

High Frequency Ceramic Solutions

Miniature 2.45GHz Impedance Matched Front-End Filter Optimized for Semtech SX1280, SX1281

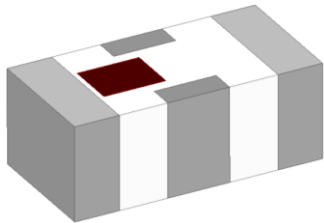
P/N 2450FM07D0034

Detail Specification: 5/10/2018

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AEC-Q200 qualified component available, contact us at: www.johansontechnology.com/ask-a-question

General Specifications

Part Number	2450FM07D0034		
Frequency (MHz)	2400 - 2500		
Insertion loss (dB)	0.75 Typ. (1.0 max.)		
Return Loss (dB)	14 Typ. (10 min.)		
Input Impedance (Terminal Toward Chipset)	Impedance matched to Semtech SX1280, SX1281		
Output Impedance	50Ω		
Power Capacity	3W max. (CW)		
Attenuation (dB)			
4800 - 5000MHz	35 Typ. (30 min.)		
7200 - 7500MHz	30 Typ. (25 min.)		
9600 - 10000MHz	30 Typ. (25 min.)	Reel Quantity	10,000 pcs
12000 - 12500MHz	25 Typ. (20 min.)	Storage Temperature	-40 to +85°C
14400 - 15000MHz	9.5 Typ. (4.5 min.)	Operating Temperature	-40 to +85°C
16800 - 17000MHz	8.0 Typ. (3.0 min.)	Recommended Storage Conditions for unused T&R product	+5 to +35°C, Humidity: 45-75%RH, 18 mo. Max.

You can download measured s-parameters of this component at: www.johansontechnology.com/semtech

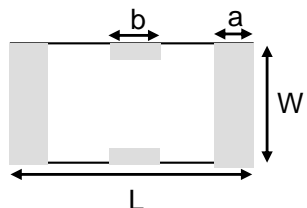
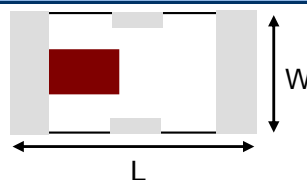
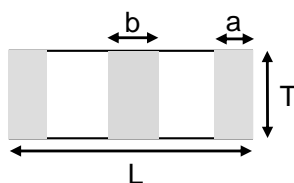
Part Number Explanation

P/N Suffix	Packaging Style	Bulk	Suffix = S	E.g. 2450FM07D0034S
		T & R	Suffix = T	E.g. 2450FM07D0034T
	Termination Style	100% Tin	Suffix = None	E.g. 2450FM07D0034(T or S)

For the Full App Note and Layout Files, go to: www.johansontechnology.com/semtech

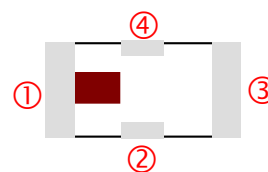
Mechanical Dimensions

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



Terminal Configuration

No.	Function
1	IN (Toward the chipset)
2	GND
3	OUT (Toward the antenna)
4	GND



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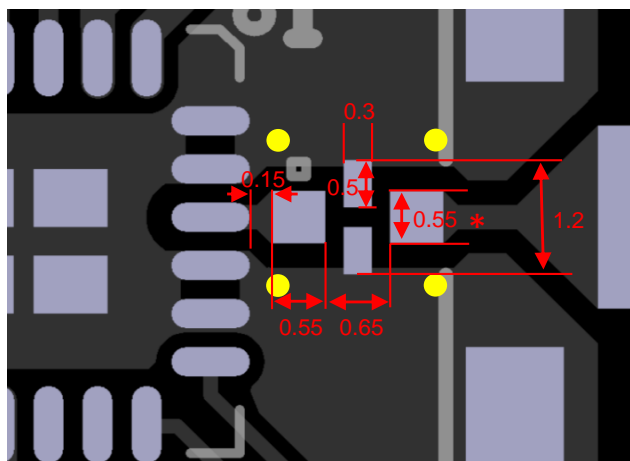
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Mounting Pad Dimensions



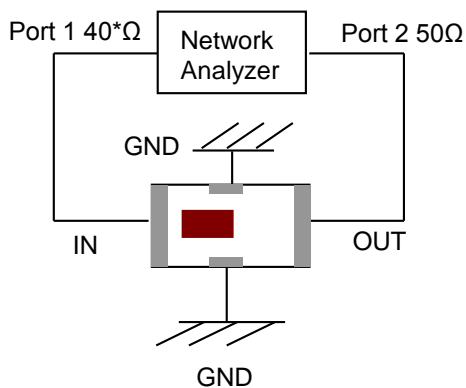
-  Solder Resist
-  Land
-  Through-hole ($\phi 0.20$)

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

Units in mm

Do you need the layout files of the above? Go to: www.johansontechnology.com/ask-a-question

Measurement Schematic



Port 1: Filter IN (red marking side toward chipset)

*Port 1 is indeed 40ohms!

Port 2: Filter OUT (toward antenna)

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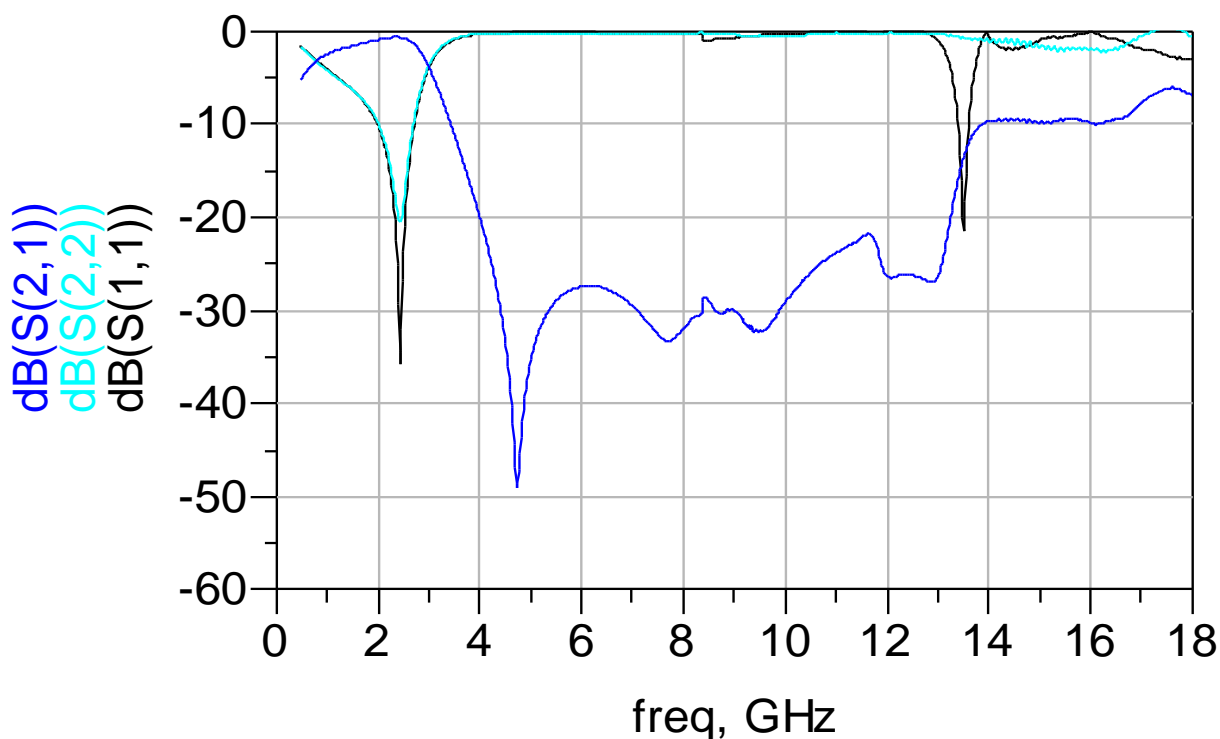
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Typical Electrical Characteristics (T=25°C)



If you would like recommendation on a mini 2.4G embedded antenna, free layout verification, reference design files (gerbers, schematic, etc) or s-parameter files, please contact us at:

www.johansontechnology.com/ask-a-question

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Application Notes, Layout Files, and more

www.johansontechnology.com/semtech

Packaging information

www.johansontechnology.com/tape-reel-packaging

Soldering Information

www.johansontechnology.com/ipcsoldering-profile

MSL Info

www.johansontechnology.com/msl-rating

Recommended Storage Condition and Max Shelf Life

www.johansontechnology.com/recommended-storage-conditions

RoHS Compliance

www.johansontechnology.com/rohs-compliance

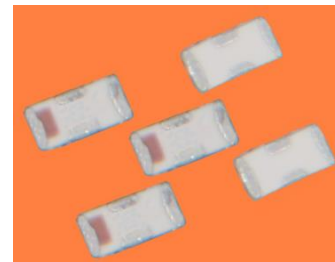
Antenna layout and tuning techniques

www.johansontechnology.com/tuning

Antenna layout review, tuning, and characterization services

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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