

## Excellent Integrated System Limited

Stocking Distributor

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[TBWB2A00](#)

For any questions, you can email us directly:

[sales@integrated-circuit.com](mailto:sales@integrated-circuit.com)

# Trackball Miniature All-direction Navigation Switch

## Features/Benefits

- 8 mm ball ergonomic design allows ease of use in all directions
- Positive tactile feedback
- Integrated lighting (up to 2 LEDs)
- ESD protected
- RoHS compliant
- IP54

## Typical Applications

- Remote controls
- Navigation systems
- Keyboards, notebooks, PC mouse
- Game controllers



## Construction

FUNCTION: All-direction scanning + select  
 CONTACT TYPE: Normally open  
 TERMINALS: Flex with 11 terminals 0.5 mm pitch, gold plated

## Mechanical

SCANNING  
 ROTATING FORCE: 0.35 N ± 0.1 N  
 SELECT  
 SELECTING FORCE: 2.2 N ± 25%  
 TACTILE FEELING: ≥ 30%  
 ELECTRICAL TRAVEL (Te): 0.24 mm ± 0.05 mm  
 SIMULTANEITY (Tm - Te): ≤ 0.12 mm  
 TOTAL TRAVEL: 0.33 mm ± 0.05 mm

Note: Specifications listed above are for switches with standard options.

## Electrical (select function)

MAXIMUM POWER: 0.20 VA  
 MIN./MAX. VOLTAGE.: 20 mVdc - 32 Vdc  
 MIN./MAX. CURRENT: 1.0 mA - 50mA  
 DIELECTRIC STRENGTH: > 200 Vrms  
 CONTACT RESISTANCE: < 1000 mΩ  
 BOUNCE TIME: ≤ 3ms  
 CAPACITY: ≤ 5pF

## Environmental

OPERATING TEMPERATURE: -30°C to +85°C  
 STORAGE TEMPERATURE: -30°C to +85°C  
 RELATIVE HUMIDITY: 90 to 95% HR  
 According to NF EN 60068-2-30  
 SCANNING OPERATING LIFE: 300,000 cycles in each 4 main directions  
 SELECT OPERATING LIFE: ≥ 500,000 cycles  
 VIBRATIONS: 10 to 500Hz - 5G - 23 min. per axis  
 MECHANICAL SHOCKS: According to NF EN 60068-2-27  
 OVERLOAD: 20 N

## Packaging

Plastic trays of 40 pieces



## How To Order

To order, simply select desired option from each category and place in the appropriate box. For additional options not shown in catalog, consult our Customer Service Center.

COMMON  
(has to be the same for both LEDs)

	Code	Status
Anode 	0	No Led
	1	Green
	2	Orange
	3	Blue
	4	Red
Cathode 	O	No Led
	G	Green
	A	Orange
	B	Blue
	R	Red

**Designation**  
TB

**Color of Ball**  
W White

**Pulse Number**  
B 12

**Dome Force**  
2 2.2N ± 25%

**Flex**  
A

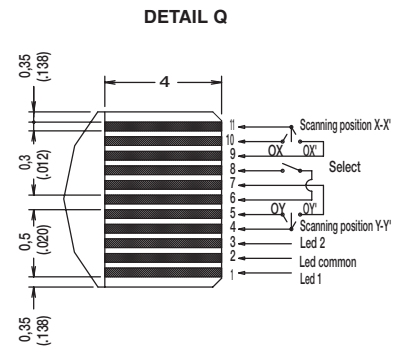
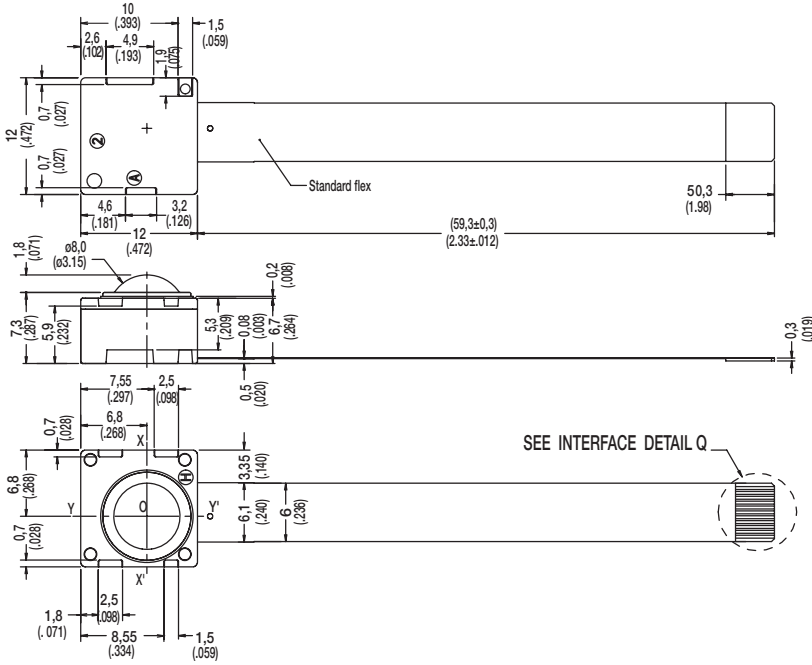
1st LED  
For each LED, once the common wiring is defined (Cathode or Anode).

2nd LED

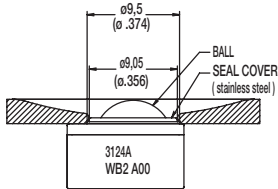
Diagram: T B W B 2 A [ ] [ ]

**Trackball**

**Miniature All-direction Navigation Switch**



**INTEGRATION EXAMPLE**



Each piece is date code printed:  
 1st Line: 3124A = 3 is Year, 124 is day in the year,  
 A is shift identification  
 2nd Line: WB2 A00 = Reference of the product.

Navigation