# RSFP2403D

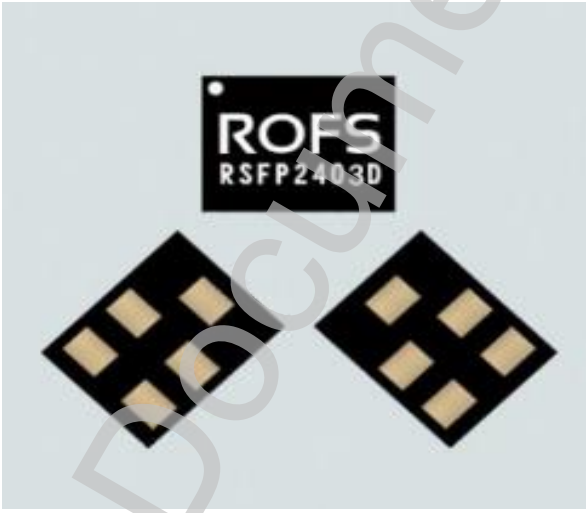
## Wi-Fi Filter for LTE (2402.5~2481.5MHz)

## Description

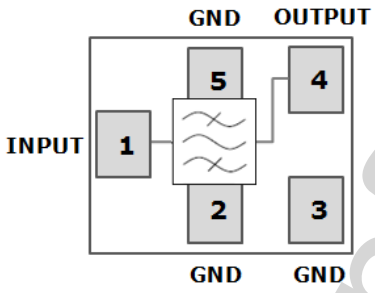
RSFP2403D is a high-performance, miniature filter designed for mobile equipment with Wi-Fi band. It is designed with Film Bulk Acoustic Resonator (FBAR) technology, which can provide low insertion loss and steep skirt. So that this product enables coexistence of Wi-Fi and LTE signals within the same device or in close proximity to one another.

For general performance, the RSFP2403D typical insertion loss in the pass band is less than 1.8dB. Typical rejection at the LTE Band 38 and LTE Band 7 and 41 is more than 45dB, at the LTE Band 40 is more than 52dB.

For the chip package, the RSFP2403D uses advanced module packing techniques to achieve the industry standard 1.4x1.1x0.61mm footprint, include bumping and flip chip.




## Functional Block Diagram




## Pin Connection

| No. | Function |
|---|---|
| 1 | Input |
| 4 | Output |
| 2,3,5 | Ground |

## Features

- For Wi-Fi - LTE coexistence application
- Plastic Chip Scale Package(CSP)
- Miniature Size: 1.4mm x 1.1 mm x 0.61 mm
- Fast Roll-off from Wi-Fi to near LTE Bands
- High Rejection at LTE bands.
- Low Temperature Coefficient of Frequency
- ESD protection ability: HBM Class1C
- Moisture Sensitivity : MSL3
- Max Input Power Rating +28dBm

## Applications

- Wi-Fi bandpass filter enables the coexistence of (LTE/TD-LTE) & Wi-Fi
- ISM band applications such as Smart Meters
- Portable Hotspots and Mobile Routers

## Environmental

- Full implement with RoHS compliant
- Lead Free (Pb free)

## Electrical Specifications

| Parameter(Operable Temperature:-20 to +90℃) | Min | Typ(1) | Max | Unit |
|---|---|---|---|---|
| **Insertion Loss**(2402.5 ~ 2421.5 MHz) | \ | 1.7 | 3.1 | dB |
| **Insertion Loss**(2407.5 ~ 2476.5 MHz) | \ | 1.4 | 2.8 | dB |
| **Insertion Loss**(2462.5 ~ 2481.5 MHz) | \ | 1.8 | 3.3 | dB |
| **Ripple**(2402.5 ~ 2421.5 MHz) | \ | 0.9 | 1.3 | dB |
| **Ripple**(2407.5 ~ 2476.5 MHz) | \ | 1.2 | 1.6 | dB |
| **Ripple**(2462.5 ~ 2481.5 MHz) | \ | 1.4 | 1.8 | dB |
| **Return Loss**(2402.5 ~ 2481.5 MHz) | 11 | 20 | \ | dB |
| **Absolute Attenuation** | | | | |
| 800 ~ 2000 MHz | 32 | 40 | \ | dB |
| 2000 ~ 2170 MHz | 32 | 38 | \ | dB |
| 2300 ~ 2370 MHz | 42 | 52 | \ | dB |
| 2370 ~ 2375 MHz | 45 | 53 | \ | dB |
| 2375 ~ 2380 MHz | 40 | 56 | \ | dB |
| 2500 ~ 2505 MHz | 30 | 52 | \ | dB |
| 2505 ~ 2570 MHz | 44 | 55 | \ | dB |
| 2570 ~ 2620 MHz | 40 | 48 | \ | dB |
| 2620 ~ 2690 MHz | 38 | 45 | \ | dB |
| 4800 ~ 5805 MHz | 32 | 40 | \ | dB |
| Max RF Input Power(2)(2402.5 ~ 2481.5 MHz) | | | 28 | dBm |

(1) **Typ Data** is the integrated value of the linear S-parameter over indicated band.
(2) Input power applied for a minimum of 5,000 hrs at 55°C in the specified frequency band.

## Typical Performance at Tc=25°C

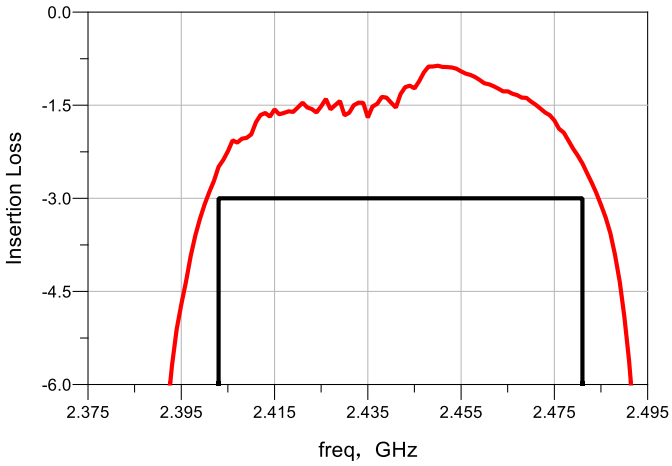



**Figure.1 Passband Insertion Loss**

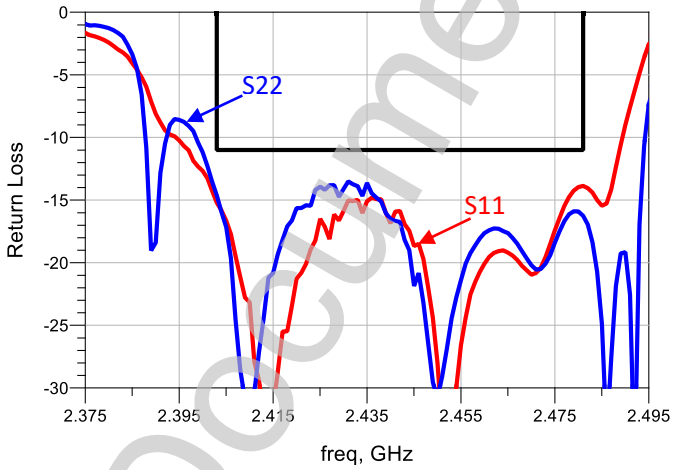



**Figure.2 Passband Return Loss**

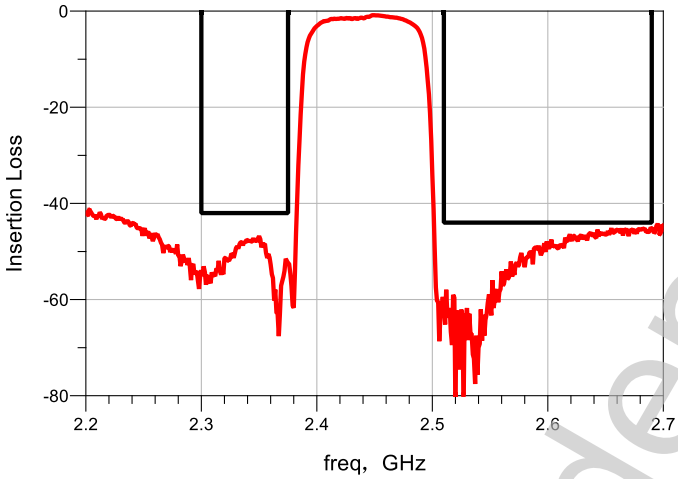



**Figure.3 Narrowband Insertion Loss**

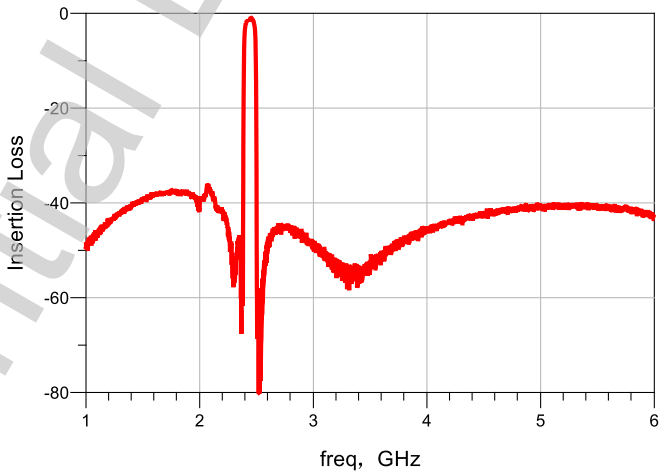



**Figure.4 Wideband Insertion Loss**

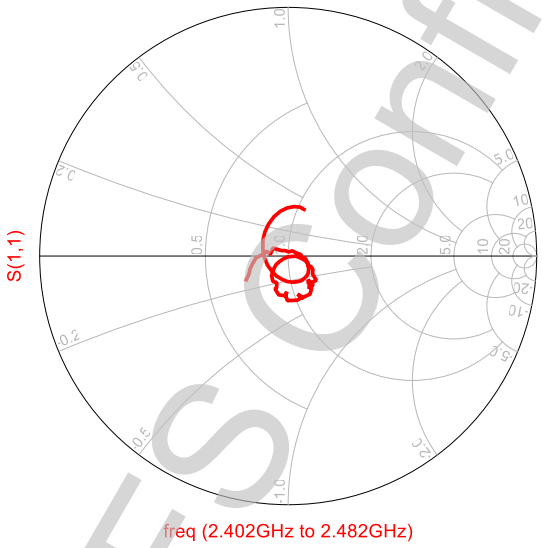



**Figure.5 Input Smith Chart S11**

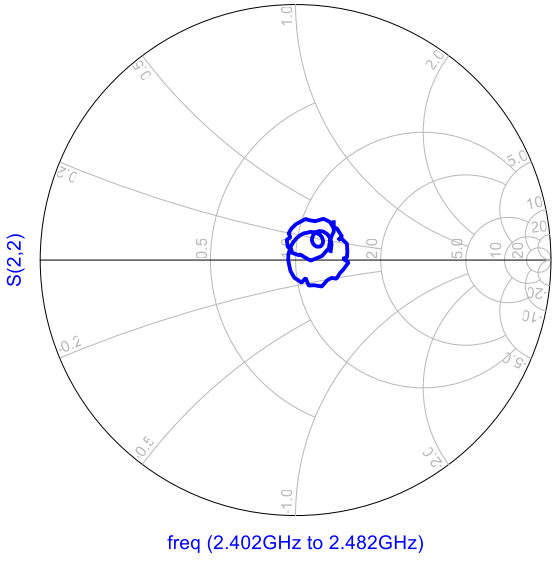
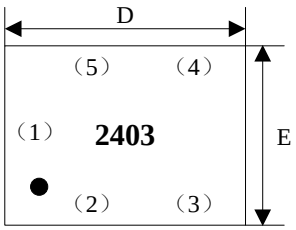
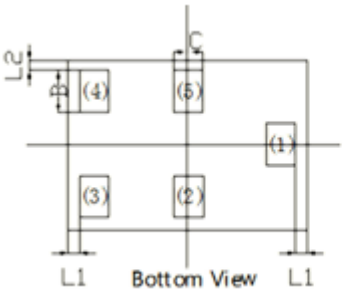



**Figure.6 Output Smith Chart S22**

## Package Outline Drawing




Top View




Bottom View


Side View

| Symbol | DIMENSION REQUIREMENT | | |
|---|---|---|---|
| | MIN | NOM | MAX |
| A | 0.56 | 0.61 | 0.66 |
| A1 | 0.16 | 0.21 | 0.26 |
| B | 0.275 | 0.325 | 0.375 |
| C | 0.20 | 0.25 | 0.30 |
| D | 1.35 | 1.4 | 1.45 |
| E | 1.05 | 1.1 | 1.15 |
| L1 | 0.05 | 0.1 | 0.15 |
| L2 | 0.025 | 0.075 | 0.125 |

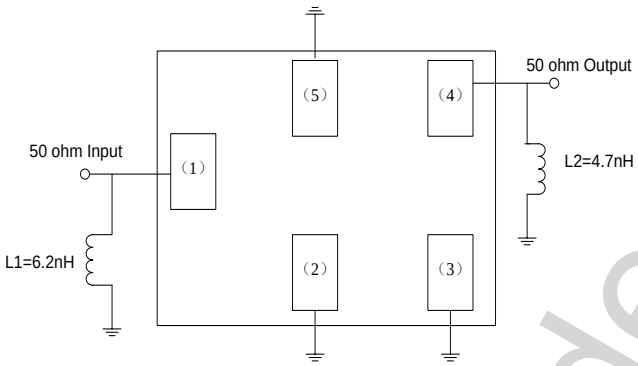
**Notes:**

1. Dimension: mm
2. Dimensions nominal unless otherwise noted
3. Contact area are gold plated
4. Pad(1) to (5) are same size
5. XX is ROFS inside code

**Pin Connection:**

| | |
|---|---|
| 1 | Input |
| 4 | Output |
| 2.3.5 | Ground |

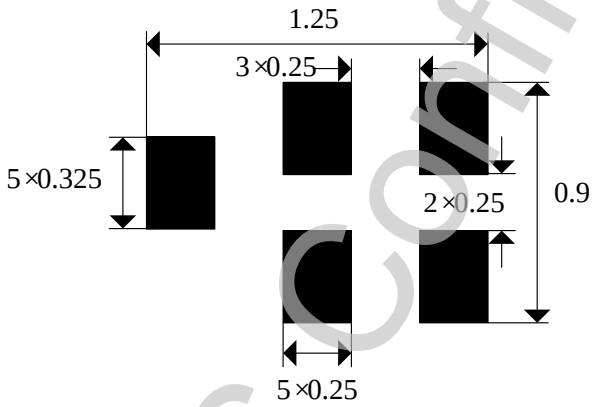
## Test Circuit




**Notes:**

1. Matching component values shown are ROFS evaluation board results, please adjust component values by the actual use environment.

## PCB Footprint




**Notes:**

1 . Black indicates metalized area.

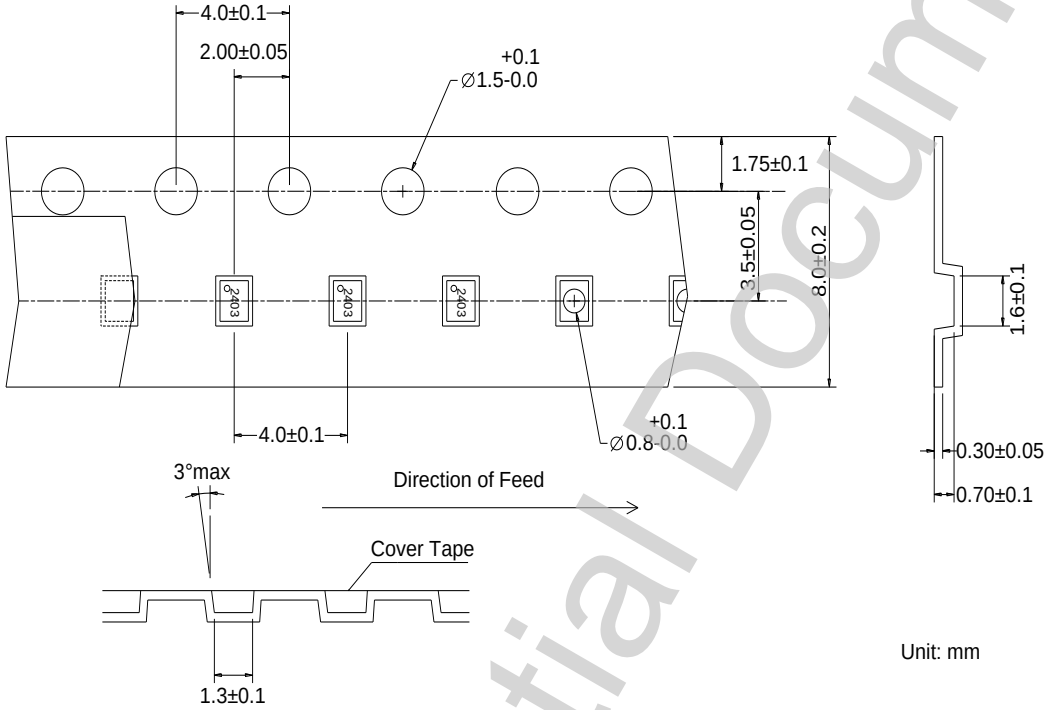
2 . This footprint represents a recommendation only, some modification may be necessary to suit end user assembly materials and processes.

3 . For solder pad recommendation see mechanical information.

4 . Dimensions shown are nominal in millimeters.

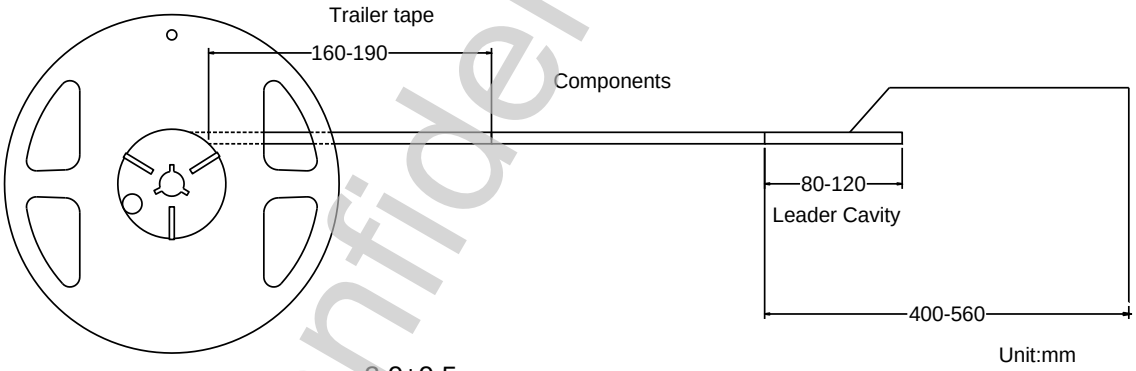
## Packing

### 1. Tape Dimension

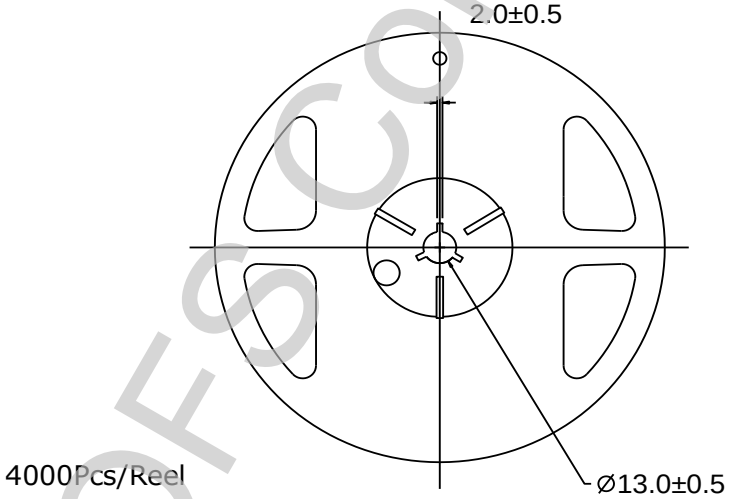


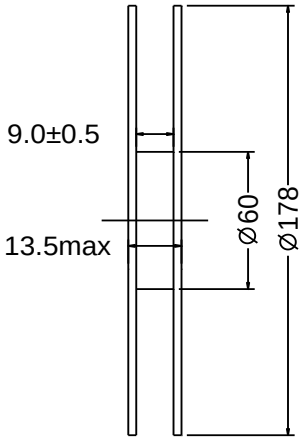

Unit: mm

### 2. Reel Dimension

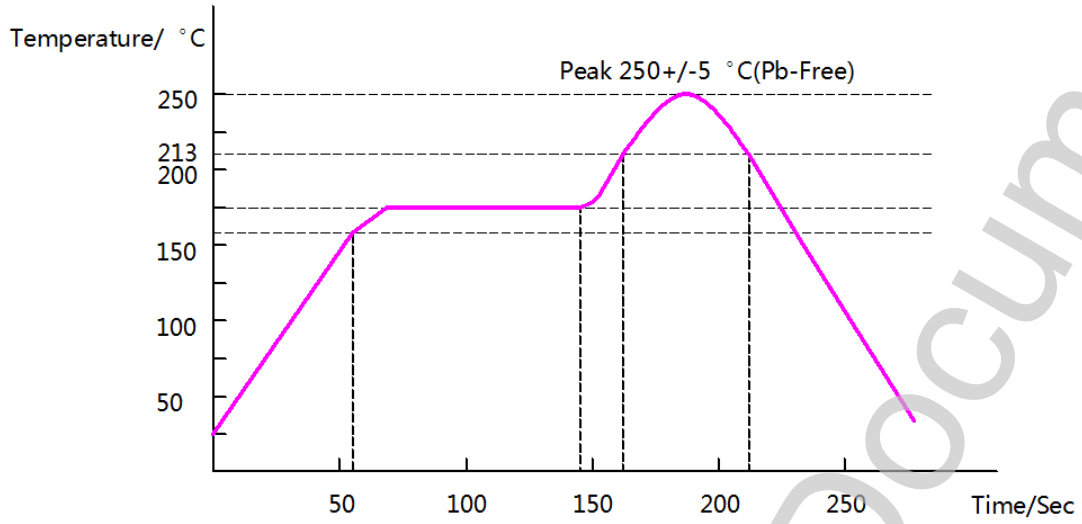



Unit:mm




### Recommended IR Reflow Profile




## Order Information

| Part Number | Qty Per Reel | Container |
|---|---|---|
| RSFP2403D | 4000 | 7 inch Reel |

For more information, please contact: sales@rofsmicro.com

**Notes:**

The specification may be changed or the product had been discontinued, please check with our sales or product engineer before order.

# X-ON Electronics

Largest Supplier of Electrical and Electronic Components

***Click to view similar products for*** Signal Conditioning ***category:***

***Click to view products by*** ROFS ***manufacturer:***

Other Similar products are found below :

MAPDCC0001 MAPDCC0004 PD0409J5050S2HF HHS-109-PIN AFS14A35-1591.50-T3 DS-323-PIN DSS-313-PIN B39321R801H210 1A0220-3 JP510S LFB212G45SG8C341 LFB322G45SN1A504 LFL182G45TC3B746 SF2159E 30057 AFS1575.42S4-T FM-104-PIN CER0813B MAPDCC0005 3A325 40287 41180 ATB3225-75032NCT BD0810N50100AHF JHS-115-PIN DC0710J5005AHF DC2327J5005AHF 43020 LFB2H2G60BB1C106 LFL15869MTC1B787 X3C19F1-20S XC3500P-20S 10013-20 SF2194E CDBLB455KCAX39-B0 TGL2208-SM, EVAL RF1353C 051157-0000 PD0922J5050D2HF 1E1305-3 1F1304-3S 1G1304-30 B0922J7575AHF 10017-3 TP-103-PIN BD1222J50200AHF BD1722J50100AHF 2450DP39K5400E BD0810J50150AHF BD1722J50200AHF