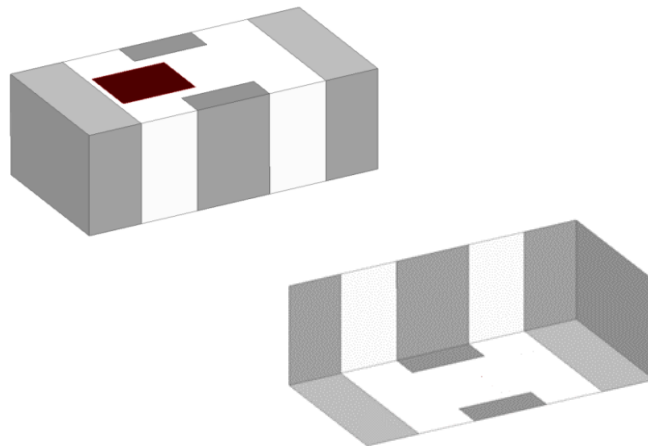


## 2.4 GHz Filter, Impedance-matched Filter for Nordic Semiconductor Chipset nRF52805-CAAA

- 2400 - 2500 MHz passband
- Designed for Nordic Semiconductor chipset:
  - nRF52805-CAAA
- For 2.4GHz applications such as WiFi, Bluetooth, Zigbee, etc.
- EIA 0402 SMD (1.0mm x 0.5mm x 0.4mm)



### General Specifications<sup>1</sup>

Impedance, Transceiver Side ( $\Omega$ )	2400 - 2500 MHz	Impedance match for: nRF52805-CAAA	
Impedance, Antenna Side ( $\Omega$ )	2400 - 2500 MHz	50	
Insertion Loss (dB)	2400 - 2500 MHz	0.35 Typ.	0.75 Max.
Return Loss (dB)	2400 - 2500 MHz	20 Typ.	9.5 Min.
Attenuation (dB)	4800 - 5000 MHz	30 Typ.	24 Min.
	7200 - 7500 MHz	40 Typ.	15 Min.

### Maximum Ratings

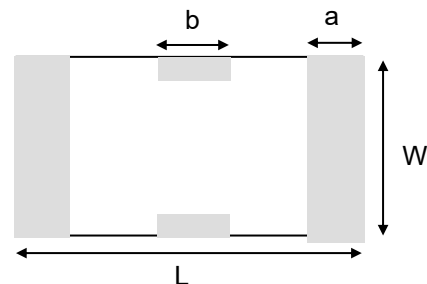
Power Capacity (W)	3 Max. (CW)
Operating Temperature ( $^{\circ}\text{C}$ )	-40 to +85
Recommended Storage Conditions Post-installation ( $^{\circ}\text{C}$ )	-40 to +85
Recommended Storage Conditions and Period for Unused T&R Product	45% - 75% RH +5 to +35 $^{\circ}\text{C}$ 18 Months Max.

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

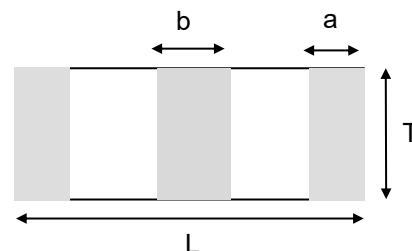
**Mechanical Dimensions**

	Inches			Millimeters		
<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	±	0.1
<b>b</b>	0.010	±	0.004	0.25	±	0.1

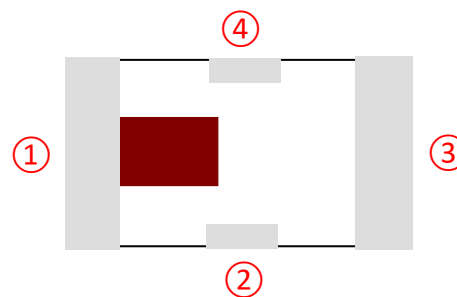
Bottom view



Side view



Top view



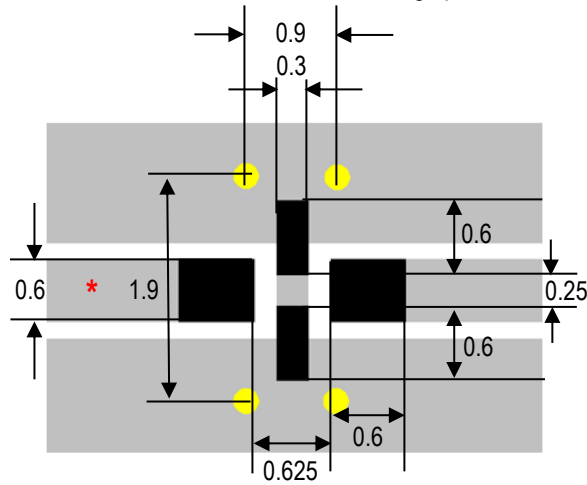
**Terminal Configuration<sup>2</sup>**

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




<sup>2</sup> 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.



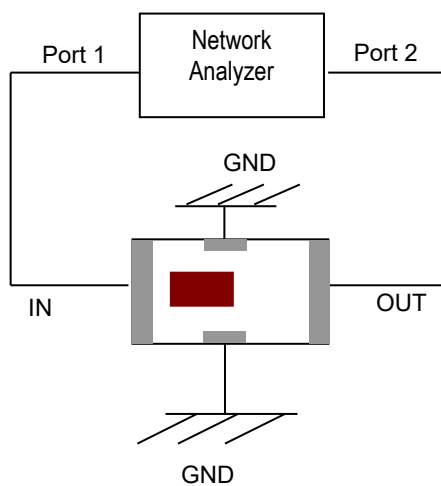
Units in mm

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

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

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**

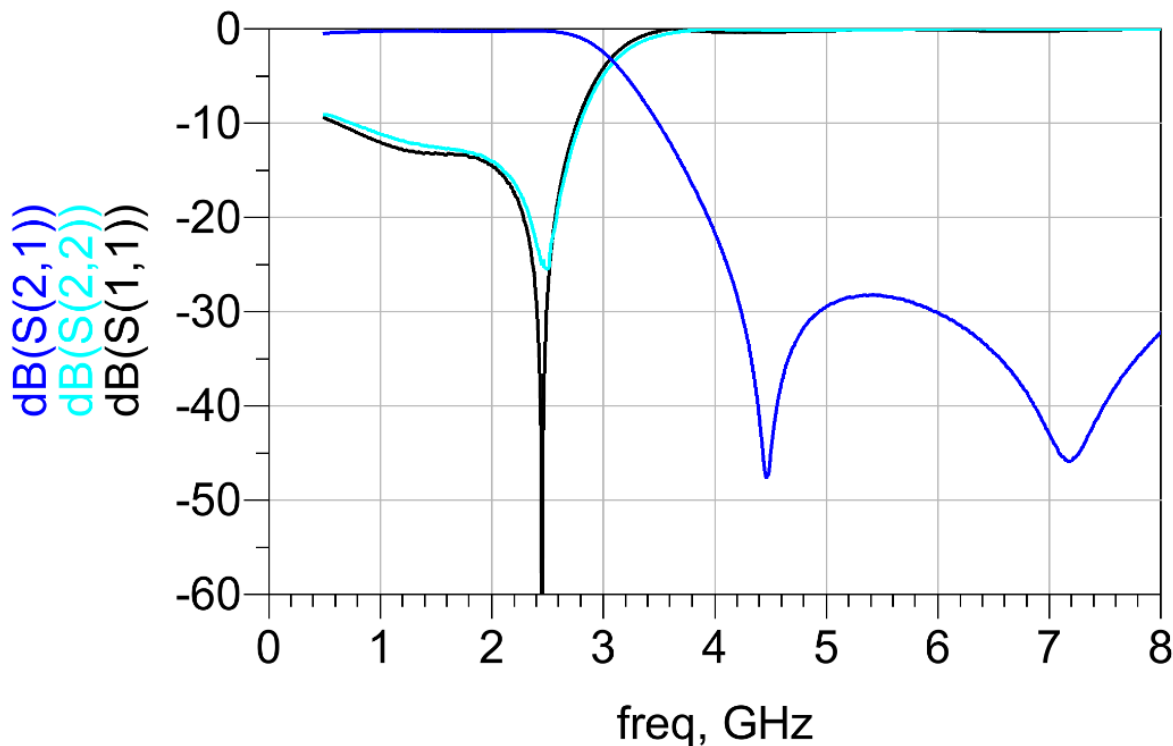


Port 1: Filter IN (marking side)

Port 2: Filter OUT

**RF Measurement (T = 25°C)**

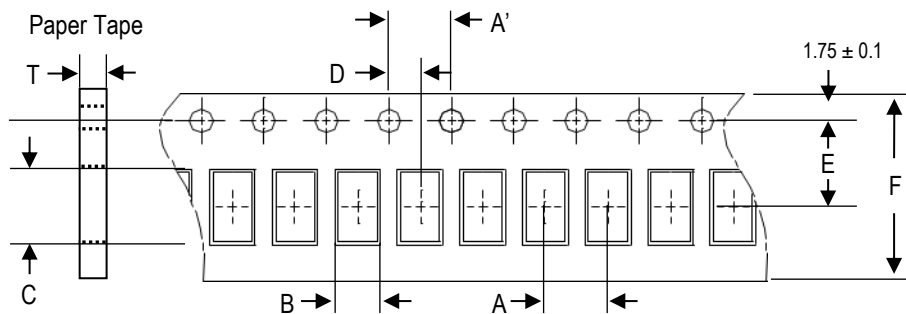
Insertion Loss, Return Loss, Attenuation



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

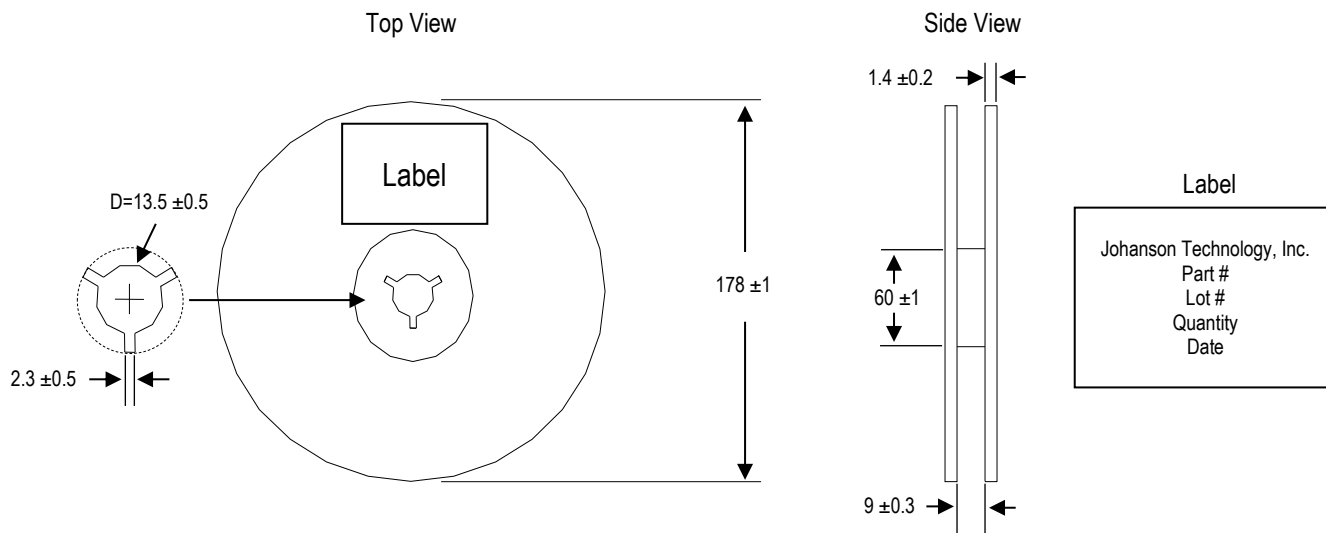
**Tape and Reel Specification (Units in mm)**

**Tape Dimensions**

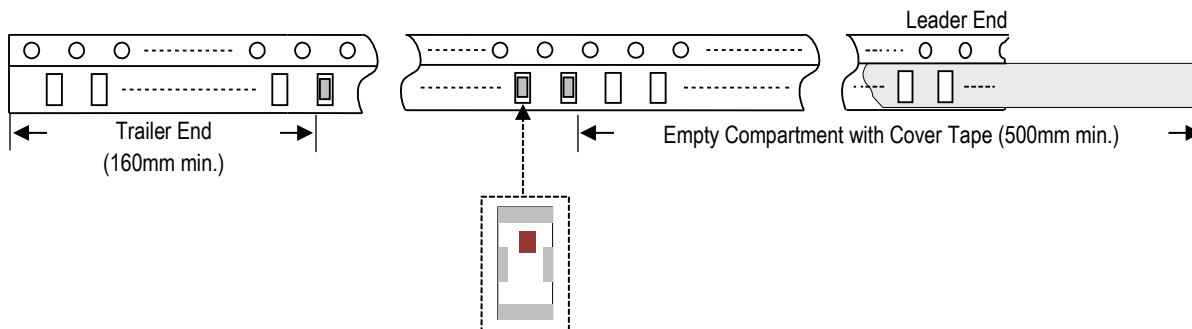


A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
2.0 ±0.05	4.0±0.1	0.62 ±0.03	1.12 ±0.03	2.0 ±0.05	3.5 ±0.05	8.0 ±0.1	0.45 ±0.03	10,000 pcs.	Paper

**Reel Dimensions**



**Leader and Trailer Dimensions**



**Orderable Part Number**

Packaging Style	Part Number	Termination
Bulk (loose pcs.)	2450FM07C0041001B	Nickel Tin
T & R (7" Reel Paper Tape)	2450FM07C0041001T (Qty: 10,000 pcs/reel)	

**Important Links**

[2450FM07C0041001T 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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