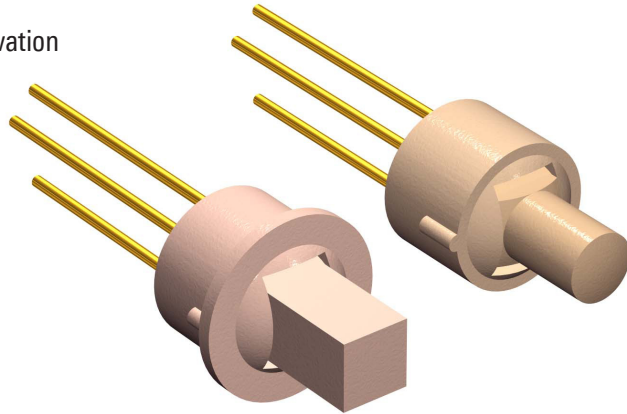


### Features

- ⊕ Toggle returns to neutral center position after activation
- ⊕ Circular design
- ⊕ Very small dimensions, Ø2.54 [0.1"]
- ⊕ With or without flange
- ⊕ With or without fixation key
- ⊕ Round or square toggle
- ⊕ Different plastic colors available
- ⊕ Different terminal lengths: 10 mm/20 mm



### Contents

	Page
History Revision .....	2
Mechanical Specifications .....	3
Electrical Specifications .....	4
Switching Diagram.....	4
Material Specifications .....	4
Environmental Conditions .....	4
Recommended Process Parameters.....	5
Mechanical Dimensions.....	6
Housing Styles .....	7
Toggle Styles .....	8
Plastic Colors.....	9
Terminal Length.....	9
Product Specification Form .....	10

Sonion reserves the right to make changes at any time to improve reliability, function or design, in order to provide the best product possible.

### History Revision

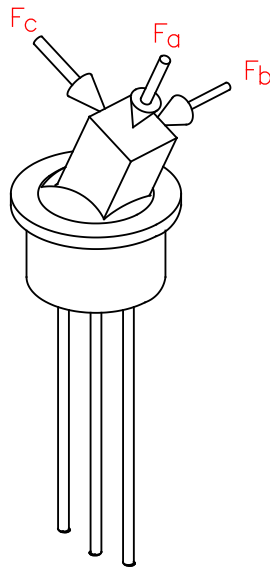
Revision Number/Date	Change from last revision
07 / Jan. 02	History Revision added. Solder terminals gold flash plated. Electrical load specified for continuous and switching currents
08 / Jun. 08	Storage humidity added. Operational temperature and humidity removed. New data sheet design. New lay-out.
MT1011.A (07/08)	No technical updates
009/JUL-20-2009	No technical updates

### Mechanical Specifications

Toggle angle.....	25 ±3°
Max. toggle angle at rest.....	±5°
Switch operating torque.....	Min. 10 cNcm, max. 25 cNcm
Lifetime .....	Min. 100,000 cycles
Bending of terminals .....	Min. 3 bending cycles 90°, min. 0.5 mm [0.02"] from housing
Terminal retention force.....	Min. 5 N
- After environmental exposures.....	Min. 3 N
Durability of toggle:	
Fa, 20 cycles .....	2.5 N
Fb, 20 cycles .....	2.5 N
Fc, static.....	2.5 N
Fc, 20 cycles .....	5 N

#### Force Definition:

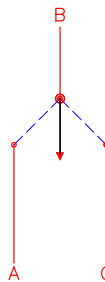
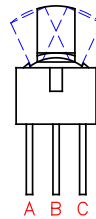
Fb, Fc: Attack point is 0.75 mm from top of toggle



### Electrical Specifications

Switch contact resistance.....	Max. 150 mΩ
Switch insulation resistance .....	Min. 1 MΩ
Switching current.....	Max. 10 mA
Continuous current.....	Max. 100 mA

### Switching Diagram



### Material Specifications

**All materials comply with RoHS directive (2002/95/EC)**



Terminals.....	AgCu3, gold flash plated
Housing .....	PA 6.6, glass reinforced
Base.....	PEEK

**Lubricant, glue / seal, and paint specifications are proprietary information.**

### Environmental Conditions

Storage temperature .....	-40 to +60°C
Storage humidity.....	10 to 95% RH

### Recommended Process Parameters

#### Gluing:

Types of glue..... Cyanoacrylates (non-blooming) , i.e. Loctite 401, 408, 460 and Sicomet 50, 63, 77

***Non-blooming types must be used to ensure that residuals from the curing process do not degrade the component.***

#### Soldering:

Soldering temperature and time..... 300°C [572°F] for 3 s or 350°C [662°F] for 1 s

Soldering distance..... Min. 0.5 mm [0.02"] from housing

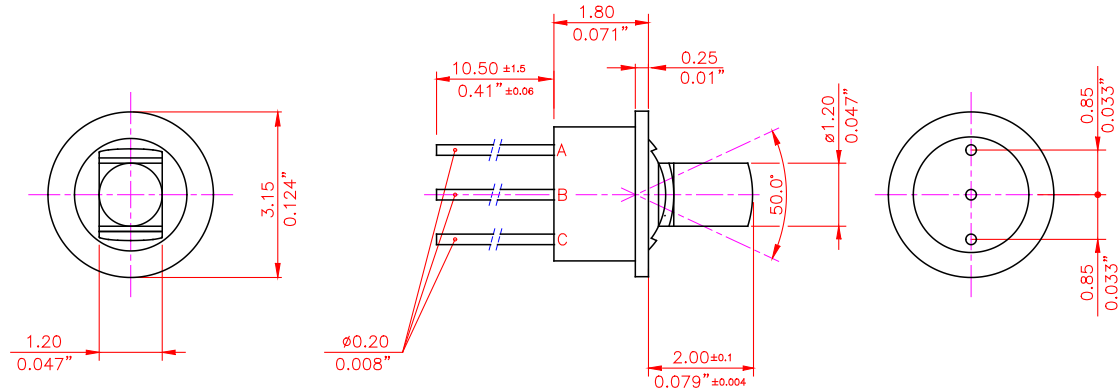
***Exceeding temperature, time and distance recommendations may damage the component. Mechanical stress on soldering terminals must be avoided during soldering.***

#### Cleaning:

Cleaning solvents..... Aqua wash (Alpha 2110), Benzine

***Ultrasonic cleaning must be avoided as it may remove the lubricant inside the component.***

### Mechanical Dimensions

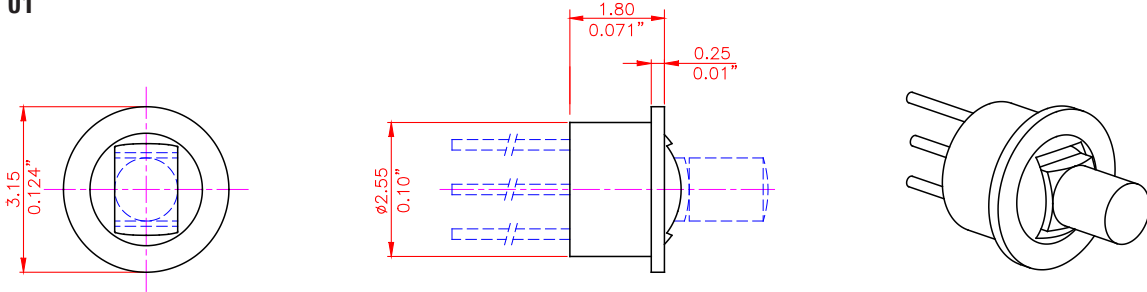


**Note:**

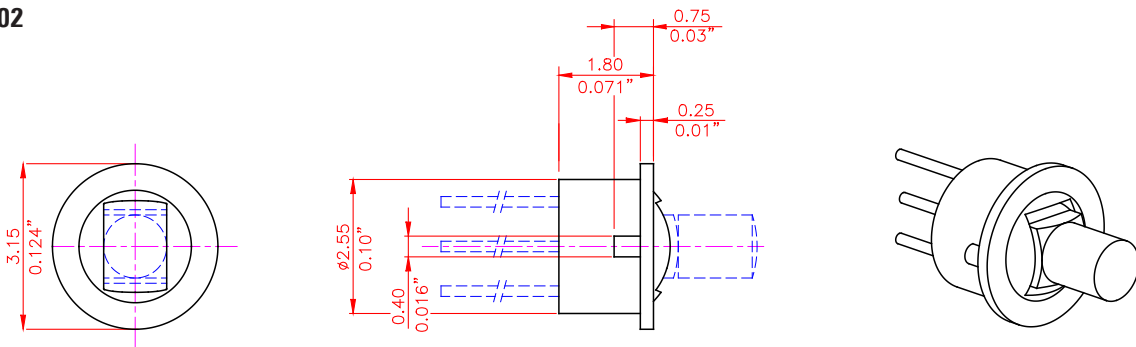
The standard measurement tolerance on the drawings is  $\pm 0.05$  mm/[0.002"]. Tolerances which differ from this value will be indicated on the drawings.

## Housing Styles

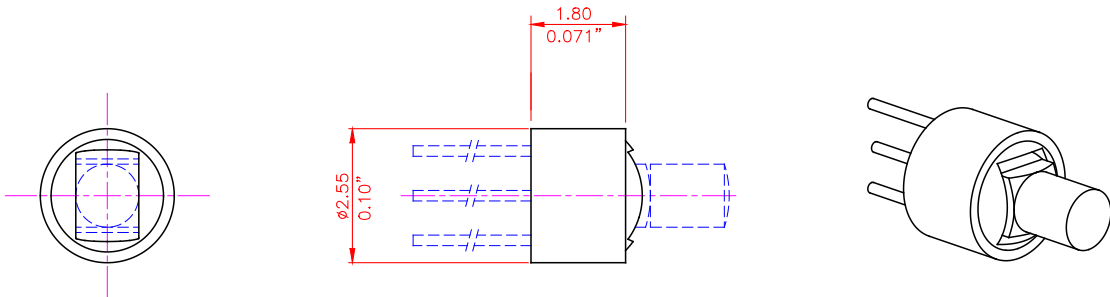
No. 01



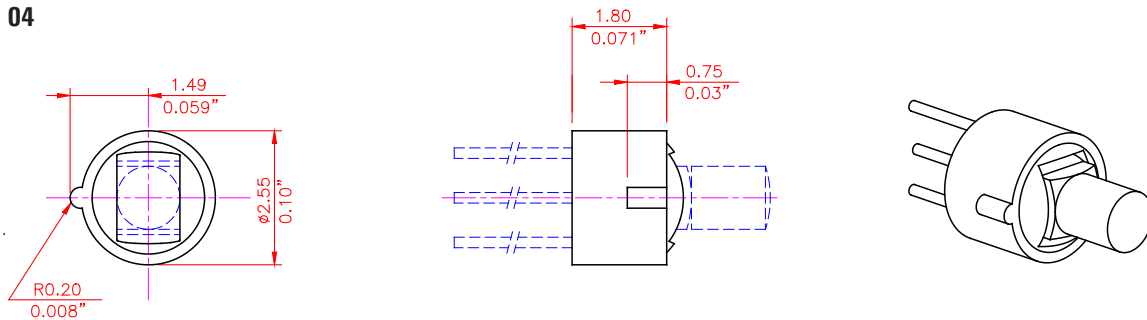
No. 02



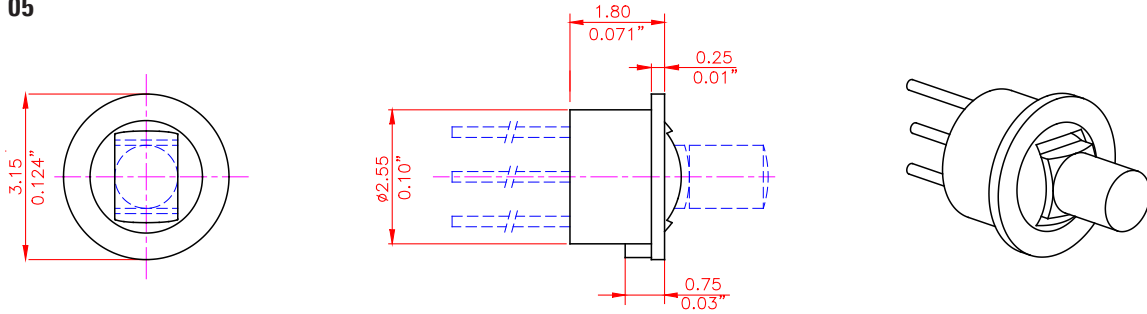
No. 03



No. 04

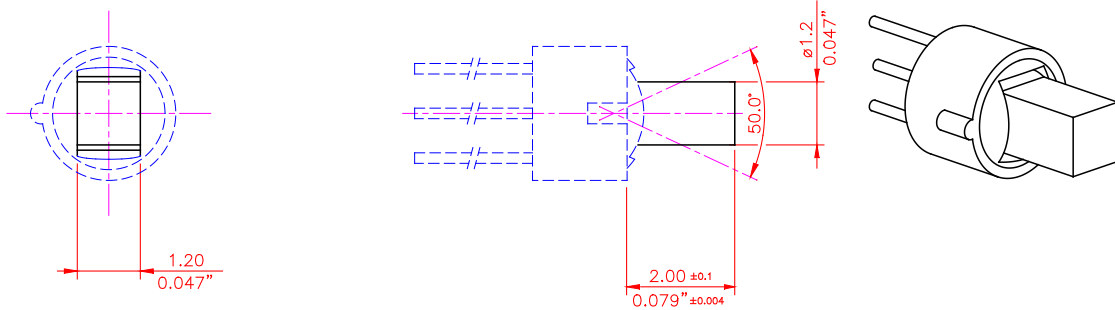


No. 05

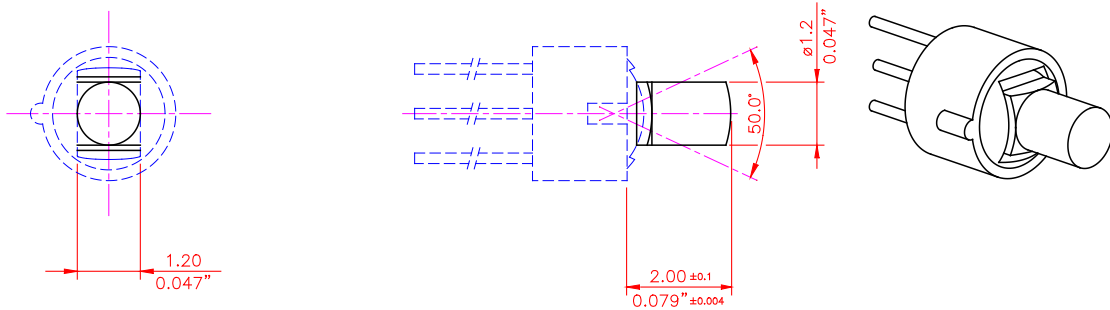


## Toggle Styles

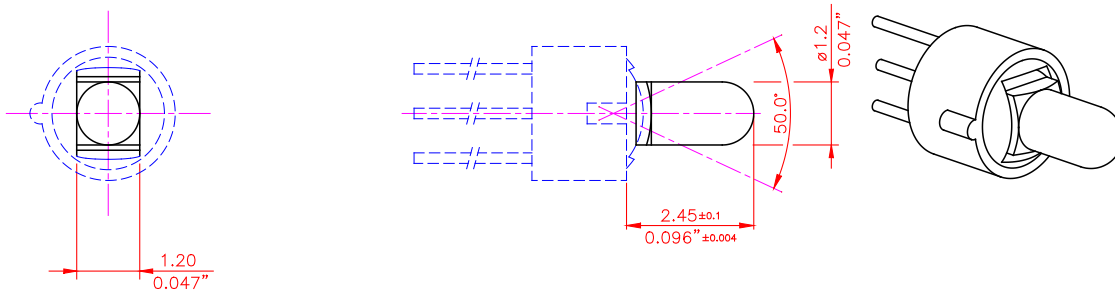
No. 01



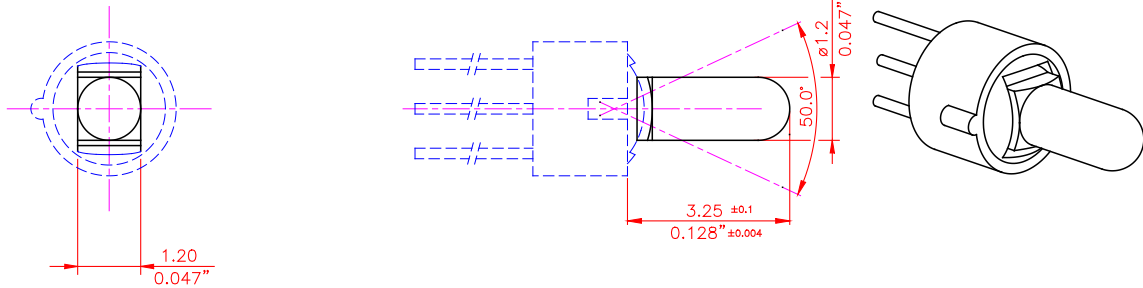
No. 02



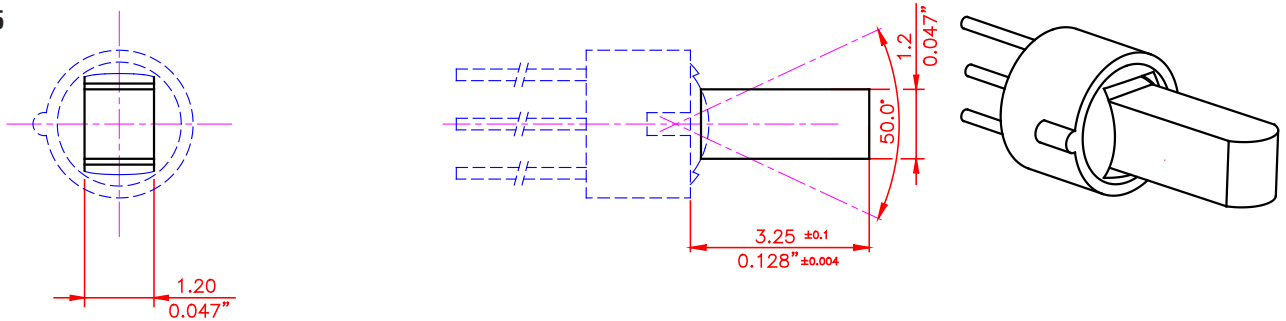
No. 03



No. 04



No. 05

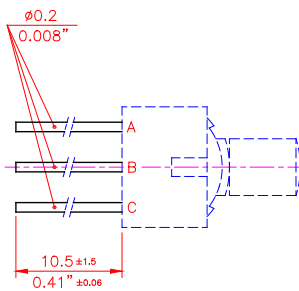


### Plastic Colors

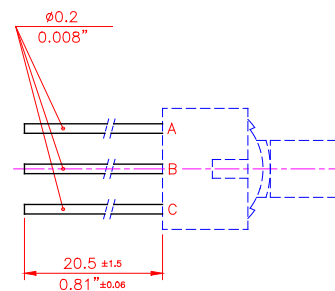
Please refer to the series 100 included in the Sonion 'Plastic Color Assortment' binder

### Terminal Length

10 mm



20 mm



The terminals can be insulated using 10 or 12 mm length insulation with the following colors: black, red and yellow. For each individual terminal the color of the insulation can be selected on the product specification form

### Product Specification Form

Name: \_\_\_\_\_

Company: \_\_\_\_\_

Customer Part No.: \_\_\_\_\_

Parameters	Look at Page	Enter your choices	Guidelines
Model	1	MT 90	
Housing Styles	7-8		
Toggle Styles	8-9		
Plastic Colors	10		Please refer to the series 100 included in the Sonion 'Plastic Color Assortment' binder
Terminal Length	10		10 or 20 mm leads
			Insulation length 10 or 12 mm
			Insulation Color lead A
			Insulation Color lead B
			Insulation Color lead C