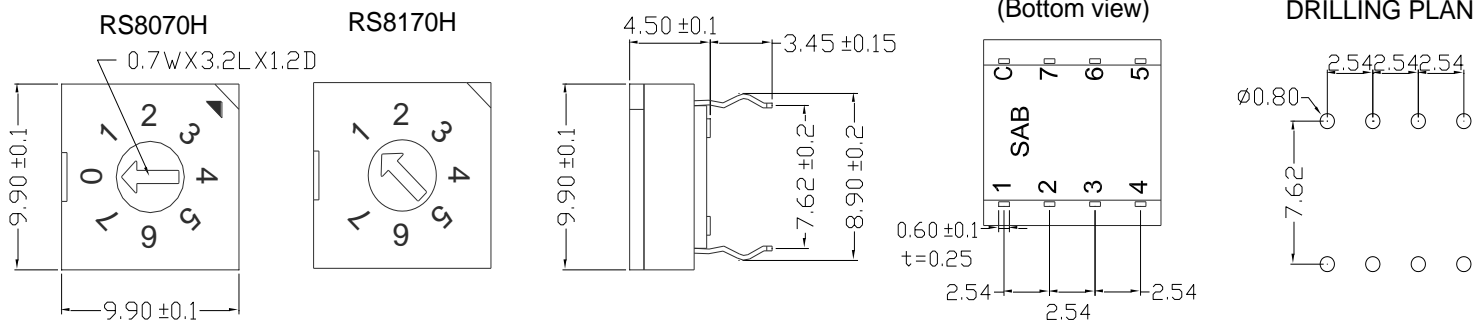
Dummy Terminals

| | |
|-------------|---------|
| 3 positions | ④ ⑤ ⑥ ⑦ |
| 4 positions | ⑤ ⑥ ⑦ |
| 5 positions | ⑥ ⑦ |
| 6 positions | ⑦ |
| 7 positions | -- |

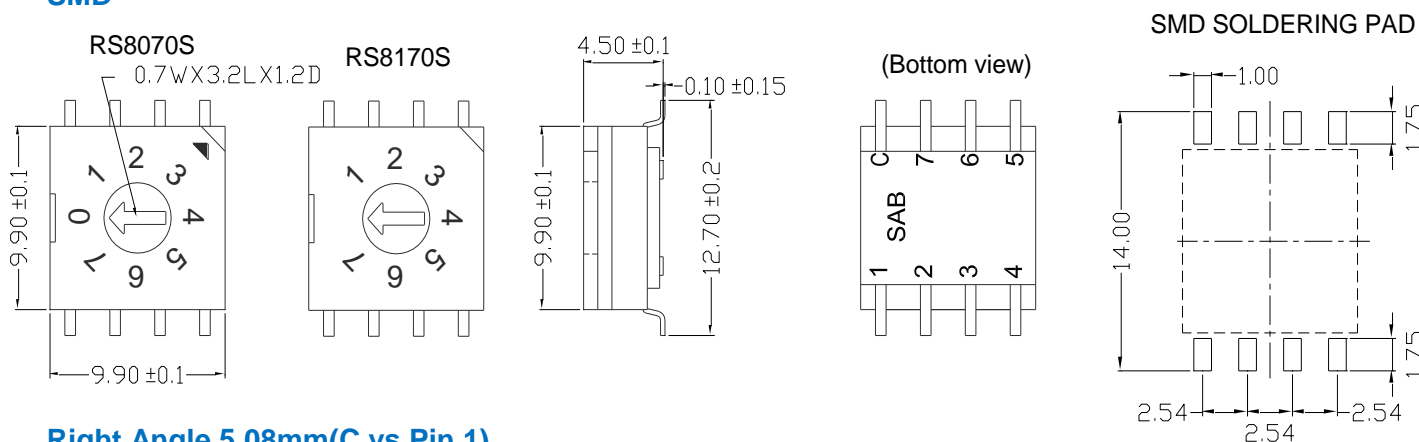
* NC= Dummy terminal

Outline Dimensions

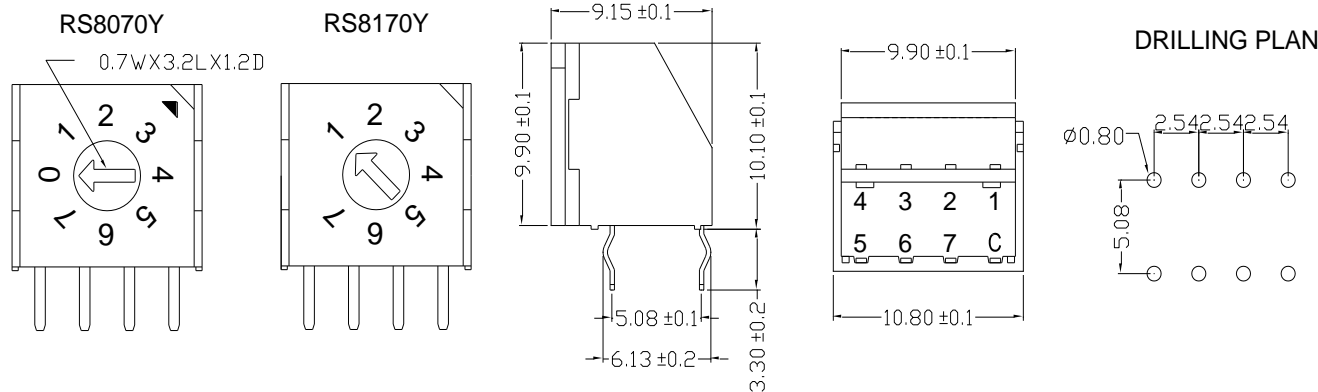
Thru-Hole



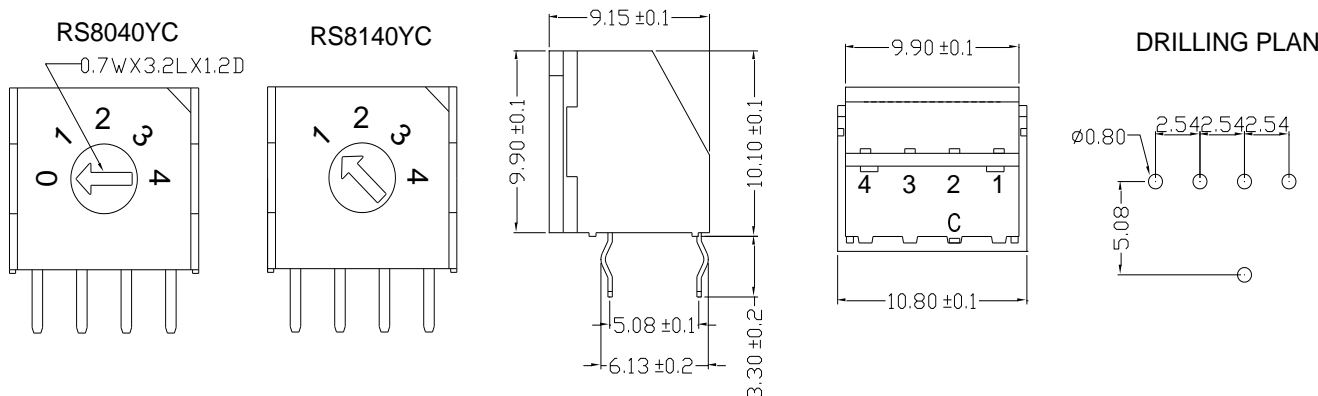
SMD



Right Angle 5.08mm(C vs Pin 1)

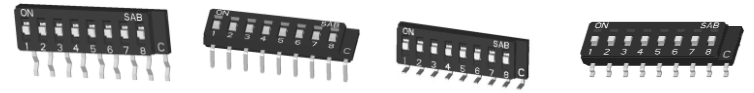


Right Angle 5.08mm(C vs Pin 2)

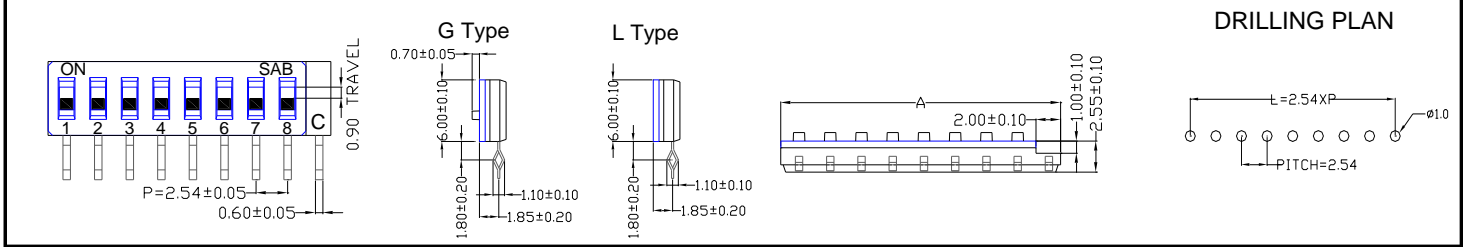


Features

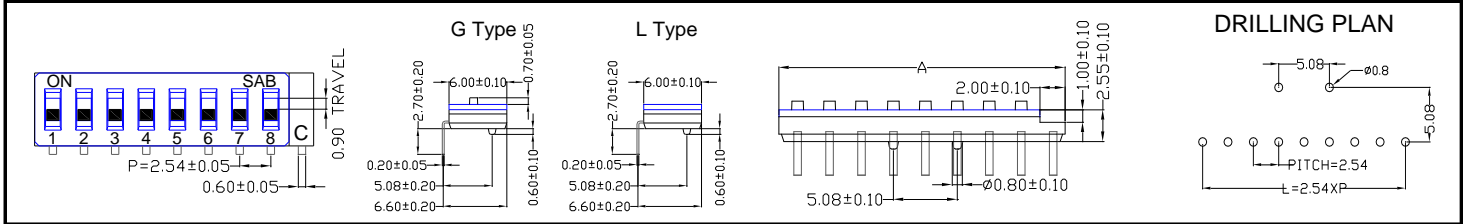
- ◆ Unique SMD type provided with Gull wing and L lead terminal types
- ◆ Easy operation: Raise and Flat Actuators without special tools needed
- ◆ Long life : 3,000 cycles
- ◆ End to end stackable in 2.54 center for full versions
- ◆ Heat resistance: 260°C for 10 sec.
- ◆ Save more than 50% of the PCB space compared with the standard DIP switch



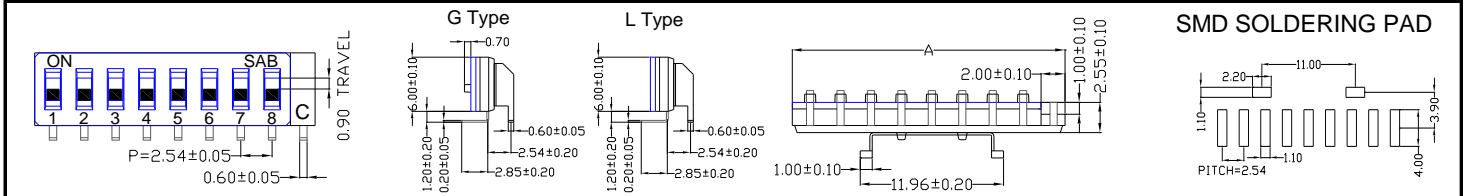
SIP



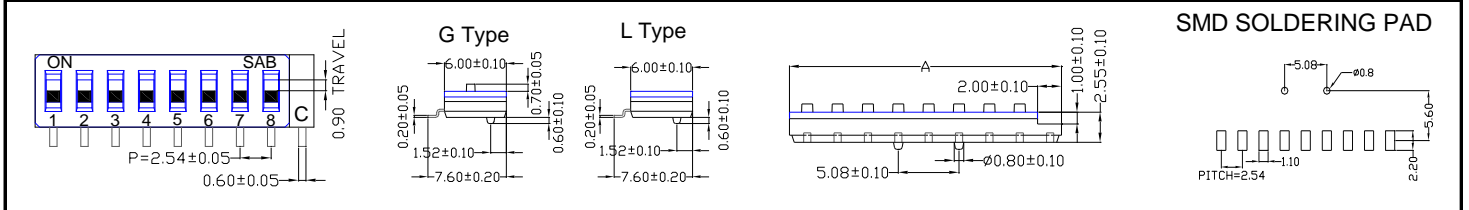
SIH



SIL



SIS



Specifications

- ◆ Contact Rating
 - Switching 25mA, 24VDC
 - Non-Switching 100mA, 50VDC
- ◆ Contact Resistance
 - Initial 50mΩ Max.
 - After Life Test 100mΩ Max.
- ◆ Insulation Resistance 100MΩ min at 500VDC
- ◆ Dielectric Strength 500VAC/ 1 minute
- ◆ Operating Force..... 1,000g Max.
- ◆ Mechanical Life..... 3,000 cycles
- ◆ Electrical Life..... 3,000 cycles

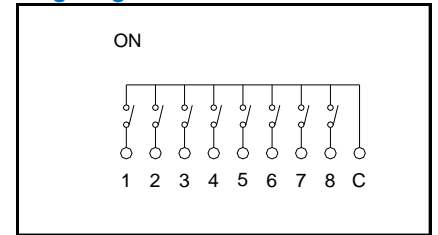
Materials

- ◆ **Cover & Base:** Thermoplastic UL 94V-0, Black
- ◆ **Actuator:** Thermoplastic UL 94-HB, White
- ◆ **Movable Contact:** Copper Alloy, Gold- or Pure-Tin-plated
- ◆ **Terminal Contact & Terminal:** Copper Alloy, Gold- or Pure-Tin-plated
- ◆ **Tape Sealed:** Polyimide film

Packaging Information

- ◆ Tube: SIP/ SIH/ SIS/ SIL
- ◆ Tape & Reel: SIS/ SIL
- ◆ Actuators all in "OFF" position

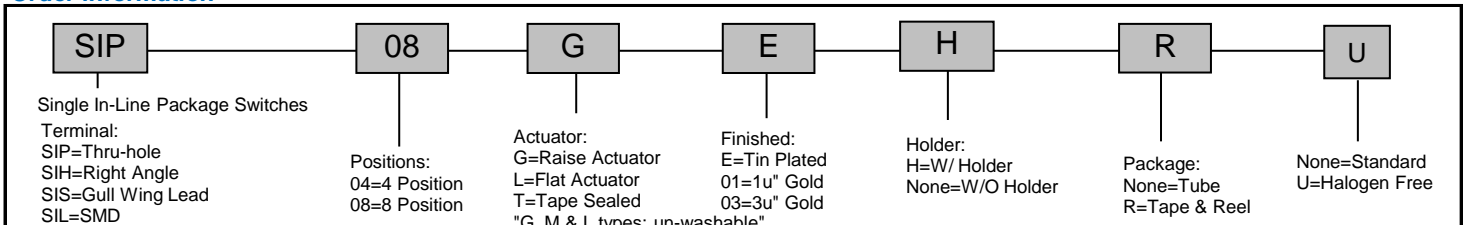
Wiring Diagram



Soldering Information

- ◆ Hand Soldering
 - Soldering Iron of 30W or under at 350°C for 3 sec. max. or at 270°C for 5 sec. max.
- ◆ Wave Soldering
 - 260±5°C for 10 sec. max.
- ◆ Reflow Soldering.
 - Peak temperature: 245 or 250°C max. The time above 240 or 245°C must be 30 sec. max.
- ◆ Keep all actuators in "OFF" position during soldering and cleaning process

Order Information



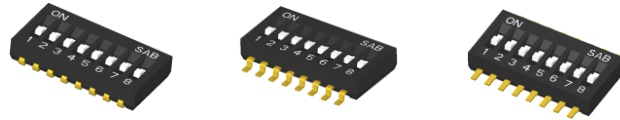
Package

| P/N | No. Of Pole | Dim. A | Quantity per Tube |
|-------|-------------|---------|-------------------|
| SIP02 | 2 | 7.52mm | 69 |
| SIP04 | 4 | 12.60mm | 41 |
| SIP06 | 6 | 17.68mm | 29 |
| SIP08 | 8 | 22.76mm | 23 |
| SIP10 | 10 | 27.84mm | 18 |
| SIP12 | 12 | 32.92mm | 16 |

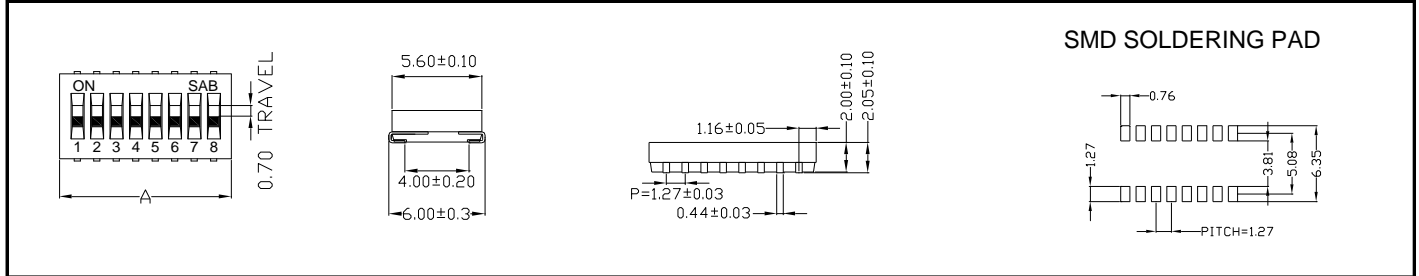
SOJ/P/F Series—Half Pitch DIP Switch

Features

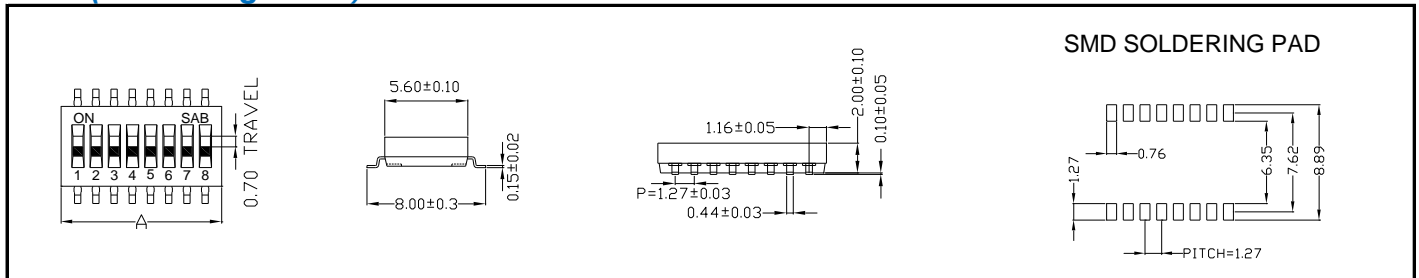
- ◆ Half Pitch(0.05 inch/ 1.27mm) terminal
- ◆ Standard gold-plated electrical contacts
- ◆ Tape sealed version available to ensure washability
- ◆ Singular pole: 1, 3 and 5 available
- ◆ Gull Wing Lead, J Lead and Flat Lead



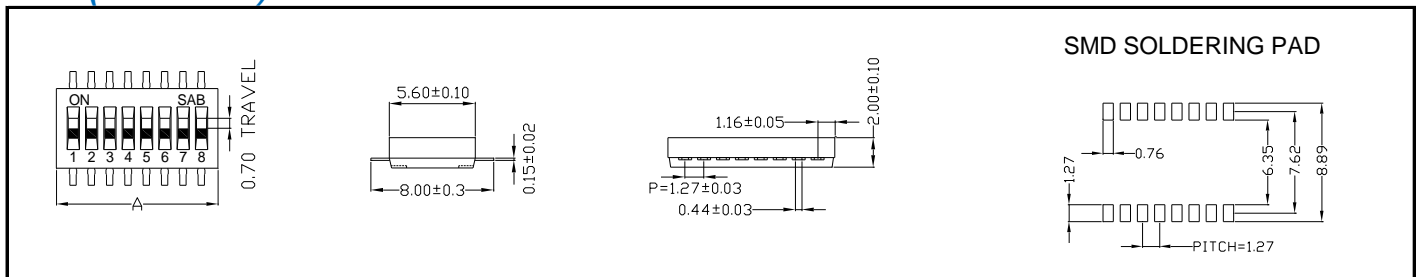
SOJ (J Lead)



SOP (Gull Wing Lead)



SOF (Flat Lead)



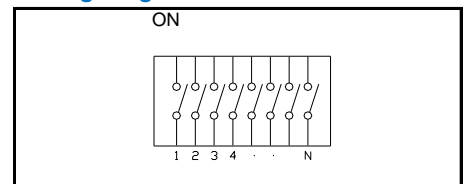
Specifications

- ◆ Contact Rating
 - Switching 25mA, 24VDC
 - Non-Switching..... 100mA, 50VDC
- ◆ Contact Resistance
 - Initial 50mΩ Max.
 - After Life Test 100mΩ Max.
- ◆ Insulation Resistance 100MΩ min at 500VDC
- ◆ Dielectric Strength 300VAC/ 1 minute
- ◆ Operating Force..... 500g Max.
- ◆ Mechanical Life 2,000 cycles
- ◆ Electrical Life 1,000 cycles

Materials

- ◆ **Cove & Base:** Thermoplastic 94V-0, Black
- ◆ **Actuator:** Thermoplastic UL 94-HB, White
- ◆ **Movable Contact:** Copper Alloy, Gold- or Pure-Tin-plated
- ◆ **Terminal Contact & Terminal:** Copper Alloy, Gold- or Pure-Tin-Plated
- ◆ **Tape Sealed:** Polyimide Film

Wiring Diagram



Packaging Information

- ◆ Tube: SOJ/ SOP
- ◆ Tape & Reel: SOJ/ SOP/ SOF
- ◆ Actuators all in "OFF" position

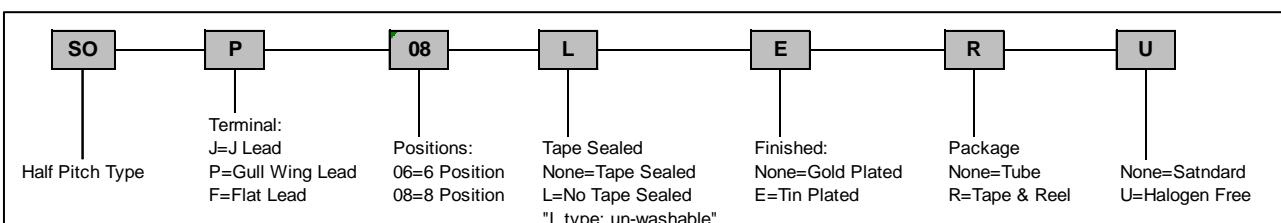
Soldering Information

- ◆ Hand Soldering
 - Soldering Iron of 30W or under at 300°C for 4±1 sec. max.
- ◆ Reflow Soldering
 - Peak temperature: 260°C max. The time above 255°C must be 30 sec. max.
- ◆ Keep all actuators in "OFF" position during soldering and cleaning process

Package

| P/N | No. Of Pole | Dim. A | Quantity per Tube |
|-------|-------------|---------|-------------------|
| SOP01 | 1 | 2.31mm | 93 (Half) |
| SOP02 | 2 | 3.58mm | 125 |
| SOP03 | 3 | 4.85mm | 90 |
| SOP04 | 4 | 6.12mm | 70 |
| SOP05 | 5 | 7.39mm | 60 |
| SOP06 | 6 | 8.66mm | 50 |
| SOP08 | 8 | 11.20mm | 40 |
| SOP10 | 10 | 13.74mm | 30 |
| SOP12 | 12 | 16.28mm | 25 |

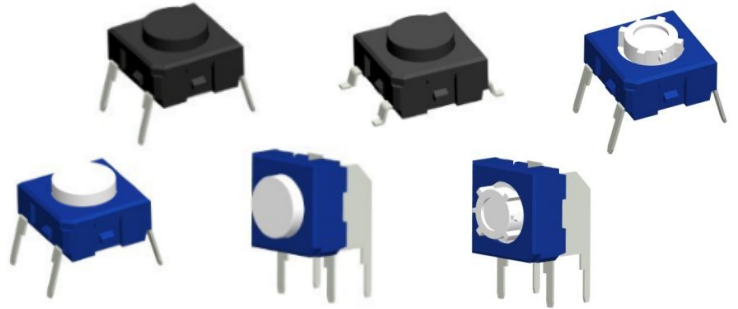
Order Information

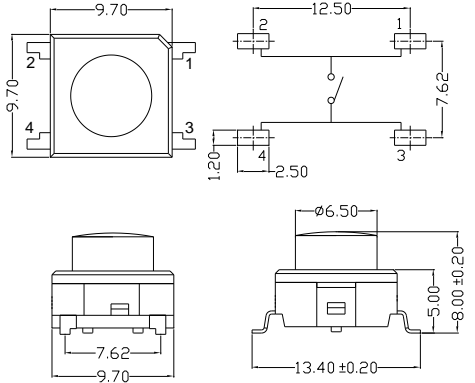
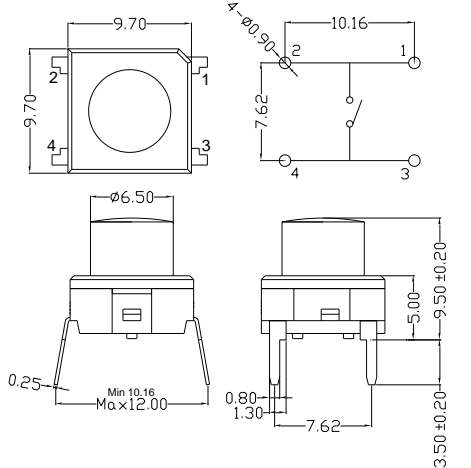
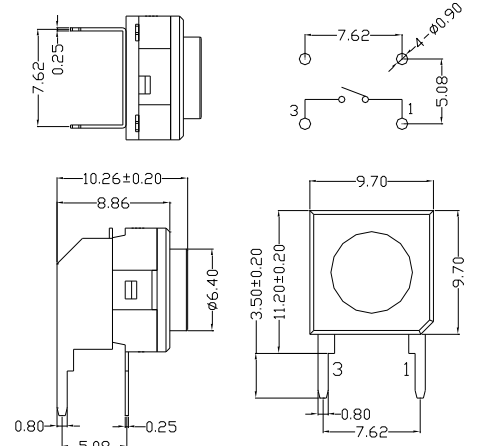
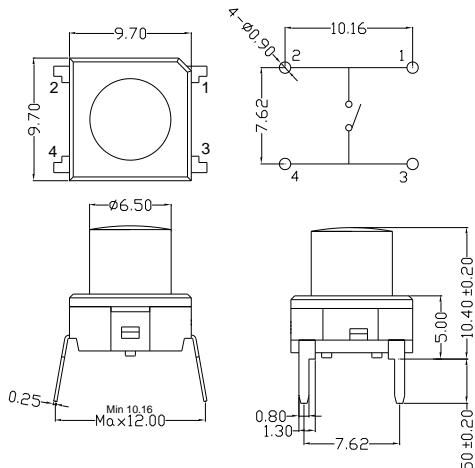
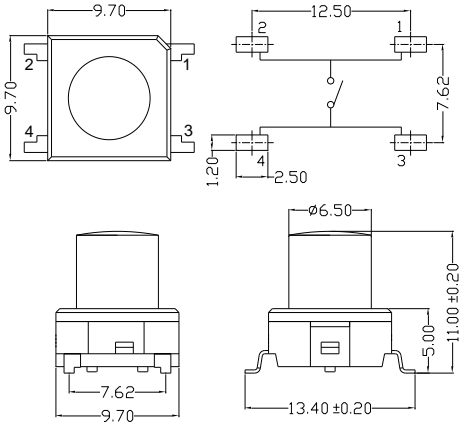
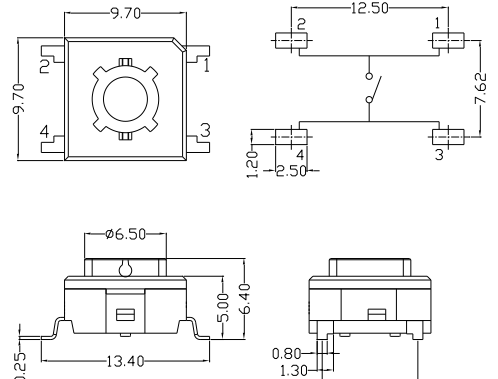


Technical Data

- ◆ Through-hole/ SMD/ Right angle
- ◆ Single pole/ Momentary
- ◆ 50mA/ 24VDC
- ◆ 10,000,000 operations life time(Max.)
- ◆ Meet IP67
- ◆ Contact resistance : < 30mΩ (Initially)
- ◆ Insulation resistance : > 10MΩ
- ◆ Basic temp.: -40/ +115°C
- ◆ High temp.: -40/ +160°C
- ◆ Max actuation force : 100N for 10 Sec.
- ◆ Actuation force : 3.5N±1N(Standard)

PATENTED



| | | |
|--|--|--|
| <p align="center">3CS-8.0</p> <p align="center">Dimensions (SMD)</p>  | <p align="center">3CH/T-9.5</p> <p align="center">Dimensions (Through-hole)</p>  | <p align="center">3CY</p> <p align="center">Dimensions (Right angle)</p>  |
| <p align="center">3CH/T-10.4</p> <p align="center">Dimensions (Through-hole)</p>  | <p align="center">3CS-11.0</p> <p align="center">Dimensions (SMD)</p>  | <p align="center">3ES</p> <p align="center">Dimensions (SMD)</p>  |

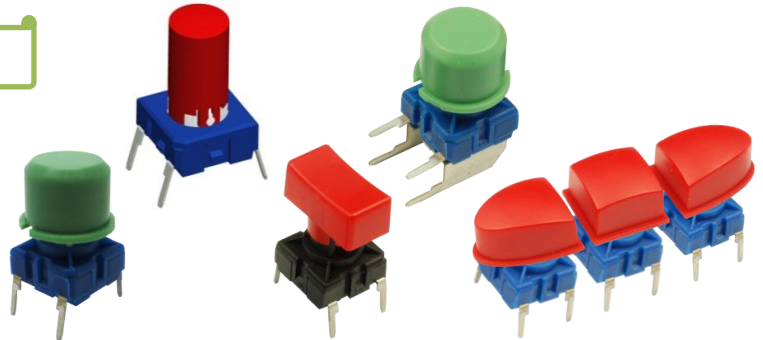
Order Information

| | | | | | | | | | |
|----------------------------|----------|----------|--------------------------------------|---------------------------|----------|--------------------|-----------------------|----------------|----------|
| TM | 3 | C | H | 3 | U | - | 8.0 | - | R |
| Basic Switch series | | | Mounting | Actuation Force | | X: Standard | Total Height | Package | |
| 3C | | | H: Thru-hole | 2: 250gf/ 2.5N | | U: Halogen Free | None: 6.4mm(Standard) | None: Tube | |
| 3E | | | S: SMD | 3: 350gf/ 3.5N (Standard) | | | 6.7: 6.7mm | R: Tape & Reel | |
| | | | Y: Right angle | 6: 650gf/ 6.5N | | | 8.0: 8.0mm | | |
| | | | T: Thru-hole for Reflow Soldering | | | | 9.5: 9.5mm | | |
| | | | | | | | 10.4: 10.4mm | | |
| | | | | | | | 11.0: 11.0mm | | |

Technical Data

- ◆ Through-hole/ SMD/ Right angle
- ◆ Single pole/ Momentary
- ◆ 50mA/ 24VDC
- ◆ 10,000,000 operations life time(Max.)
- ◆ Meet IP67
- ◆ Contact resistance : < 30mΩ (Initially)
- ◆ Insulation resistance : > 10MΩ
- ◆ Basic temp.: -40/ +115°C
- ◆ High temp.: -40/ +160°C
- ◆ Max actuation force : 100N for 10 Sec.
- ◆ Actuation force : 3.5N±1N(Standard)

PATENTED



| | | |
|--|---|---|
| <p>3FH/T</p> <p>Dimensions (Through-hole)</p> | <p>3FS</p> <p>Dimensions (SMD)</p> | <p>3FY</p> <p>Dimensions (Right angle)</p> |
| <p>3FS+1D7</p> <p>Dimensions (SMD)</p> | <p>3ES</p> <p>Dimensions (SMD)</p> | <p>CAP</p> <p>1D7 1T 1U 1V</p> <p>1S 2IS</p> <p>Switch overall height W/ 1S: 16.0/19.0/22.5mm Switch overall height W/ 2IS: 12.0/15.0/16.5mm</p> <p>CAP SET</p> <p>1U+1V 1T+1V</p> |

Order Information

Switch codes

| | | | | | | |
|---------------|-----------------------------------|---------------------------|-------------|-----------------|---|----------------|
| TM | 3F | S | 3 | U | - | R |
| Switch W/ Cap | Mounting | Actuation Force | X: Standard | U: Halogen Free | | Package |
| 3F | H: Thru-hole | 2: 250gf/ 2.5N | | | | None: Tube |
| 3E | S: SMD | 3: 350gf/ 3.5N (Standard) | | | | R: Tape & Reel |
| | Y: Right angle | 6: 650gf/ 6.5N | | | | |
| | T: Thru-hole for Reflow Soldering | | | | | |

Cap codes

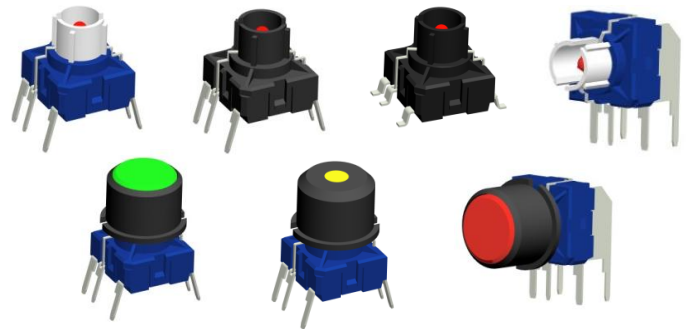
| | |
|------------|------------------------------|
| 1D5 | 8 |
| Cap for 3F | Cap Color codes |
| 1D5 / 1D7 | 00: Blue 01: Frosted |
| 1S | 02: Green 11: Transparent |
| 1T | 03: Light Grey |
| 1U | 04: Yellow |
| 1V | 05: Dark Grey |
| Cap for 3E | 06: White |
| 2D5 / 2D7 | 08: Red |
| 2IS | 09: Black |



Technical Data

- ◆ Through-hole/ SMD
- ◆ Single pole/ Momentary
- ◆ 50mA/ 24VDC
- ◆ 10,000,000 operations life time(Max.)
- ◆ Meet IP67
- ◆ Contact resistance : < 30mΩ (Initially)
- ◆ Insulation resistance : > 10MΩ
- ◆ Basic temp.: -40/ +115°C
- ◆ High temp.: -40/ +160°C
- ◆ Max actuation force : 100N for 10 Sec.
- ◆ Actuation force : 3.5N±1N(Standard)

PATENTED



| 6FH/T (w. LED) | 6FS (w. LED) | 6FY (w. LED) |
|---------------------------------------|---------------------------------------|---------------------------------------|
| <p>PCB layout and Circuit Diagram</p> | <p>PCB layout and Circuit Diagram</p> | <p>PCB layout and Circuit Diagram</p> |
| <p>6FH/T + 1E (w. LED)</p> | <p>6FS + 1D7/1F (w. LED)</p> | <p>6FY + 1D7/1F/1E (w. LED)</p> |

Order Information

Switch codes

TM **6F** **S** **3** **U** [] [] [] - **R**

LED Switch



Mounting

- H: Thru-hole
- S: SMD
- Y: Right angle
- T: Thru-hole for Reflow Soldering

Actuation Force

- 2: 250gf/ 2.5N
- 3: 350gf/ 3.5N(Standard)
- 6: 650gf/ 6.5N

X: Standard

U: Halogen Free

LED Codes

- 01 Blue
- 21 Green
- 42 Yellow
- 61 White
- 82 Red
- 2142 Green/Yellow
- 8221 Red/Green
- 8242 Red/Yellow
- 0182 Blue/Red

Package

- None: Tube
- R: Tape & Reel

Cap codes

1 F [] [] []

1D5



Cap Color

- 00 Blue
- 02 Green
- 03 Light Grey
- 04 Yellow
- 05 Dark Grey
- 06 White
- 08 Red
- 09 Black
- 01 Frosted
- 11 Transparent

Lens

- 0 Blue
- 1 Trans
- 2 Green
- 4 Yellow
- 6 White
- 8 Red

Product Description

TR series offers extremely high switching reliability with the need of very little space. They can be arranged as single keys, in rows or key blocks. When arranged under an overlay, TR keyswitches should be combined with plungers.

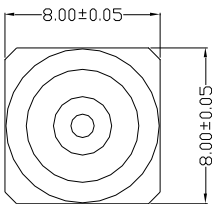
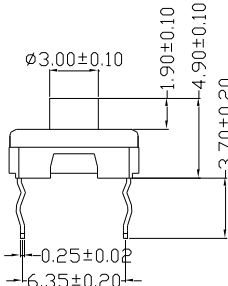
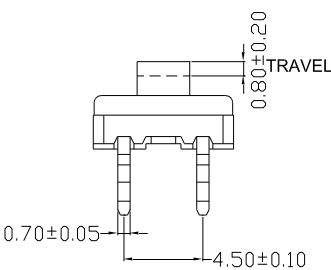
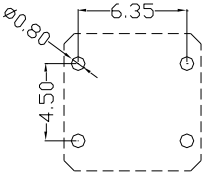
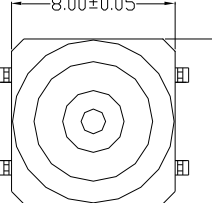
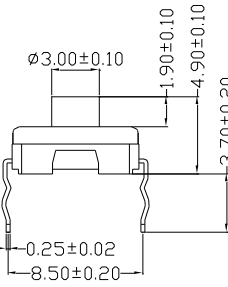
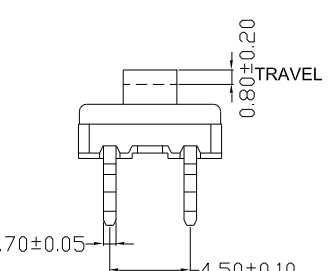
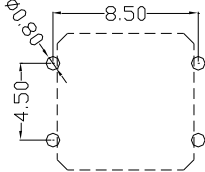
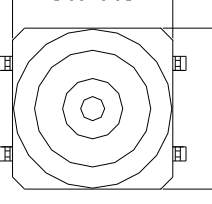
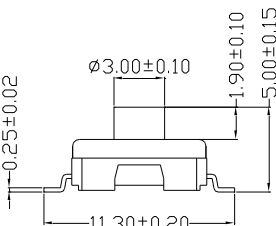
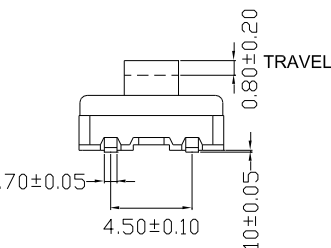
The features at a glance

- Suitable for most common soldering methods:
 - Wave soldering bath for print versions
 - Reflow soldering (SMD)
 - Manual soldering
- 5,000,000 operations
- Actuation Force: 250gf, 350gf and 650gf

Specifications

| | |
|--|---|
| Contact rating | 42V AC/DC, 100mA |
| Contact resistance | 100mΩ max.(Initial) |
| Insulation resistance | 100MΩ bei 100V DC |
| Dielectric strength | 250V DC, 50 Hz for the duration of 1 minute |
| Operating temperature | -40 °C to + 80 °C |
| Resistance to constant environment | according to IEC 600 68-2-3 and 2-30 |
| Resistance at variable environment | according to IEC 600 68-2-14 and 2-33 |
| Mechanical life | 5,000,000 operations |
| Solderability / Solder heat resistance PCB version | IEC 600 68-2-20 |
| Solderability / Solder heat resistance SMD version | EN 61760-1 and DIN IEC 600-68-2-58 |
| Flammability of materials | UL 94 HB |
| Water proofing | meet IP67 |
| Actuation force | 3.5N +/- 0.6N(Standard) |
| Mounting | on PC-board THT and SMD type |



| TR8 | | Dimensions | | | |
|---------------------------------|---|---|--|---|---|
| Solder terminal for PCB, inward | <p>TR8H1</p>  |  |  | <p>DRILLING PLAN</p>  | |
| | Solder terminal for PCB, outward | <p>TR8H2</p>  |  |  | <p>DRILLING PLAN</p>  |
| | | SMD gullwing terminal | <p>TR8S</p>  |  |  |

Switch + Plunger



| TR8 | | Dimensions | |
|-------------------------|---------------------|---------------------------------|--|
| Plunger PLG 8.0x6.5 | <p>PLG 8.0x6.5</p> | | |
| | | | |
| Plunger PLG 8.0x12.5 | <p>PLG 8.0x12.5</p> | | |
| | | | |
| | | <p>DRILLING PLAN</p> | |
| | | <p>SMD SOLDERING PAD</p> | |

Order information

| | | | | | | |
|------------|---|--|----------|---|----------|--|
| TR8 | H1 | 3 | — | R | — | U |
| TR8 series | Mounting H1: Thru-hole(inward) H2: Thru-hole(outward) S: SMD | Actuation Force 2: 250gf/ 2.5N 3: 350gf/ 3.5N (standard) 6: 650gf/ 6.5N | | Packing None: Tube R: Tape & Reel | | None: RoHS & REACH compliant (standard) U: Halogen Free |

Plunger codes

- PLG 8.0x6.5mm
- PLG 8.0x7.0mm
- PLG 8.0x12.5mm

Product Description

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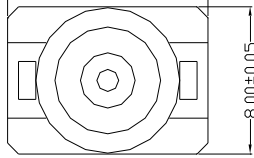
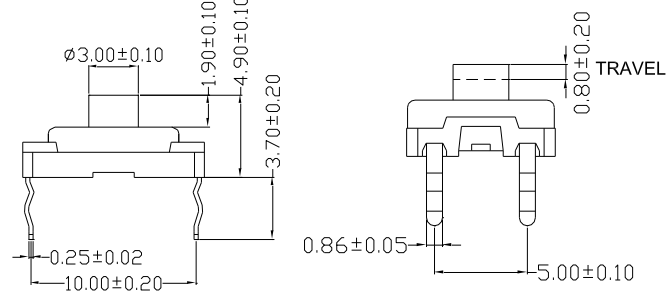
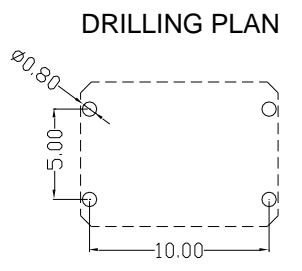
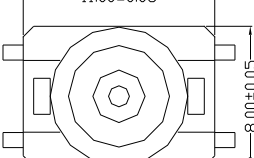
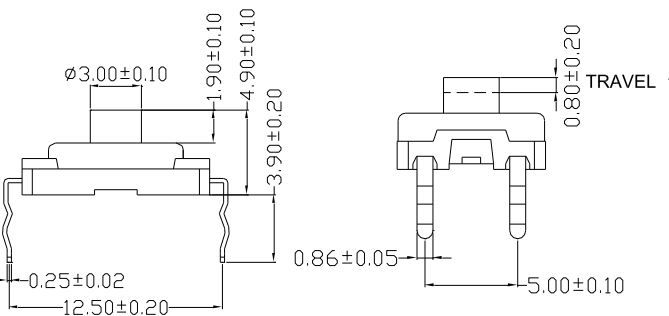
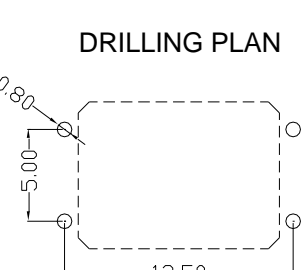
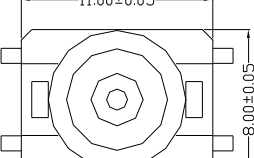
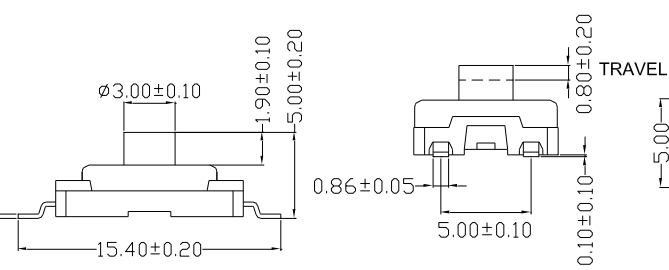
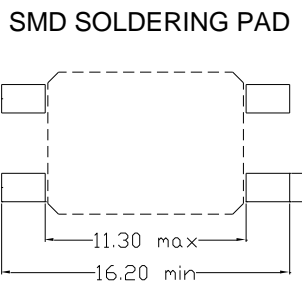
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| Flammability of materials | UL 94 HB |
| Water proofing | meet IP67 |
| Actuation force | 3.5N +/- 0.6N(Standard) |
| Mounting | on PC-board THT and SMD type |



| TR12 | | Dimensions | |
|---|--|--|---|
| Solder terminal for PCB, inward | TR12H1  |  | DRILLING PLAN  |
| Solder terminal for PCB, outward | TR12H2  |  | DRILLING PLAN  |
| SMD gullwing terminal | TR12S  |  | SMD SOLDERING PAD  |

Switch + Plunger / Cap



| TR12 | | Dimensions |
|--------------------------------------|----------------------------|------------|
| <p>Plunger for under Foil</p> | <p>PLG 11.5X6.5</p> | |
| <p>CAP for under Foil</p> | <p>C12</p> | |
| <p>CAP for Legend</p> | <p>C11</p> | |

Order information

TR12

TR12 series

H1

Mounting

- H1: Thru-hole(inward)
- H2: Thru-hole(outward)
- S: SMD

3

Actuation Force

- 2: 250gf/ 2.5N
- 3: 350gf/ 3.5N (standard)
- 6: 650gf/ 6.5N

R

Packing

- None: Tube
- R: Tape & Reel

U

None: RoHS & REACH compliant (standard)

U: Halogen Free

Plunger/Cap codes

- PLG 11.5x6.5mm
- C11: 11mm Square(for Legend)
- C12: 11mm Square

Cap Color codes

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