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# SERIES: RDS3-1012-RA | DESCRIPTION: ROTARY DIP SWITCH

## FEATURES

- 4, 8, 10, & 16 positions
- removable cap options
- 2.54 & 5.08 pitch



RoHS

## SPECIFICATIONS

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| rated voltage | switching<br>non-switching | | | 42<br>42 | Vdc<br>Vdc |
| rated current | switching<br>non-switching | | | 150<br>200 | mA<br>mA |
| withstanding voltage | for 1 minute | | 250 | | Vac |
| contact resistance | | | | 80 | mΩ |
| insulation resistance | for 1 minute at 250 Vdc | 100 | | | MΩ |
| operating torque | | | | 700 | gf*cm |
| actuator travel | continuous rotation | | 360 | | degrees |
| operating temperature | | -40 | | 85 | °C |
| storage temperature | | -40 | | 85 | °C |
| life | at 42 Vdc, 150 mA, 15~20 cycles/minute | | 10,000 | | steps |
| flammability rating | see material tables | | | | |
| RoHS | yes | | | | |

## SOLDERABILITY

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| hand soldering | for maximum 3 seconds | | | 350 | °C |
| wave soldering | for maximum 5 seconds | | | 260 | °C |

## PART NUMBER KEY

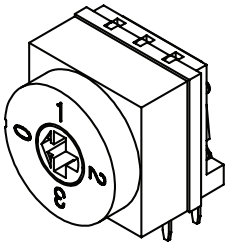
**RDS3 - XXS - 1012 - X - RA - XXX - D**

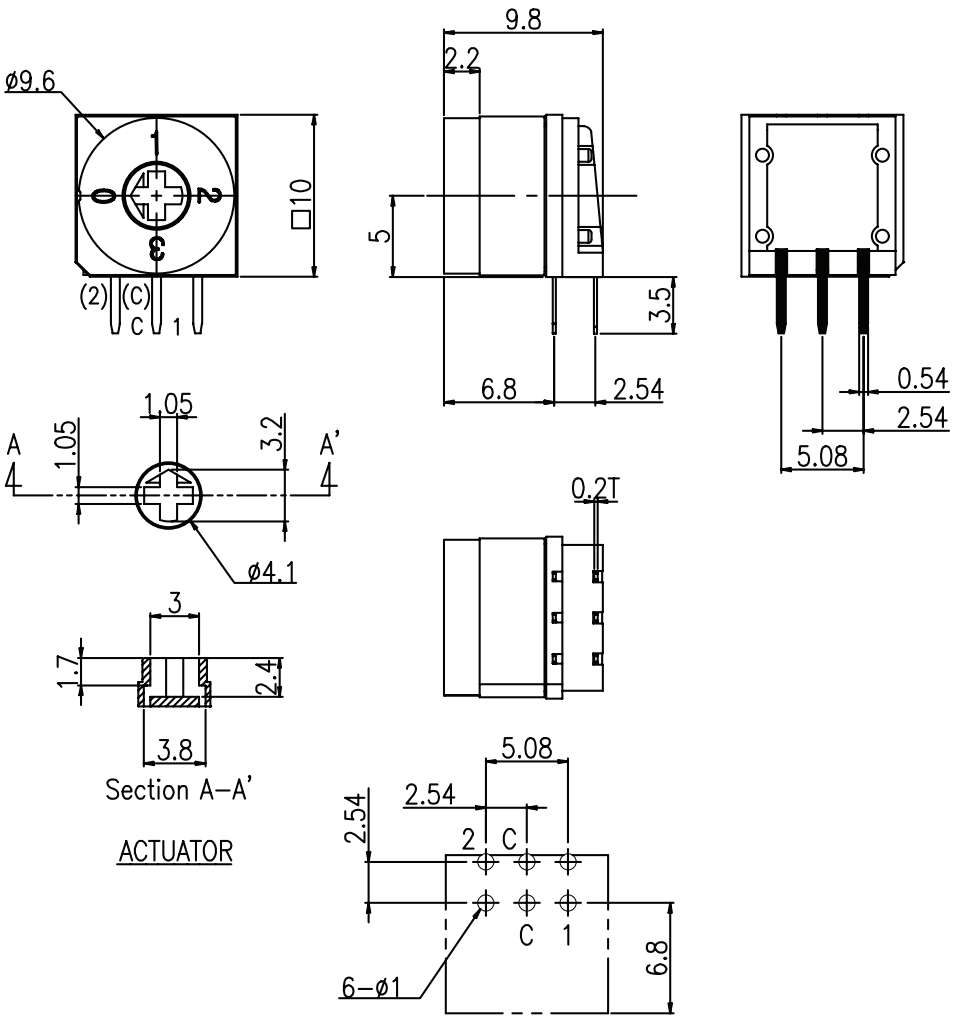
- RDS3 — Base Number
- XX — No. of Positions:
  - 4 = 4 Positions
  - 8 = 8 Positions
  - 10 = 10 Positions
  - 16 = 16 Positions
- X — Actuator Cap:
  - "blank" = Without Cap
  - 1 = Notched Cap
  - 2 = Raised Slotted Cap
  - 3 = Numbered Dial
- XXX — Pitch:
  - 254 = 2.54 mm
  - 508 = 5.08 mm

## MECHANICAL DRAWING (4 POSITION, 2.54 MM PITCH)

units: mm
tolerance: ±0.3 mm
unless otherwise specified

| DESCRIPTION | MATERIAL | PLATING/COLOR |
|---|---|---|
| actuator | POM (UL94HB) | gray |
| cover | PA66 (UL94V-0) | light white |
| base | PA66 (UL94V-0) | black |
| terminals | phosphorus bronze | Ni/Au |





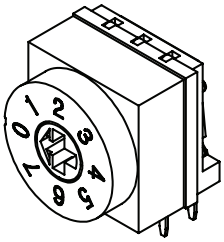

Recommended PCB Layout
Top View

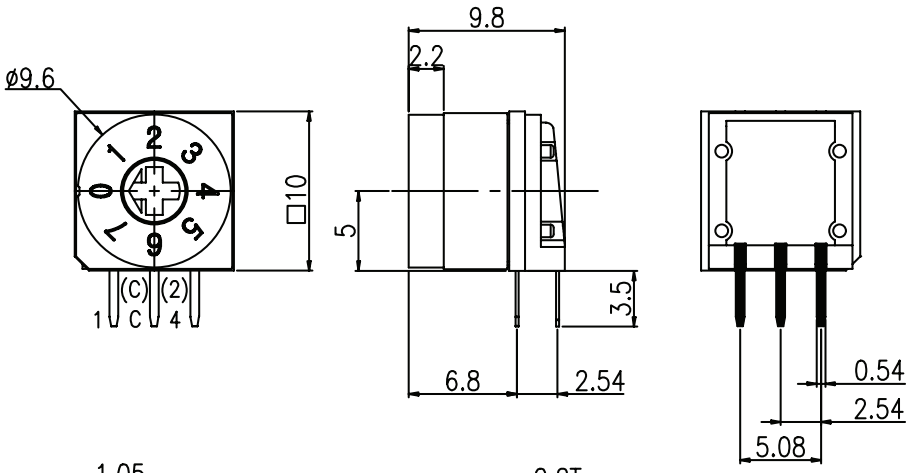
| ON ● | | | | |
|---|---|---|---|---|
| OFF ○ | | CODE | | |
| TYPE | POS | C | 1 | 2 |
| 4 POSITION | 0 | ● | ○ | ○ |
| | 1 | ● | ● | ○ |
| | 2 | ● | ○ | ● |
| | 3 | ● | ● | ● |

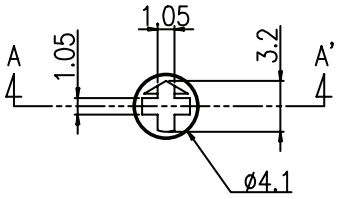
## MECHANICAL DRAWING (8 POSITION, 2.54 MM PITCH)

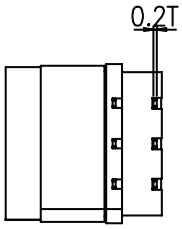
units: mm
tolerance: ±0.3 mm
unless otherwise specified

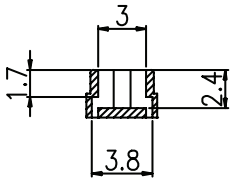
| DESCRIPTION | MATERIAL | PLATING/COLOR |
|---|---|---|
| actuator | POM (UL94HB) | gray |
| cover | PA66 (UL94V-0) | light white |
| base | PA66 (UL94V-0) | black |
| terminals | phosphorus bronze | Ni/Au |





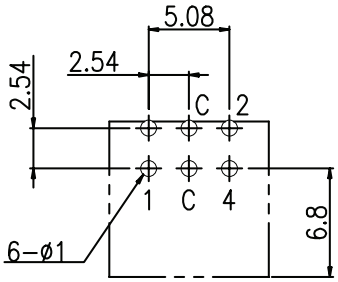




Section A–A'

ACTUATOR



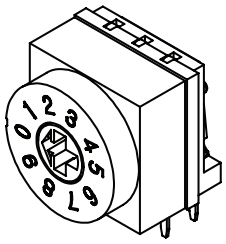

Recommended PCB Layout
Top View

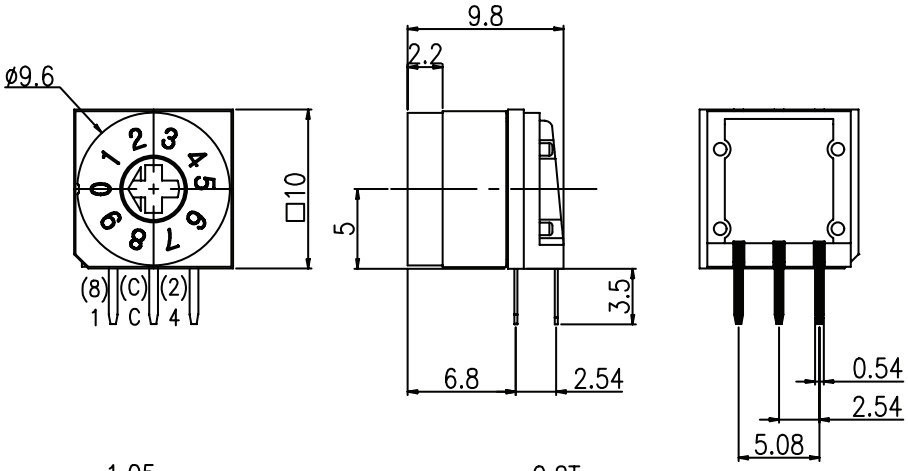
| ON ● | | | | | |
|---|---|---|---|---|---|
| OFF ○ | | CODE | | | |
| TYPE | POS | C | 1 | 2 | 4 |
| 8 POSITION | 0 | ● | ○ | ○ | ○ |
| | 1 | ● | ● | ○ | ○ |
| | 2 | ● | ○ | ● | ○ |
| | 3 | ● | ● | ● | ○ |
| | 4 | ● | ○ | ○ | ● |
| | 5 | ● | ● | ○ | ● |
| | 6 | ● | ○ | ● | ● |
| | 7 | ● | ● | ● | ● |

## MECHANICAL DRAWING (10 POSITION, 2.54 MM PITCH)

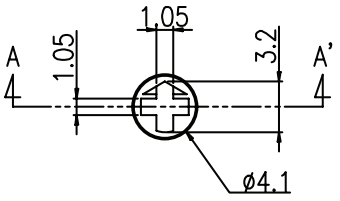
units: mm
tolerance: ±0.3 mm
unless otherwise specified

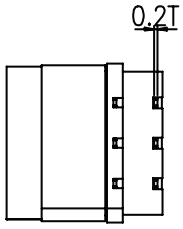
| DESCRIPTION | MATERIAL | PLATING/COLOR |
|---|---|---|
| actuator | POM (UL94HB) | gray |
| cover | PA66 (UL94V-0) | light white |
| base | PA66 (UL94V-0) | black |
| terminals | phosphorus bronze | Ni/Au |

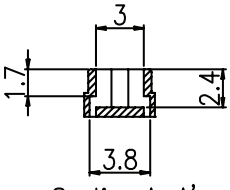





| ON ● | | | | | | |
|---|---|---|---|---|---|---|
| OFF ○ | | CODE | | | | |
| TYPE | POS | C | 1 | 2 | 4 | 8 |
| 10 POSITION | 0 | ● | ○ | ○ | ○ | ○ |
| | 1 | ● | ● | ○ | ○ | ○ |
| | 2 | ● | ○ | ● | ○ | ○ |
| | 3 | ● | ● | ● | ○ | ○ |
| | 4 | ● | ○ | ○ | ● | ○ |
| | 5 | ● | ● | ○ | ● | ○ |
| | 6 | ● | ○ | ● | ● | ○ |
| | 7 | ● | ● | ● | ● | ○ |
| | 8 | ● | ○ | ○ | ○ | ● |
| | 9 | ● | ● | ○ | ○ | ● |

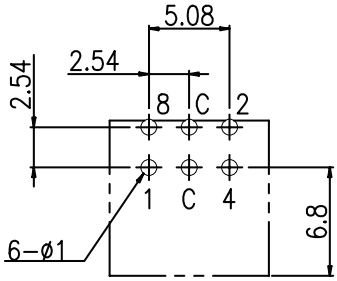



Section A–A'

ACTUATOR

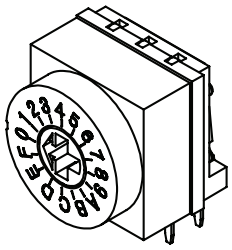


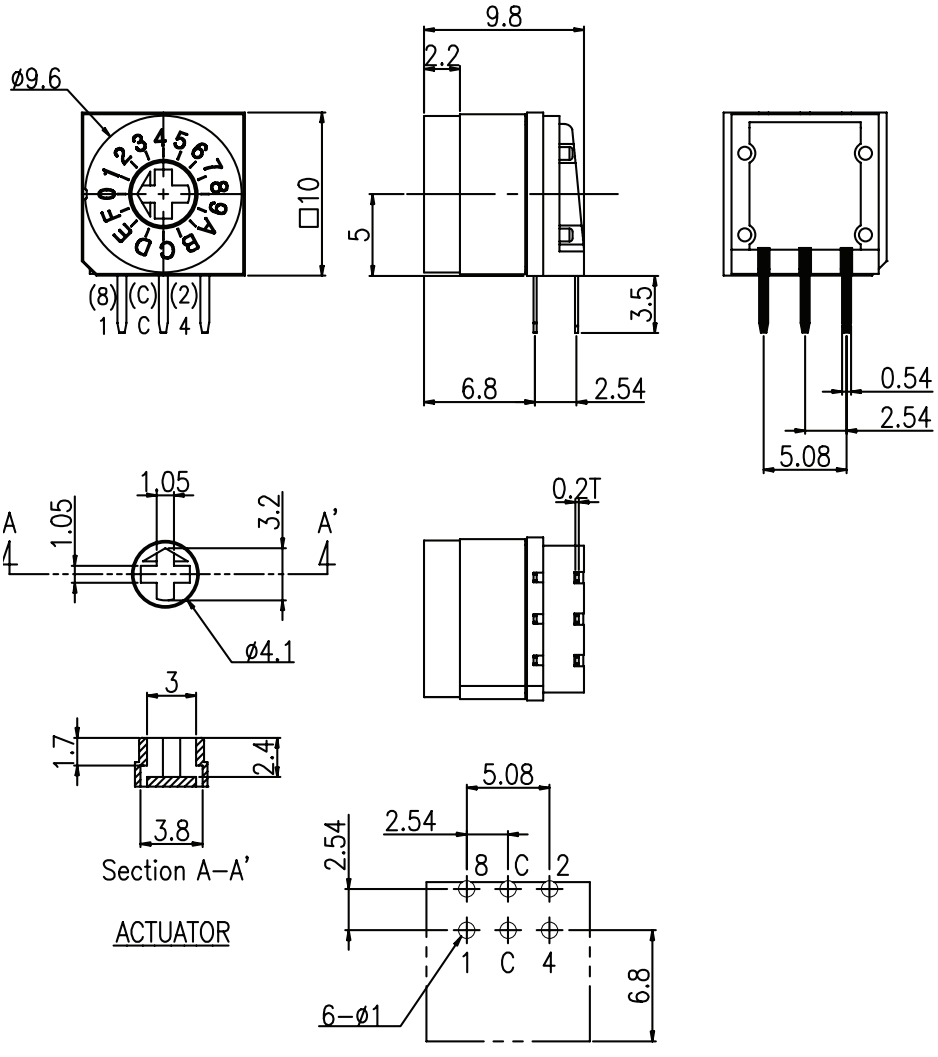

Recommended PCB Layout
Top View

## MECHANICAL DRAWING (16 POSITION, 2.54 MM PITCH)

units: mm
tolerance: ±0.3 mm
unless otherwise specified

| DESCRIPTION | MATERIAL | PLATING/COLOR |
|---|---|---|
| actuator | POM (UL94HB) | gray |
| cover | PA66 (UL94V-0) | light white |
| base | PA66 (UL94V-0) | black |
| terminals | phosphorus bronze | Ni/Au |



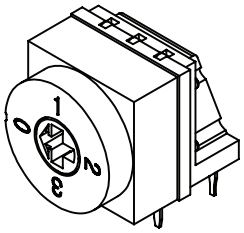



Recommended PCB Layout
Top View

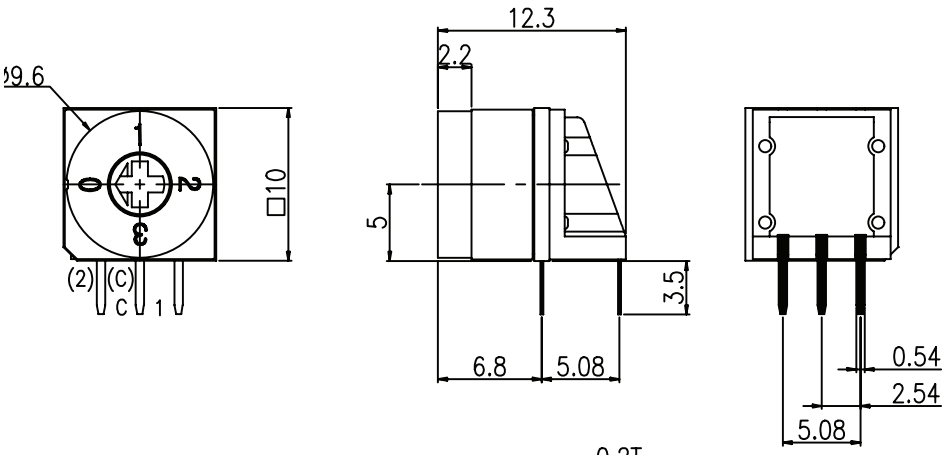
| ON ● | | | | | | |
|---|---|---|---|---|---|---|
| OFF ○ | | CODE | | | | |
| TYPE | POS | C | 1 | 2 | 4 | 8 |
| 16 POSITION | 0 | ● | ○ | ○ | ○ | ○ |
| | 1 | ● | ● | ○ | ○ | ○ |
| | 2 | ● | ○ | ● | ○ | ○ |
| | 3 | ● | ● | ● | ○ | ○ |
| | 4 | ● | ○ | ○ | ● | ○ |
| | 5 | ● | ● | ○ | ● | ○ |
| | 6 | ● | ○ | ● | ● | ○ |
| | 7 | ● | ● | ● | ● | ○ |
| | 8 | ● | ○ | ○ | ○ | ● |
| | 9 | ● | ● | ○ | ○ | ● |
| | A | ● | ○ | ● | ○ | ● |
| | B | ● | ● | ● | ○ | ● |
| | C | ● | ○ | ○ | ● | ● |
| | D | ● | ● | ○ | ● | ● |
| | E | ● | ○ | ● | ● | ● |
| | F | ● | ● | ● | ● | ● |

## MECHANICAL DRAWING (4 POSITION, 5.08 MM PITCH)

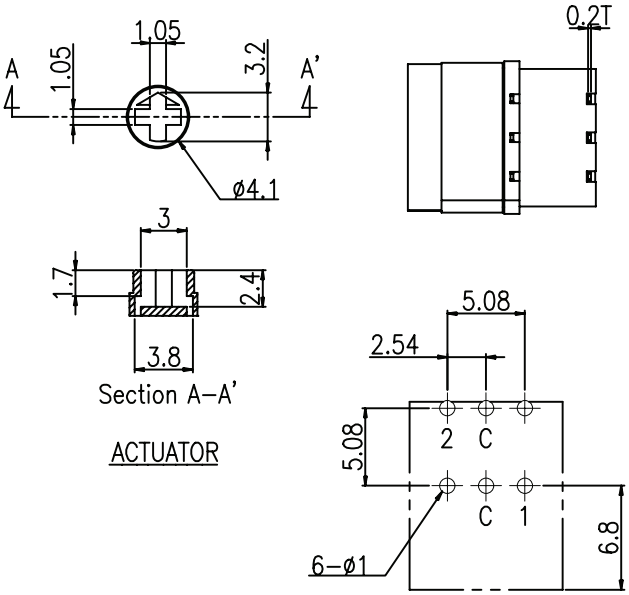
units: mm
tolerance: ±0.3 mm
unless otherwise specified



| DESCRIPTION | MATERIAL | PLATING/COLOR |
|---|---|---|
| actuator | POM (UL94HB) | gray |
| cover | PA66 (UL94V-0) | light white |
| base | PA66 (UL94V-0) | black |
| terminals | phosphorus bronze | Ni/Au |




| ON ● | | | | |
|---|---|---|---|---|
| OFF ○ | | CODE | | |
| TYPE | POS | C | 1 | 2 |
| 4 POSITION | 0 | ● | ○ | ○ |
| | 1 | ● | ● | ○ |
| | 2 | ● | ○ | ● |
| | 3 | ● | ● | ● |

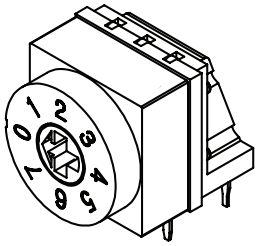


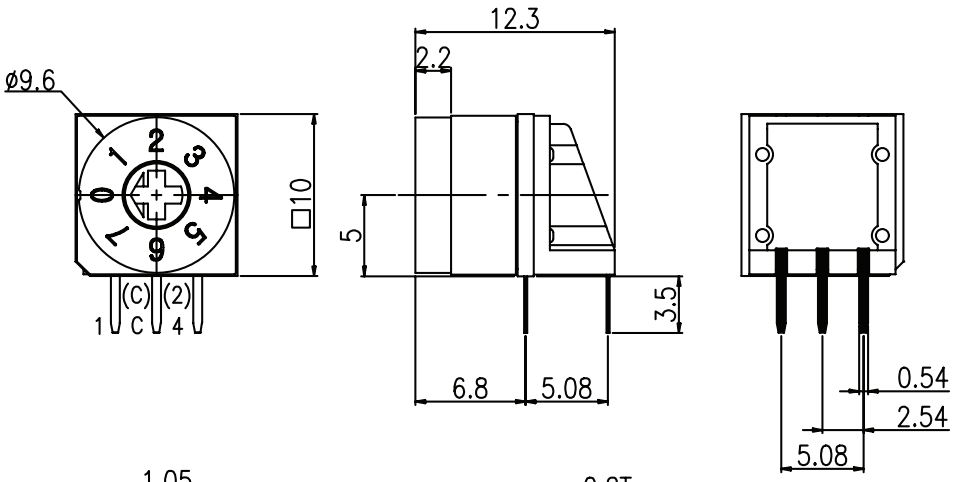

Recommended PCB Layout
Top View

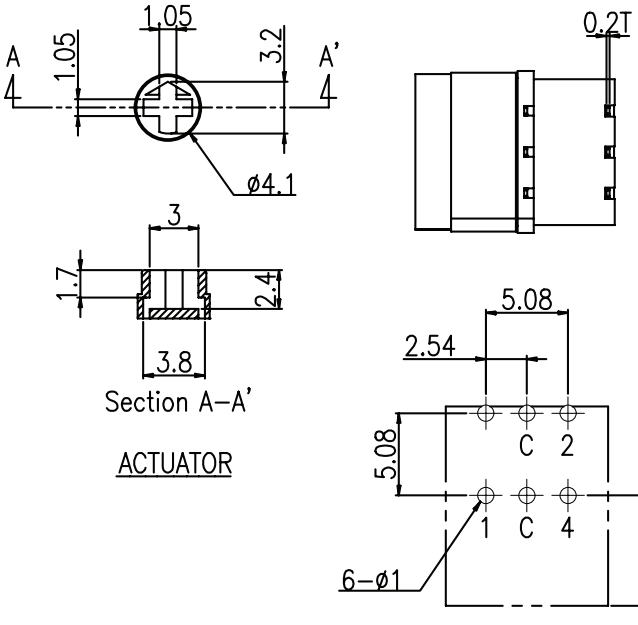
## MECHANICAL DRAWING (8 POSITION, 5.08 MM PITCH)

units: mm
tolerance: ±0.3 mm
unless otherwise specified

| DESCRIPTION | MATERIAL | PLATING/COLOR |
|---|---|---|
| actuator | POM (UL94HB) | gray |
| cover | PA66 (UL94V-0) | light white |
| base | PA66 (UL94V-0) | black |
| terminals | phosphorus bronze | Ni/Au |









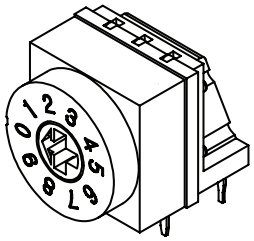
Recommended PCB Layout
Top View

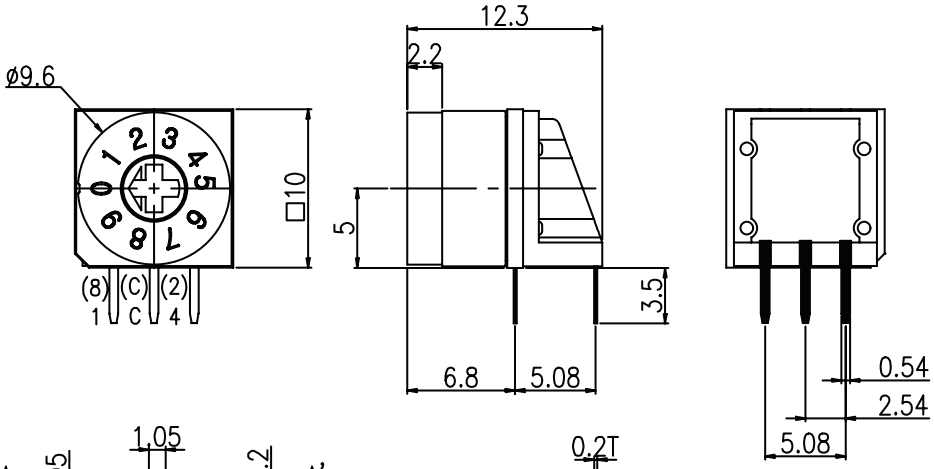
| ON ● | | | | | |
|---|---|---|---|---|---|
| OFF ○ | | CODE | | | |
| TYPE | POS | C | 1 | 2 | 4 |
| 8 POSITION | 0 | ● | ○ | ○ | ○ |
| | 1 | ● | ● | ○ | ○ |
| | 2 | ● | ○ | ● | ○ |
| | 3 | ● | ● | ● | ○ |
| | 4 | ● | ○ | ○ | ● |
| | 5 | ● | ● | ○ | ● |
| | 6 | ● | ○ | ● | ● |
| | 7 | ● | ● | ● | ● |

## MECHANICAL DRAWING (10 POSITION, 5.08 MM PITCH)

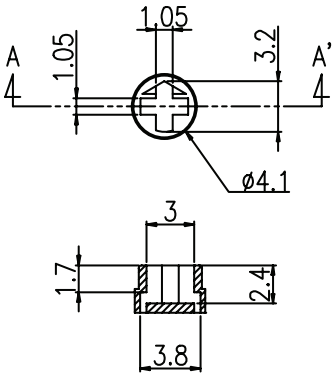
units: mm
tolerance: ±0.3 mm
unless otherwise specified

| DESCRIPTION | MATERIAL | PLATING/COLOR |
|---|---|---|
| actuator | POM (UL94HB) | gray |
| cover | PA66 (UL94V-0) | light white |
| base | PA66 (UL94V-0) | black |
| terminals | phosphorus bronze | Ni/Au |



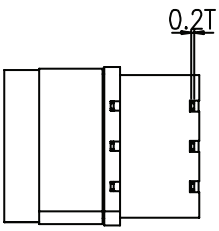


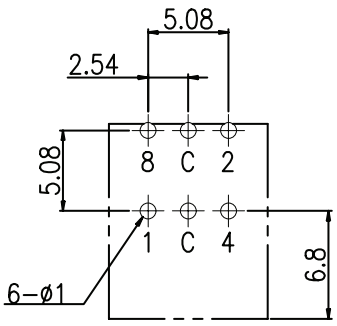

| ON ● | | | | | | |
|---|---|---|---|---|---|---|
| OFF ○ | | CODE | | | | |
| TYPE | POS | C | 1 | 2 | 4 | 8 |
| 10 POSITION | 0 | ● | ○ | ○ | ○ | ○ |
| | 1 | ● | ● | ○ | ○ | ○ |
| | 2 | ● | ○ | ● | ○ | ○ |
| | 3 | ● | ● | ● | ○ | ○ |
| | 4 | ● | ○ | ○ | ● | ○ |
| | 5 | ● | ● | ○ | ● | ○ |
| | 6 | ● | ○ | ● | ● | ○ |
| | 7 | ● | ● | ● | ● | ○ |
| | 8 | ● | ○ | ○ | ○ | ● |
| | 9 | ● | ● | ○ | ○ | ● |




Section A–A'

ACTUATOR



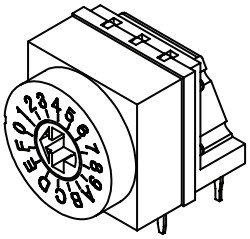



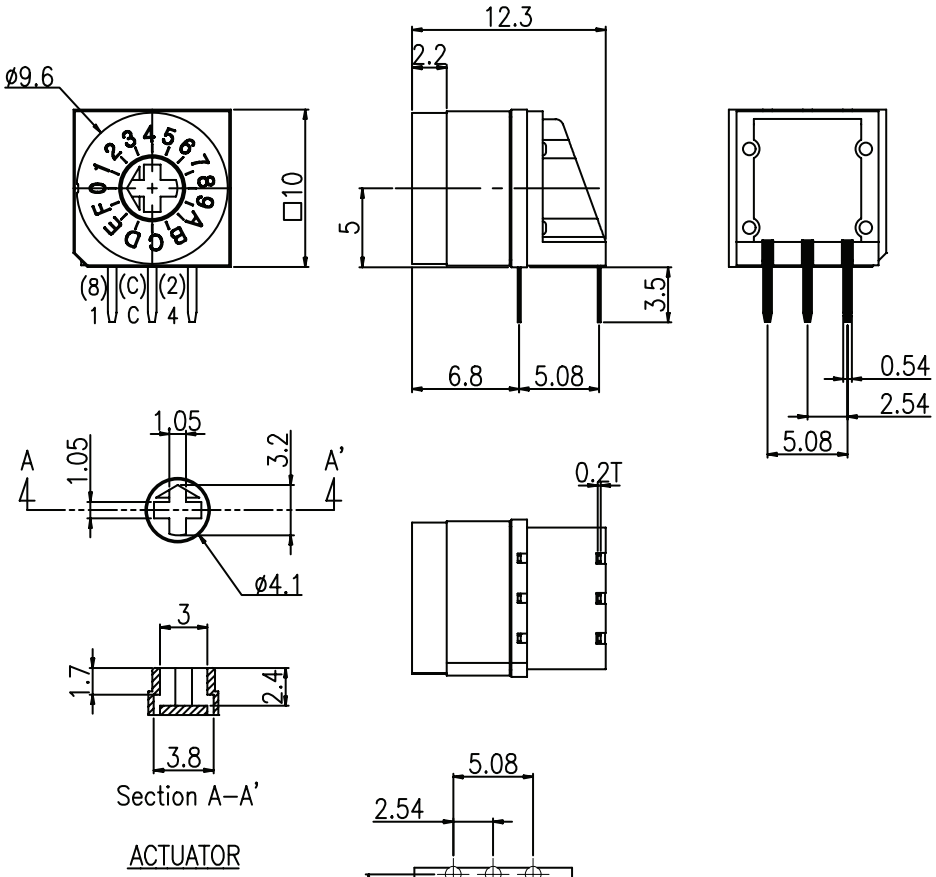

Recommended PCB Layout
Top View

## MECHANICAL DRAWING (16 POSITION, 5.08 MM PITCH)

units: mm
tolerance: ±0.3 mm
unless otherwise specified

| DESCRIPTION | MATERIAL | PLATING/COLOR |
|---|---|---|
| actuator | POM (UL94HB) | gray |
| cover | PA66 (UL94V-0) | light white |
| base | PA66 (UL94V-0) | black |
| terminals | phosphorus bronze | Ni/Au |





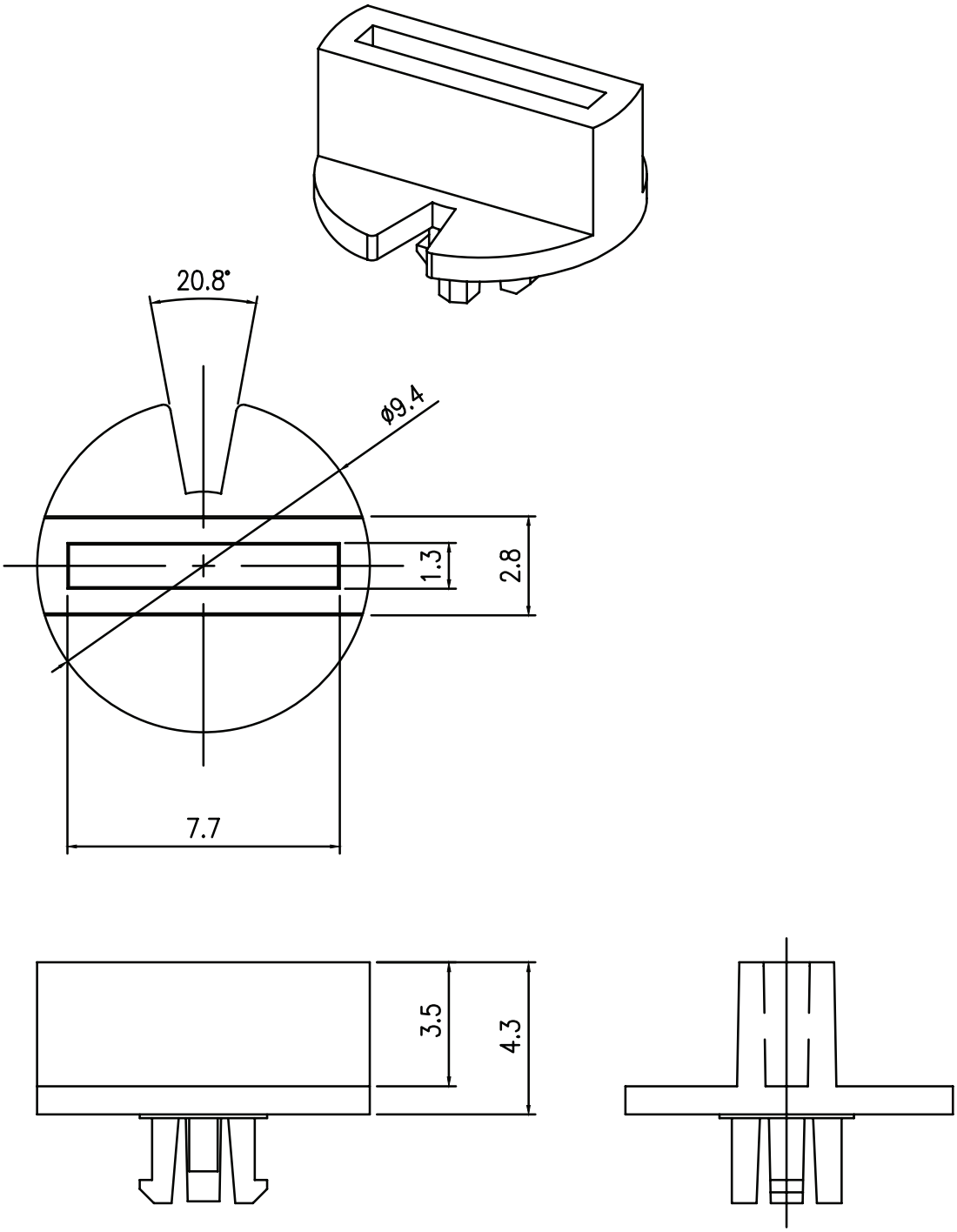

Recommended PCB Layout
Top View

| ON ● | | | | | | |
|---|---|---|---|---|---|---|
| OFF ○ | | CODE | | | | |
| TYPE | POS | C | 1 | 2 | 4 | 8 |
| 16 POSITION | 0 | ● | ○ | ○ | ○ | ○ |
| | 1 | ● | ● | ○ | ○ | ○ |
| | 2 | ● | ○ | ● | ○ | ○ |
| | 3 | ● | ● | ● | ○ | ○ |
| | 4 | ● | ○ | ○ | ● | ○ |
| | 5 | ● | ● | ○ | ● | ○ |
| | 6 | ● | ○ | ● | ● | ○ |
| | 7 | ● | ● | ● | ● | ○ |
| | 8 | ● | ○ | ○ | ○ | ● |
| | 9 | ● | ● | ○ | ○ | ● |
| | A | ● | ○ | ● | ○ | ● |
| | B | ● | ● | ● | ○ | ● |
| | C | ● | ○ | ○ | ● | ● |
| | D | ● | ● | ○ | ● | ● |
| | E | ● | ○ | ● | ● | ● |
| | F | ● | ● | ● | ● | ● |

## MECHANICAL DRAWING (NOTCHED CAP)

units: mm
tolerance: ±0.1 mm
unless otherwise specified

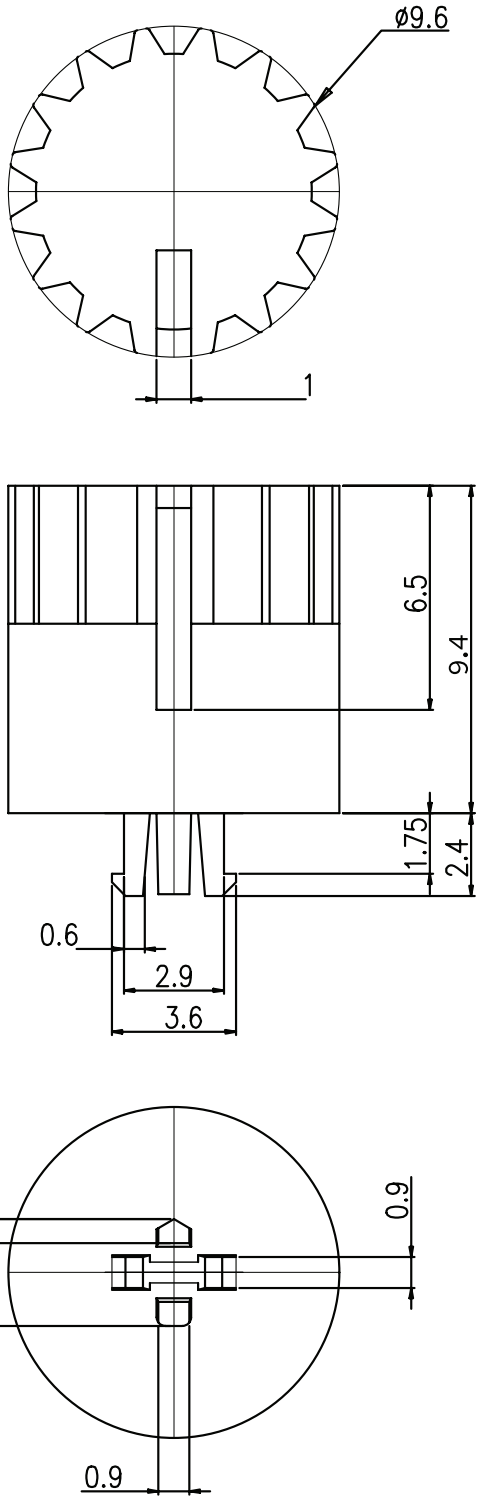
| DESCRIPTION | MATERIAL | PLATING/COLOR |
|---|---|---|
| housing | PA66 (UL94V-0) | gray |

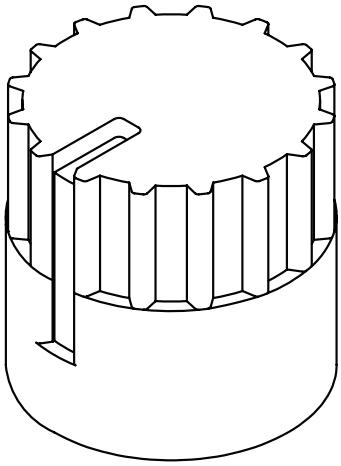


## MECHANICAL DRAWING (RAISED SLOTTED CAP)

units: mm
tolerance: ±0.3 mm
unless otherwise specified

| DESCRIPTION | MATERIAL | PLATING/COLOR |
|---|---|---|
| housing | PA66 (UL94V-0) | black |

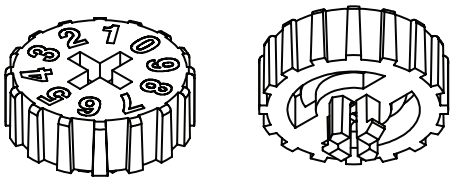


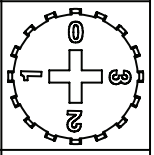
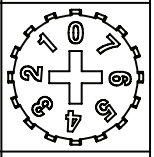
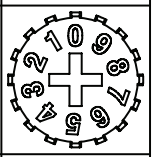
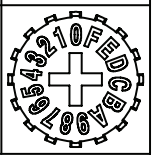



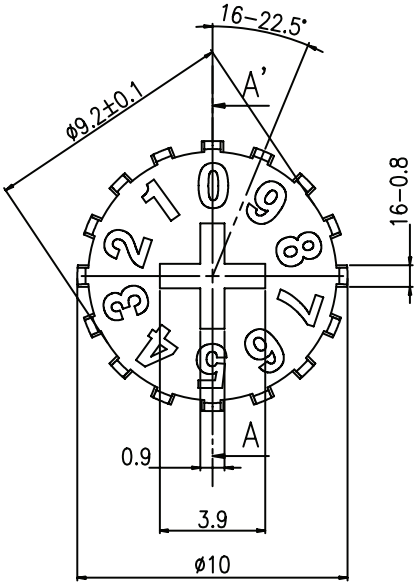
# MECHANICAL DRAWING (NUMBERED DIAL)

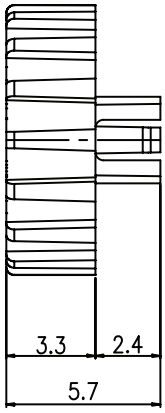
units: mm
tolerance: ±0.3 mm
unless otherwise specified

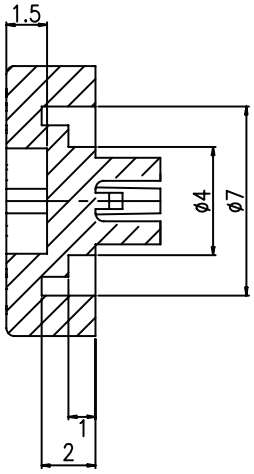
| DESCRIPTION | MATERIAL | PLATING/COLOR |
|---|---|---|
| housing | PA66 (UL94V-0) | red with black letters |



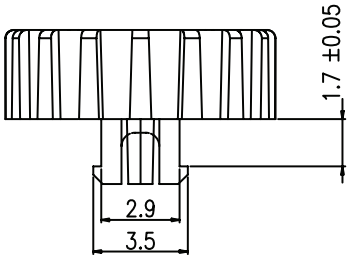
| Position | Direction |
|---|---|
| 04 |  |
| 08 |  |
| 10 |  |
| 16 |  |

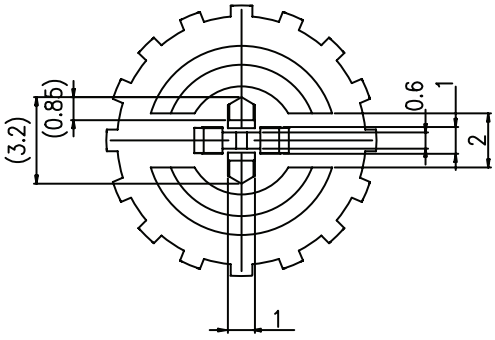



SECTION A–A'



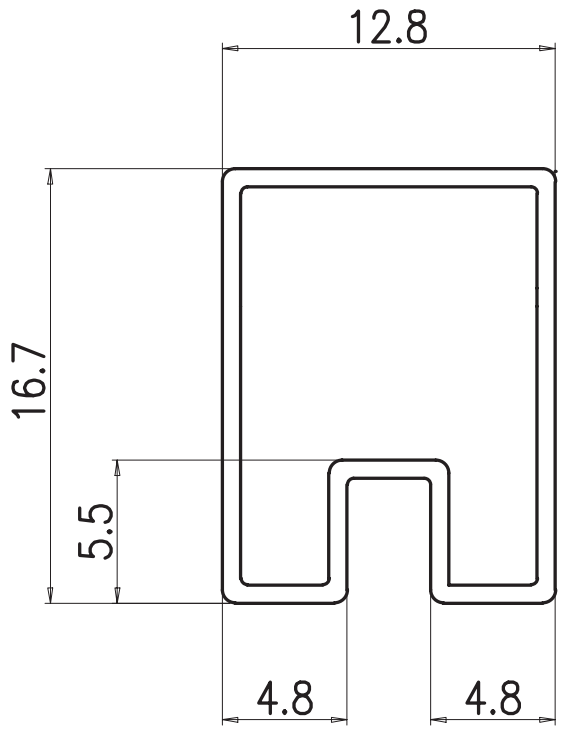



## PACKAGING

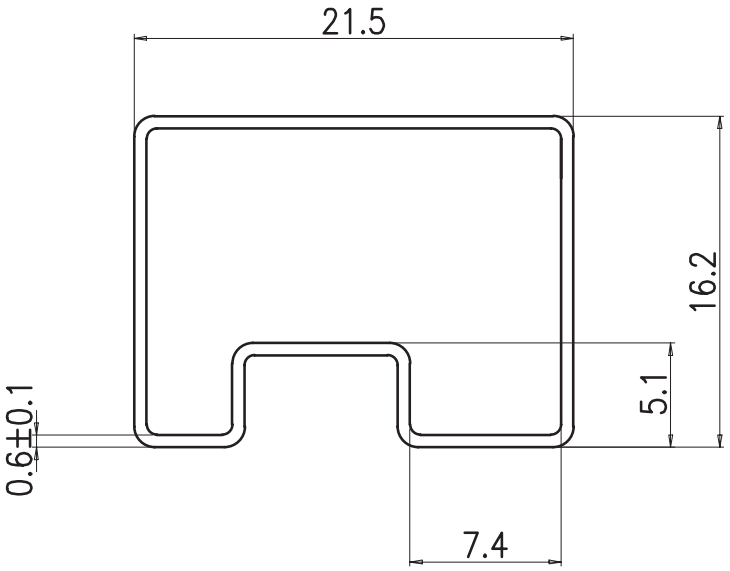
units: mm

Tube Size (2.54 mm pitch): 16.7 x 12.8 x 540 mm
Tube Size (5.08 mm pitch): 16.2 x 21.5 x 540 mm
Tube QTY: 50 pcs per tube

**2.54 MM PITCH MODELS**




**5.08 MM PITCH MODELS**



## REVISION HISTORY

| rev. | description | date |
|---|---|---|
| 1.0 | initial release | 05/31/2023 |
| 1.01 | CUI Devices rebranded to Same Sky | 09/12/2024 |

The revision history provided is for informational purposes only and is believed to be accurate.

Same Sky offers a one (1) year limited warranty. Complete warranty information is listed on our website.

Same Sky reserves the right to make changes to the product at any time without notice. Information provided by Same Sky is believed to be accurate and reliable. However, no responsibility is assumed by Same Sky for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

Same Sky products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.