

## Development of the world's smallest-class\* tactile switch for smartphones and wearable devices

**-The switch contributes to reduction in thickness and size as well as enhanced functionality of devices**

Citizen Electronics Co., Ltd. (Head Office: Fujiyoshida City, Yamanashi Prefecture. President: Kanetaka Sekiguchi) has developed a surface-mounted tactile switch (a switch that gives a sensation of clicking when pressed) for smartphones and wearable devices that has achieved the world's smallest size. Shipment of samples of the switch will start in late October 2020, and mass production shipment will start in April 2021.

\* For surface-mounted tactile switch (as of October 2020, according to our research)

### The world's smallest class Tactile Switch

Product name: LS165 Series

Type: Top-push

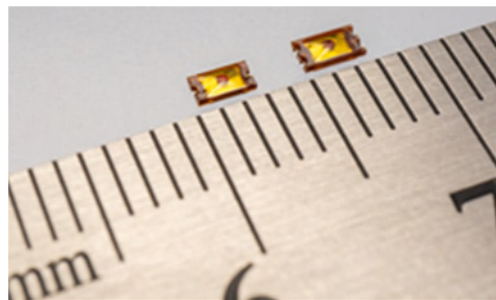
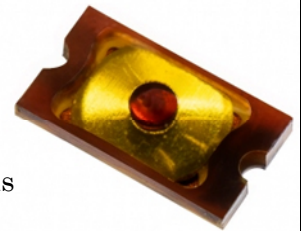
Size: 2.6mm (width) × 1.4mm (length) × 0.55mm (height)

Operating force: 2.4N

(Products with various operating forces will be added sequentially)

Applications: Smartphones, smart watches, wearable devices such as wireless earphones and smart glasses

Release date: Mass production shipment will start in April 2021



**Left: The world's smallest class new product (LS165)**

**Right: Current product (LS160)**

### Background of development

As the use of 5G is spreading rapidly, not only the market of smartphones and smart watches, but also the market of wearable devices such as audio devices or smart glasses is expected to expand greatly. For smartphones, which have higher functionality than before, the demand for reduction in size of electronic parts has been increasing because more electronic parts are required to be mounted on the small space on the substrate. The demand for reduction in size and thickness of mounted parts is also increasing for wearable devices, which have been reduced in size and thickness.

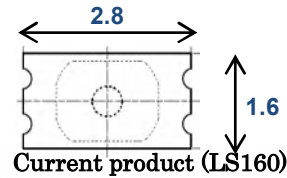
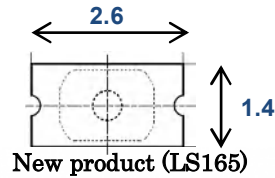
We have developed this world's smallest class tactile switch in response to such demand in the market. With the release of this product, we aim to contribute to the enhancement of functionality, reduction in thickness and size of smartphones and wearable devices.

### Main feature

**1. Size has been reduced by about 20% over that of the current model (volume ratio) and the world's smallest size has been achieved.**

We have achieved further miniaturization through improvement of processing accuracy of components of the switch and accuracy in assembly.

1. New product LS165      2.6mm (width) × 1.4mm (length) × 0.55mm (height)
2. Current model LS160    2.8mm (width) × 1.6mm (length) × 0.55mm (height)



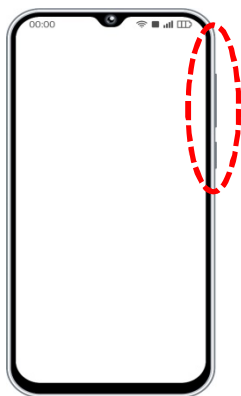
**2. High dust-proofing and waterproofing properties**

The switches comply with the dust-proofing and waterproofing standard (IP67) by hermetically sealing the periphery of the spring.

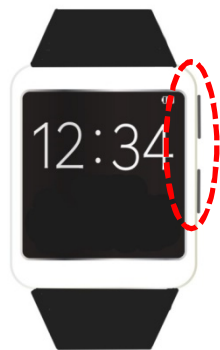
**3. The structure that is strong against lateral pressure**

With the built-in actuator, the product has achieved enhanced strength against lateral pressure.

**Examples of application**



Smartphones



Smart watches



Earphones



Smart glasses

Our company started manufacturing switches in 1989 and has achieved reduction in size and thickness through our original precision processing technique. Currently, Citizen Electronics has a world top-class share of tactile switches used for smartphones as power switches or to adjust volume.

\*Information provided on this press release was accurate at the time of announcement. There may be partial changes to design, price, release date, and specifications of the product.

**Contact Information:**

North America -----	Marty Sugikawa	+1-847-619-6700
Europe -----	Andre Schmitz	+49-69-2992-4812
South China & Hong Kong -----	Clinton Lo	+852-2793-0613
East China -----	Lian Chang Jun	+86-21-6295-5510
South East Asia / India -----	Clinton Lo	+852-2793-0613
Other areas -----	takeuchiakih@citizen.co.jp	