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We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

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# High Frequency Ceramic Solutions

Ultra Miniature 2.45GHz Impedance Matched FCC / ETSI Compliant Low Pass Filter for Nordic's Chipset nRF52832-QFAA, nRF52832-QFAB, nRF52810-QFAA, nRF52810-QCAA

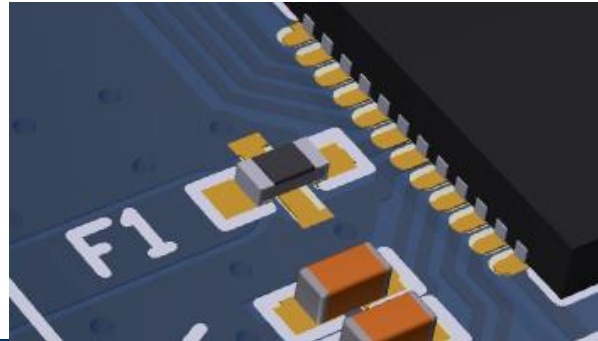
P/N 2450FM07A0029

Detail Specification: 11/6/2017

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## General Specifications

<b>Part Number</b>	2450FM07A0029
<b>Frequency (MHz)</b>	2400 - 2500
<b>Insertion loss (dB)</b>	0.8 max.
<b>Return Loss (dB)</b>	10 min.
<b>Input Impedance (Terminal Towards Chipset)</b>	Impedance matched to nRF52832-QFAA, nRF52832-QFAB, nRF52810-QFAA, nRF52810-QCAA
<b>Output Impedance</b>	50Ω
<b>Power Capacity</b>	2W max. (CW)
<b>Attenuation (dB)</b>	
4800~5000MHz	23 typ.@25°C 20 min.
7200~7500MHz	12 typ.@25°C 18 min.



<b>Reel Quantity</b>	10,000 pcs
<b>Operating Temperature</b>	-40 to +85°C
<b>Recommended Storage Conditions for unused T&amp;R product</b>	+5 to +35°C, Humidity: 45-75%RH, 18 mo. Max.

You can download measured s-parameters of this component at: [www.johansontechnology.com/nordic](http://www.johansontechnology.com/nordic)

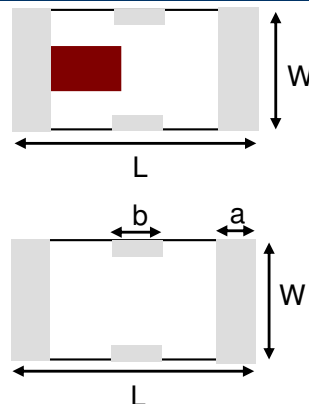
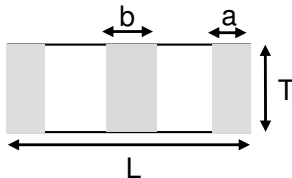
## Part Number Explanation

<b>P/N Suffix</b>	<b>Packaging Style</b>	Bulk	Suffix = S	e.g. 2450FM07A0029S
		T & R	Suffix = T	e.g. 2450FM07A0029T
	<b>Termination Style</b>	100% Tin	Suffix = None	e.g. 2450FM07A0029(T or S)

For the Full App Note and Layout Files, go to: [www.johansontechnology.com/nordic](http://www.johansontechnology.com/nordic)

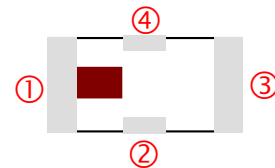
## Mechanical Dimensions

	In	mm
<b>L</b>	0.039 ± 0.002	1.00 ± 0.05
<b>W</b>	0.020 ± 0.002	0.50 ± 0.05
<b>T</b>	0.016 max.	0.40 max.
<b>a</b>	0.007 ± 0.004	0.18 ± 0.10
<b>b</b>	0.010 ± 0.004	0.25 ± 0.10



## Terminal Configuration

No.	Function
1	IN (To RFIC)
2	GND
3	OUT (To Antenna)
4	GND



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Ver. 1.3

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# High Frequency Ceramic Solutions

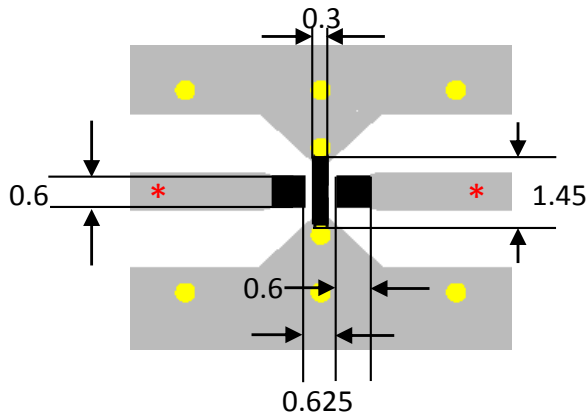
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## Mounting Pad Dimensions

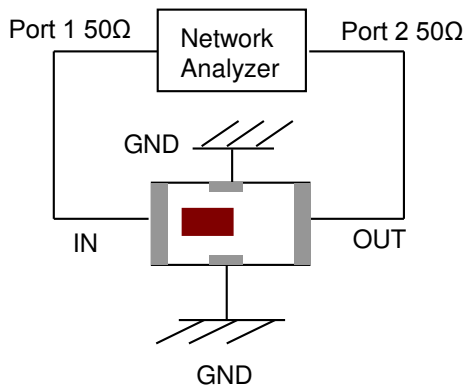


-  Solder Resist
-  Land
-  Through-hole ( $\phi$  0.35)

\*Line width should be designed to match 50 $\Omega$  characteristic impedance, depending on PCB material and thickness.

Do you need the layout files of the above? Go to: [www.johansontechnology.com/nordic](http://www.johansontechnology.com/nordic) or send us a message to review your layout at: [www.johansontechnology.com/ask-a-question](http://www.johansontechnology.com/ask-a-question)

## Measurement Schematic



Port 1: Filter IN (marking side)  
Port 2: Filter OUT

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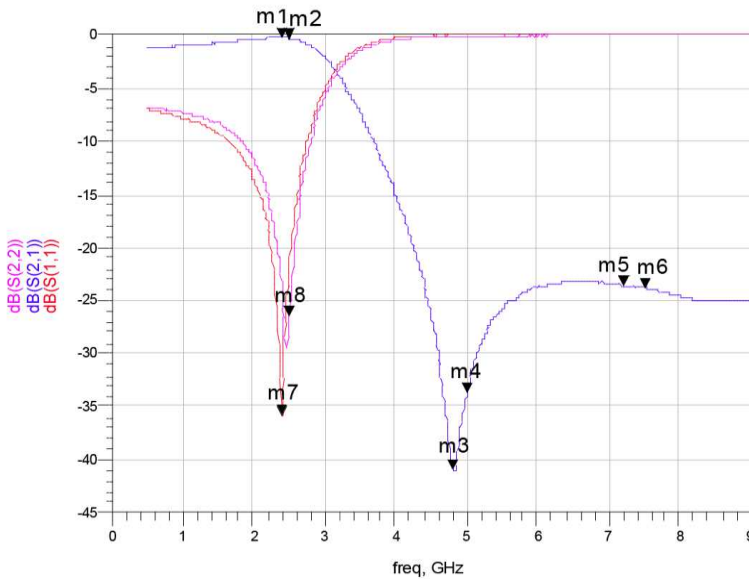
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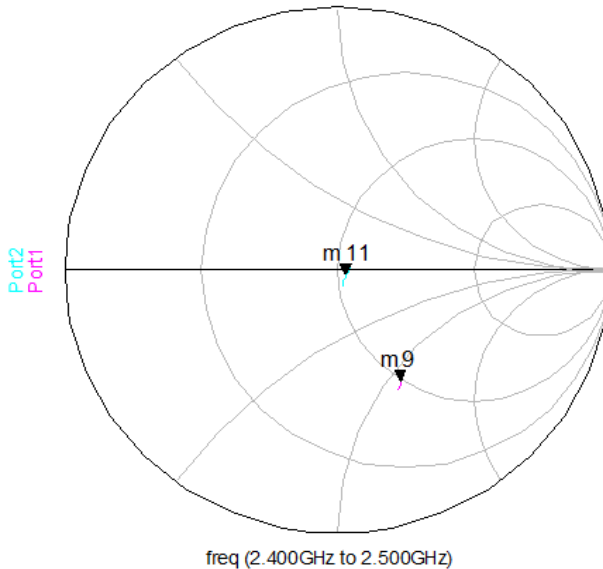
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## Typical Electrical Characteristics (T=25°C)



m1 freq=2.400GHz dB(S(2,1))=-0.224	m3 freq=4.800GHz dB(S(2,1))=-40.825
m2 freq=2.500GHz dB(S(2,1))=-0.276	m4 freq=5.000GHz dB(S(2,1))=-33.724
m7 freq=2.400GHz dB(S(1,1))=-35.825	m5 freq=7.200GHz dB(S(2,1))=-23.504
m8 freq=2.500GHz dB(S(1,1))=-26.511	m6 freq=7.500GHz dB(S(2,1))=-23.871



m9 freq=2.450GHz Port1 = 0.483 / -61.920 impedance = 49.243 - j54.723
m11 freq=2.450GHz Port2 = 0.037 / -37.256 impedance = 52.974 - j2.372

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## Application Notes, Layout Files, and more

[www.johansontechnology.com/nordic](http://www.johansontechnology.com/nordic)

## Packaging information

[www.johansontechnology.com/tape-reel-packaging](http://www.johansontechnology.com/tape-reel-packaging)

## Soldering Information

[www.johansontechnology.com/ipcsoldering-profile](http://www.johansontechnology.com/ipcsoldering-profile)

## MSL Info

[www.johansontechnology.com/msl-rating](http://www.johansontechnology.com/msl-rating)

## Recommended Storage Condition and Max Shelf Life

[www.johansontechnology.com/recommended-storage-conditions](http://www.johansontechnology.com/recommended-storage-conditions)

## RoHS Compliance

[www.johansontechnology.com/technical-notes/rohs-compliance](http://www.johansontechnology.com/technical-notes/rohs-compliance)

## Antenna layout and tuning techniques

[www.johansontechnology.com/tuning](http://www.johansontechnology.com/tuning)

## Antenna layout review, tuning, and characterization services

[www.johansontechnology.com/ipc-antenna-services](http://www.johansontechnology.com/ipc-antenna-services)

Johanson uses 6/6 RoHS Green Low-Temperature-Co-fired-Ceramic (LTCC) integrated passive technology in a 4-pin (Sn plated) monolithic structure. This component is 100% RF Tested, making it a more reliable system, impedance controlled environment, consistent-guaranteed RF performance in a very small RF front end-solution compared to the L/C discrete solution.



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