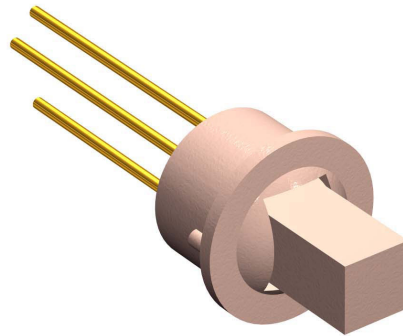


Switches Model MT 90



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
- Square toggle
- Different plastic colors available
- Different terminal lengths: 10 mm/20 mm

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

1. 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
010/2014-01-10	Updated design and new RoHS logo directive (2011/65/EU)
011/2014-08-26	Discontinued House 02, 03 05 and Toggle 02,03,04
012/2019-09-02	Change of storage temperature and humidity (CR3860)

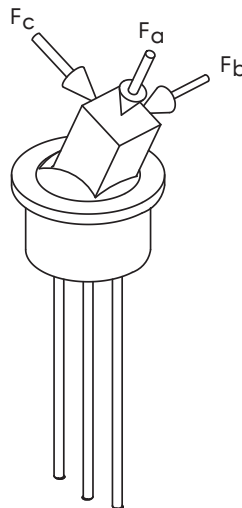
2. Mechanical Specifications

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

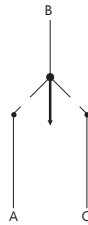
Fb, Fc: Attack point is 0.75 mm from top of toggle



3. Electrical Specifications

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

4. Switching Diagram



5. Material Specifications

All materials comply with RoHS directive (2011/65/EU)

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

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

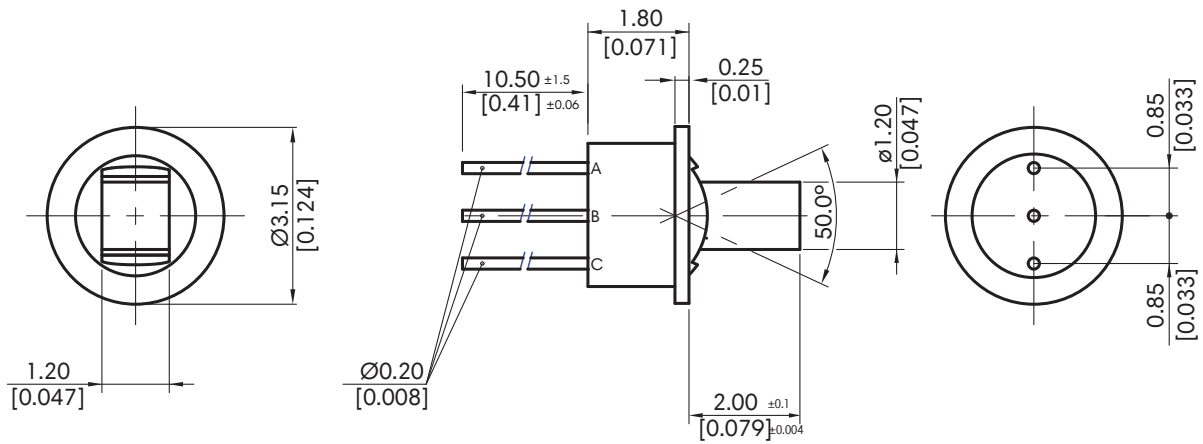
6. Environmental Conditions

Storage temperature	25°C
Storage humidity	60% RH
Purpose is to protect from high humidity and keep at driest condition as possible	

7. Recommended Process Parameters

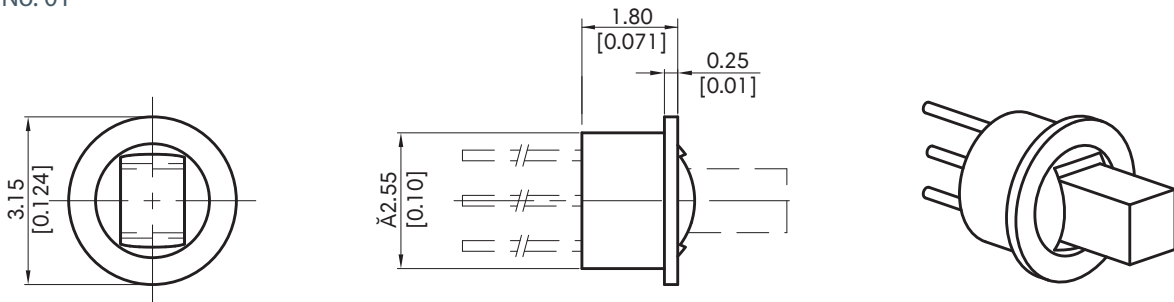
Gluing	
Types of glue	<p>Cyanoacrylates (non-blooming) , i.e. Loctite 401, 408, 460 and Sicomet 50, 63, 77</p> <p>Non-blooming types must be used to ensure that residuals from the curing process do not degrade the component.</p>
Soldering	
Soldering temperature and time	300°C [572°F] for 3 s or 350°C [662°F] for 1 s
Soldering distance	<p>Min. 0.5 mm [0.02"] from housing</p> <p>Exceeding temperature, time and distance recommendations may damage the component. Mechanical stress on soldering terminals must be avoided during soldering.</p>
Cleaning	
Cleaning solvents	<p>Aqua wash (Alpha 2110), Benzine</p> <p>Ultrasonic cleaning must be avoided as it may remove the lubricant inside the component.</p>

8. Mechanical Dimensions

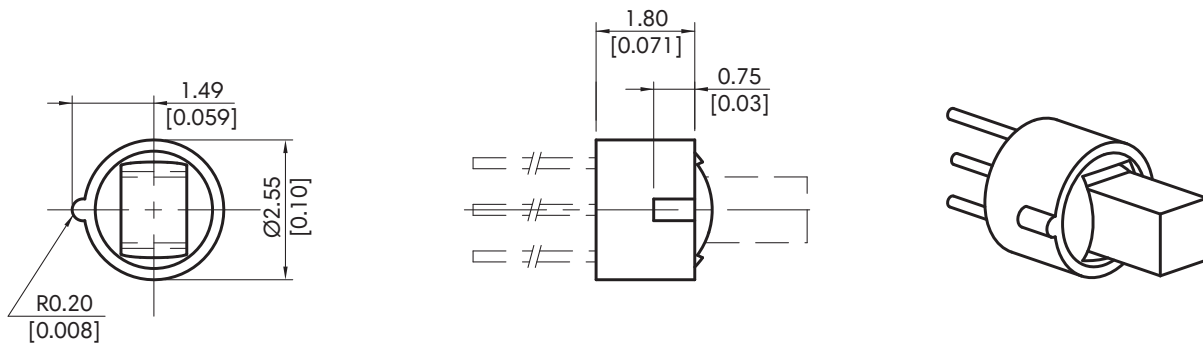


9. Housing Styles

No. 01



No. 04

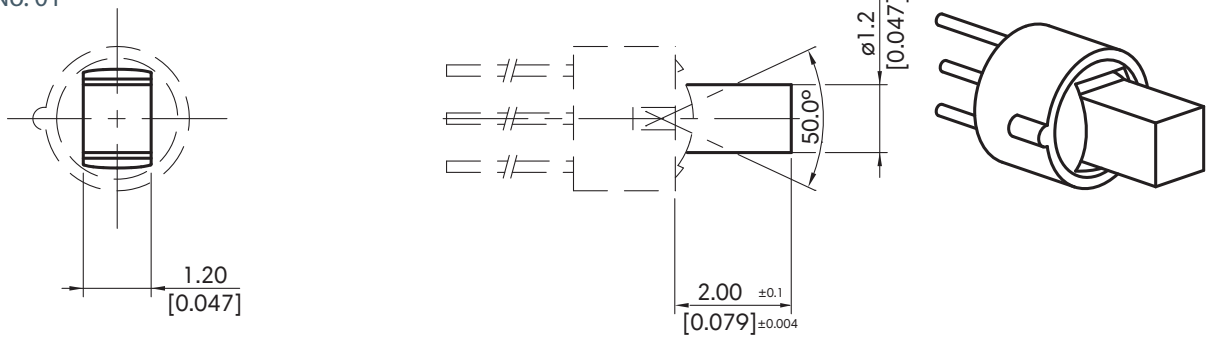


Note:

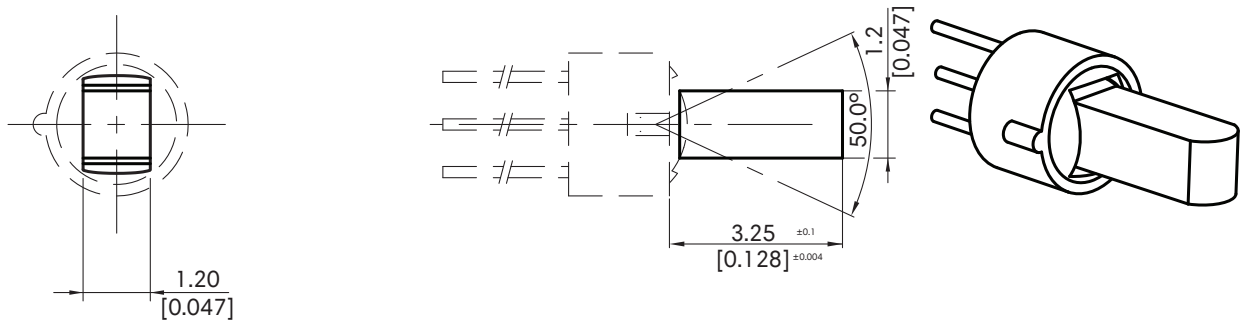
The standard measurement tolerance on the drawings is ± 0.05 mm/[0.002"]. Tolerances which differ from this value will be indicated on the drawings.

10. Toggle Styles

No. 01



No. 05

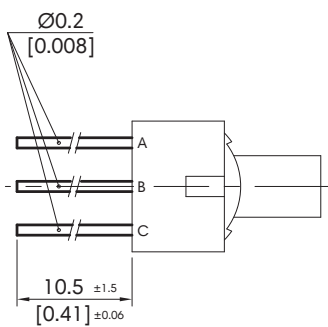


11. Plastic Colors

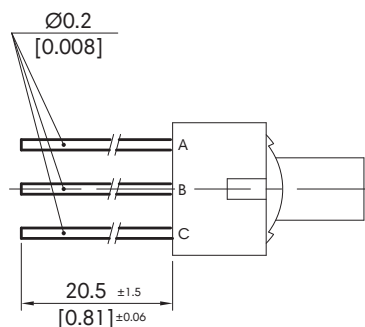
Please refer to the series 100 included in the Sonion 'Plastic Color Assortment' binder

12. 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

13. Product Specification Form

Name _____

Company _____

Customer Part No. _____

Parameters	Look at Page	Enter your choices	Guidelines
Model	2	MT 90	
Housing Styles	7		
Toggle Styles	8		
Plastic Colors	8		Please refer to the series 100 included in the Sonion 'Plastic Color Assortment' binder
Terminal Length	8		10 or 20 mm leads
			Insulation length 10 or 12 mm
			Insulation Color lead A
			Insulation Color lead B
			Insulation Color lead C