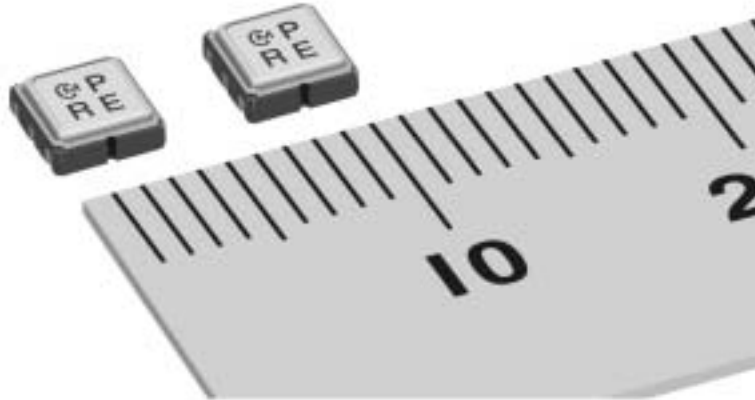


## Development and Full-Fledged Mass Production of Small RF SAW Filter for RFID



### [TEXT]

Murata Manufacturing Co., Ltd has completed the development of an RF SAW filter for the UHF band RFID reader/writer component geared towards the Japanese market and has started its mass production in January 2006. RFID (Radio Frequency Identification) is a system that adds efficiency and simplification to the electronic tag-based distribution system with applications in such areas as transportation, conveyance, food management, medicine and finance.

We have focused and aimed the development of this product at the UHF band RFID system which, from the outset, is beginning to become widely used in Japan. There are also worldwide UHF band RFID system standards, in addition to that used in Japan.

The model we have developed and started mass production of, SAFCH953MAA0X00, utilizes 2MHz bandwidth between 952 and 954MHz, the standard used in Japan. Since cellular phones use the neighboring bandwidth, the electric characteristic of this filter must be very acutely selective.

We have realized low loss and high attenuation by using a quartz substrate with good temperature characteristics as well as our own electrode design technology. We have maintained the transmission loss at the 2MHz bandwidth between 952 and 954MHz at a low level less than 4.5dB while maintaining high attenuation in the neighboring cellular phone frequency at over 20dB.

We have also reduced its size compared to existing mainstream filters to 3.8x3.8x1.5mm (max).

The production volume has been increasing since April. We project to reach 100,000 units per month by October 2006.

**[Background]**

Recently, more companies are using SCM to respond to the necessity of making distribution management more efficient and faster.

RFID is a system expected to further improve the efficiency by speeding up merchandise inspection and management tasks at each distribution base. It can handle larger amounts of information than barcodes and may be implemented for merchandise lacking space to place barcode labels. This freedom allows for applications in the fields of transportation, conveyance, food management, medicine and finance. RFID standards are being prepared worldwide to come up with a global standardization policy.

Currently in Japan, this system is used at frequency bands such as 125 to 135kHz, 13.56MHz and 2.45GHz. It is possible to increase the communication distance to 3 to 8m with 900MHz UHF band RFID while providing an advantage of ease of reading the tag due to the radio wave penetrating the packaging.

**[Features]**

1. Compact, low-profile at 3.8x3.8x1.5 in mm max.
2. Low-loss and high-attenuation

**[Application]**

UHF band RFID

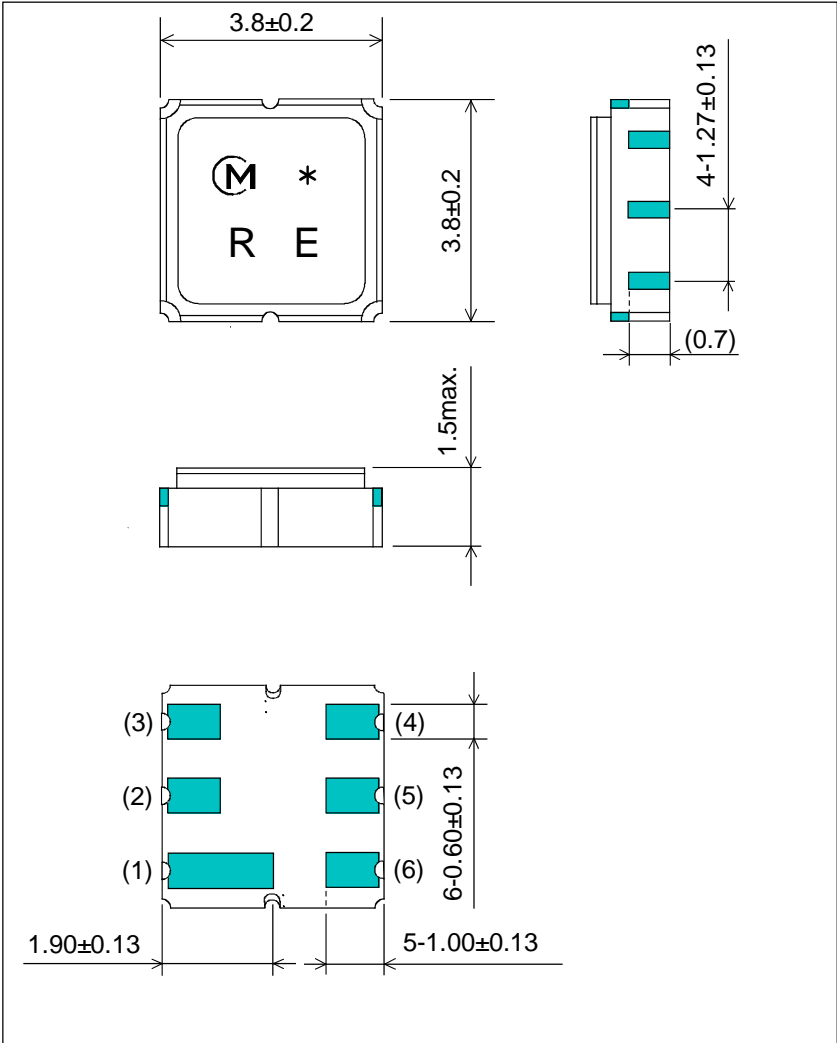
**[Terminologies]**

RFID ( Radio Frequency Identification )

SCM ( Supply Chain Management )

[External Dimensional Diagram]

RF SAW Filter



(Unit mm)

[Production]

Started production in January 2006

Over 100,000 units per month production is scheduled by October 2006