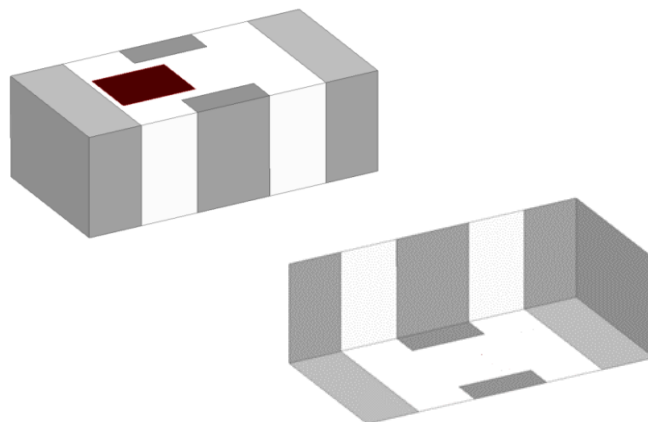




2.4 GHz, Impedance-matched Filter for Semtech Chipset SX1280, SX1281

- 2400 - 2500 MHz passband
- Designed for Semtech chipsets:
 - SX1280
 - SX1281
- For 2.4GHz applications such as WiFi, Bluetooth, Zigbee, etc.
- EIA 0402 SMD (1.0mm x 0.5mm x 0.4mm)



General Specifications¹

		Impedance match for:	
Impedance, Transceiver Side (Ω)	2400 - 2500 MHz	SX1280 SX1281	
Impedance, Antenna Side (Ω)	2400 - 2500 MHz	50	
Insertion Loss (dB)	2400 - 2500 MHz	0.75 Typ.	1.0 Max.
Return Loss (dB)	2400 - 2500 MHz	14 Typ.	10 Min.
Attenuation (dB)	4800 - 5000 MHz	35 Typ.	30 Min.
	7200 - 7500 MHz	30 Typ.	25 Min.
	9600 - 10000 MHz	30 Typ.	25 Min.
	12000 - 12500 MHz	25 Typ.	20 Min.
	14400 - 15000 MHz	9.5 Typ.	4.5 Min.
	16800 - 17000 MHz	8 Typ.	3 Min.

Maximum Ratings

Power Capacity (W)	3 Max. (CW)
Operating Temperature ($^{\circ}\text{C}$)	-40 to +85
Recommended Storage Conditions Post-installation ($^{\circ}\text{C}$)	-40 to +85
Recommended Storage Conditions and Period for Unused T&R Product	45% - 75% RH +5 to +35 $^{\circ}\text{C}$ 18 Months Max.

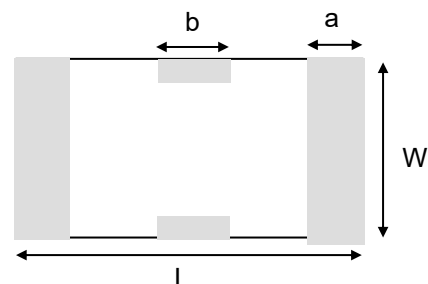
¹ Typical value represents average measurement at 25 $^{\circ}\text{C}$. Min./Max. values represent measurements over specified operating temperature.



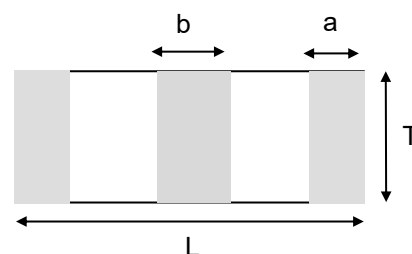
Mechanical Dimensions

	Inches			Millimeters		
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	±	0.1
b	0.010	±	0.004	0.25	±	0.1

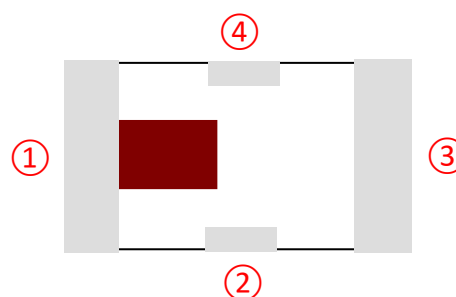
Bottom view



Side view



Top view



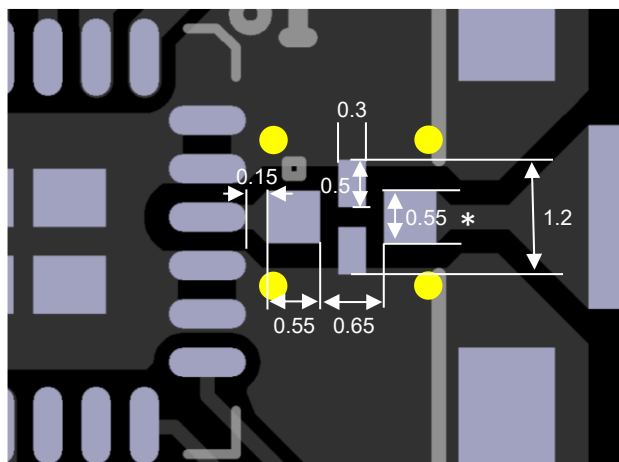
Terminal Configuration²

Pin Number	Function
1	IN (To RFIC)
2	GND
3	OUT (To Antenna)
4	GND

² The termination type is Nickel Tin. Go to: <https://www.johansontechnology.com/ipcsoldering-profile> for Typical Soldering Profile.

Recommended PCB Layout

Note: Mount device with colored mark facing up.



Units in mm

 Solder Resist

 Land

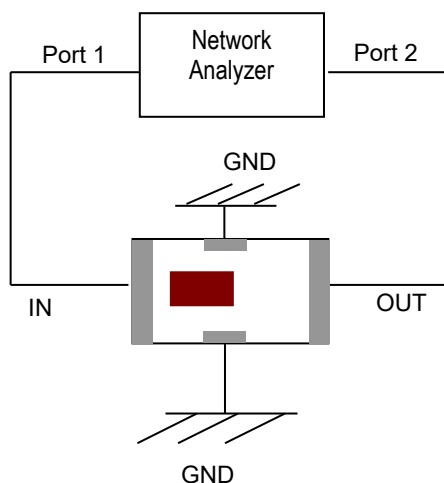
 Through-hole ($\phi 0.20$)

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

This component is internally DC blocked. External DC block not necessary

If you'd like the CAD PCB layout or have any questions,
contact our application engineers at <https://www.johansontechnology.com/ask-a-question>

Measuring Diagram



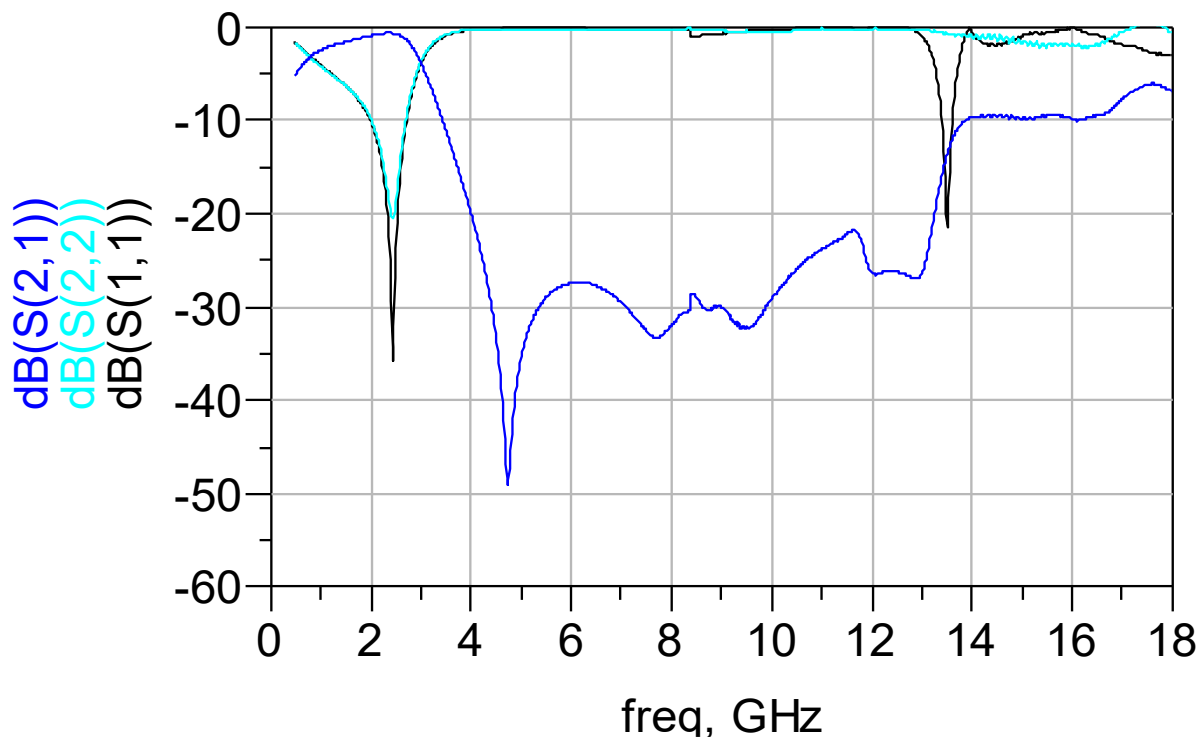
Port 1: Filter IN (marking side)

Port 2: Filter OUT



RF Measurement (T = 25°C)

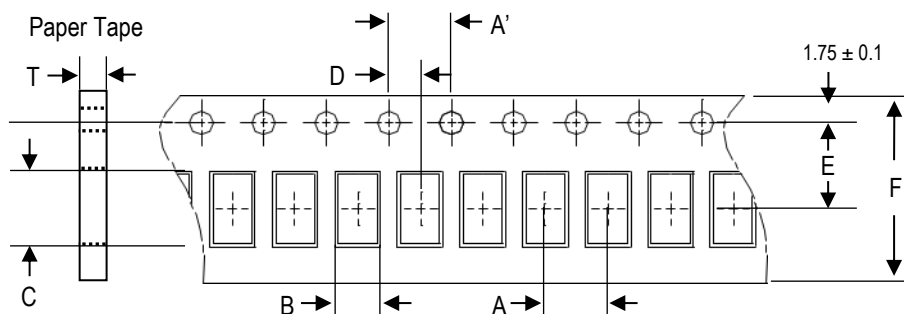
Insertion Loss, Return Loss, Attenuation



S-parameter and layout file available upon request. Please contact us at <https://www.johansontechnology.com/ask-a-question>.

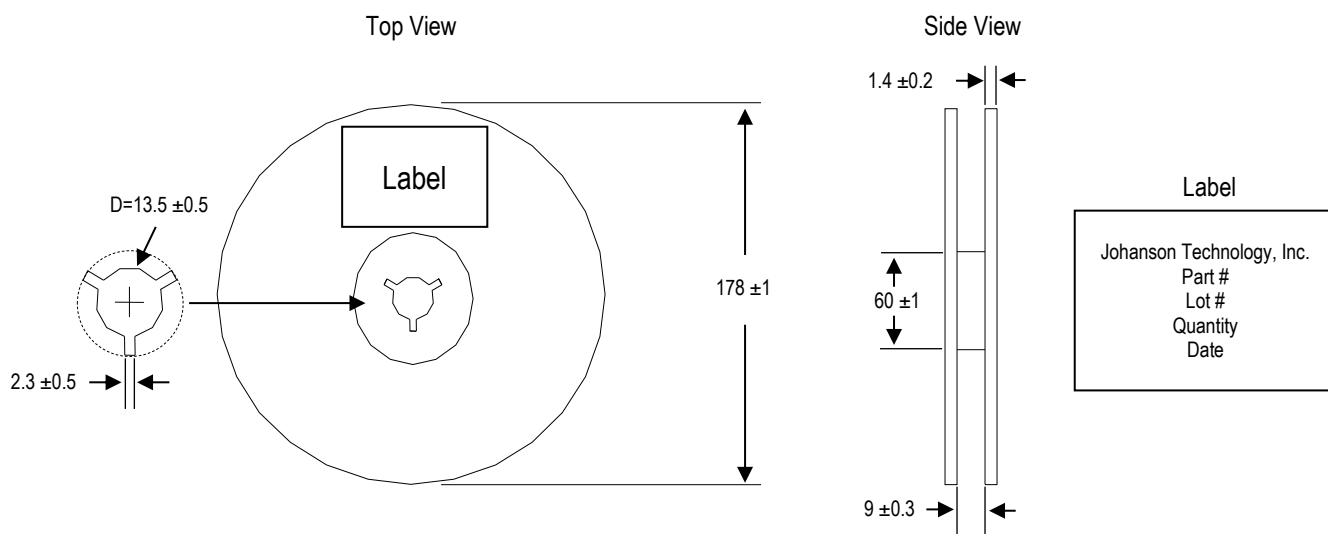
Tape and Reel Specification (Units in mm)

Tape Dimensions

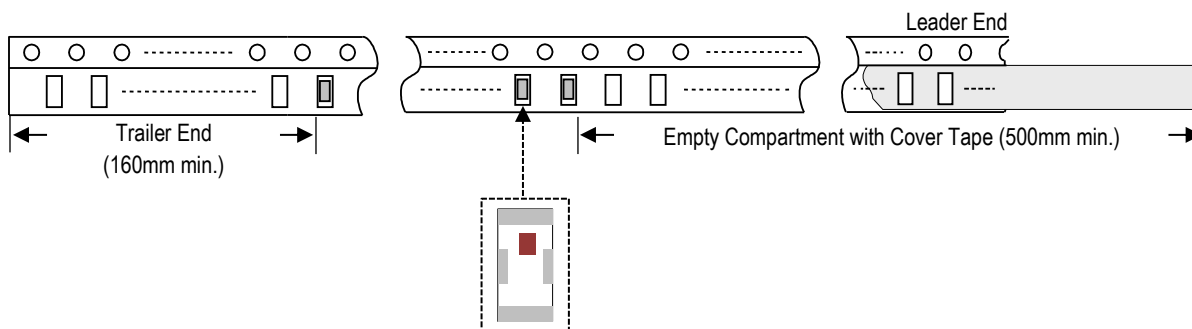


A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
2.0 ± 0.05	4.0 ± 0.1	0.62 ± 0.03	1.12 ± 0.03	2.0 ± 0.05	3.5 ± 0.05	8.0 ± 0.1	0.45 ± 0.03	10,000 pcs.	Paper

Reel Dimensions



Leader and Trailer Dimensions



Orderable Part Number

Packaging Style	Part Number	Termination
Bulk (loose pcs.)	2450FM07D0034001B	Nickel Tin
T & R (7" Reel Paper Tape)	2450FM07D0034001T (Qty: 10,000 pcs/reel)	

Important Links[2450FM07D0034001T Product Page](#)[More Nordic Semiconductor Reference Designs](#)[2.4GHz Antennas](#)[Antenna Tuning, Optimization, and Validation Services](#)[Soldering Information](#)[MSL Information](#)[Packaging Information](#)[Recommended Storage Condition and Max Shelf Life](#)[RoHS Compliance](#)

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