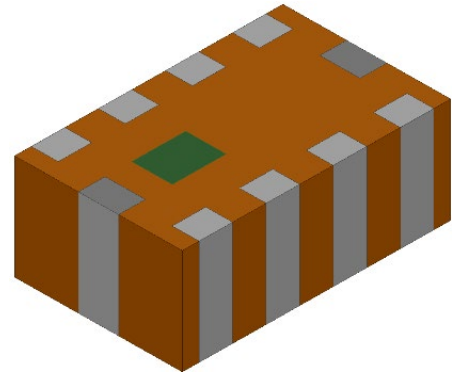


862 – 928 MHz Impedance-matched Filter for Semtech SX126x Series Transceiver Chipsets

- 868 and 915MHz ISM bands
- SMD, EIA 0805
- Designed for use with Semtech chipset part numbers:
 - SX1261
 - SX1262
 - LLCC68



General Specifications¹

Passband Frequency (MHz)	862 - 928
Impedance, Antenna-side (Ω)	50
Impedance, Transceiver-side (Ω)	Impedance match to Semtech SX1261, SX1262, LLCC8 chipsets
Insertion Loss TX (dB)	1.1 Typ. (1.4 Max.)
Insertion Loss RX (dB)	1.5 Typ. (2.0 Max.)
Return Loss (dB)	10 Min.
Attenuation	
Frequency Range (MHz) Attenuation (dB)	1724 – 1856 20 Min.
Frequency Range (MHz) Attenuation (dB)	2586 – 2784 40 Min.
Frequency Range (MHz) Attenuation (dB)	3448 – 3712 40 Min.
Frequency Range (MHz) Attenuation (dB)	4310 – 4640 30 Min.
Frequency Range (MHz) Attenuation (dB)	5172 – 5568 20 Min.
Frequency Range (MHz) Attenuation (dB)	6034 – 6496 15 Min.

¹ Typical value represents average measurement at 25°C. Min./Max. values represent measurements within the operating temperature specification unless stated otherwise.

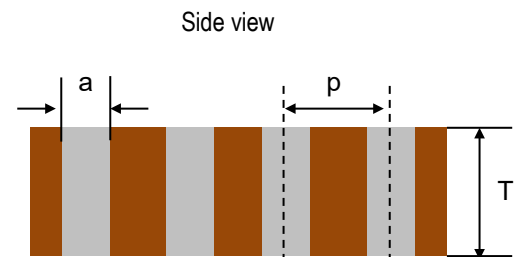
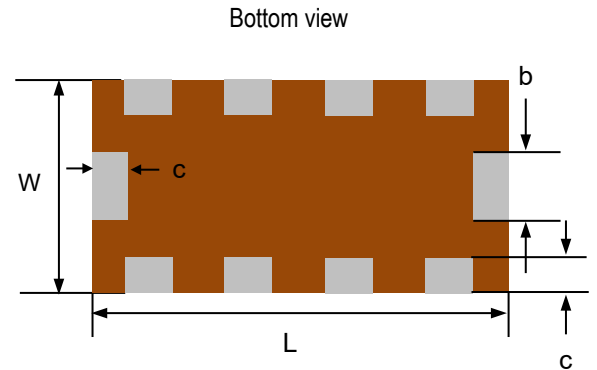
Maximum Ratings

Power Capacity (W)	2 Max. (CW)
Operating Temperature (°C)	-40 to +85
Recommended Storage Conditions post-installation (°C)	-40 to +85
Recommended Storage Conditions and Period for Unused T&R Product ²	45% - 75% RH +5 to +35 °C 18 Months Max. Vacuum-sealed Bag

² This is a silver-leaded part. Please keep un-used parts in vacuum sealed bags. For more information go to:
<https://www.johansontechnology.com/silverleads-profile>

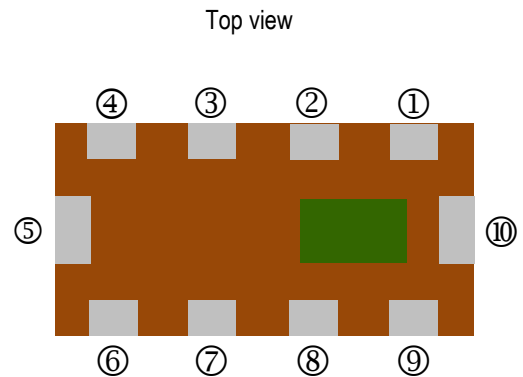
Mechanical Dimensions

	Inches			Millimeters		
L	0.079	±	0.006	2.00	±	0.15
W	0.049	±	0.004	1.25	±	0.10
T	0.031	±	0.004	0.80	±	0.10
a	0.010	±	0.004	0.25	±	0.10
b	0.012	±	0.006	0.30	±	0.15
c	0.008	+0.004/-0.006		0.20	+0.10/-0.15	
p	0.020	±	0.004	0.50	±	0.10

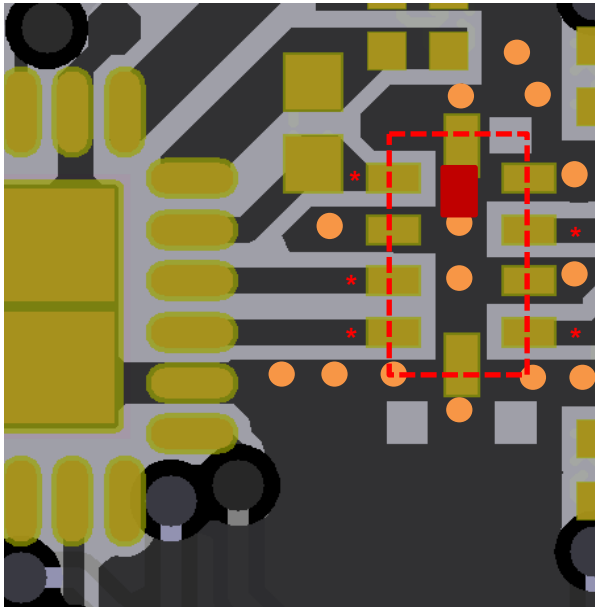





Terminal Configuration

Pin Number	Function
1	RFO
2	GND
3	RFI_N
4	RFI_P
5	GND
6	SW_RFI
7	GND
8	SW_RFO
9	GND
10	GND



PCB Reference Design Layout



-  Solder Resist
-  Land
-  GND Via (\varnothing 0.2mm)

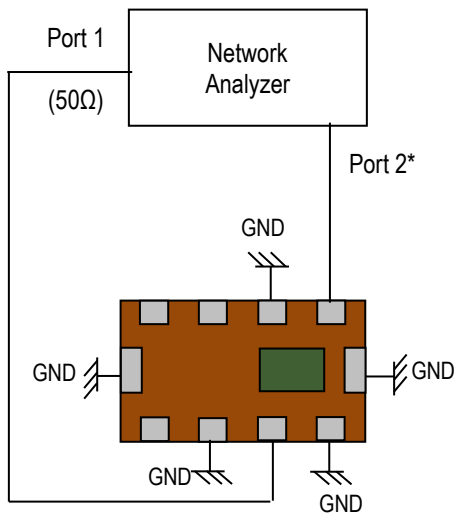
NOTE: GND via placement is crucial to the harmonic attenuation capability of the filter.

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

If you would like the full reference design package or have any questions, contact our application engineers at <https://www.johansontechnology.com/ask-a-question>

Measuring Diagram

TX Path



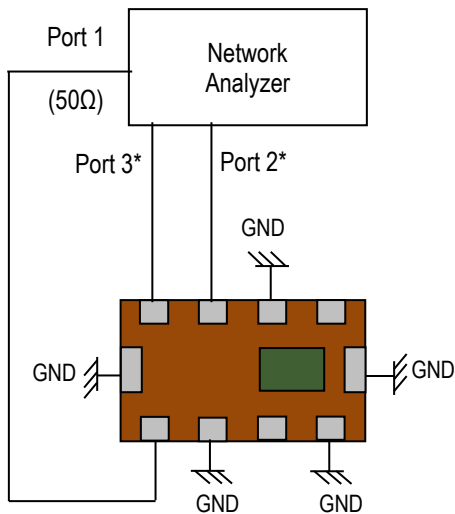
Port 1: Antenna port

Port 1 Load impedance: 50Ω

Port 2: RFO

*Port 2 Load impedance: Complex conjugate match to SEMTECH SX1261, SX1262, LLCC68

RX Path



Port 1: Antenna port

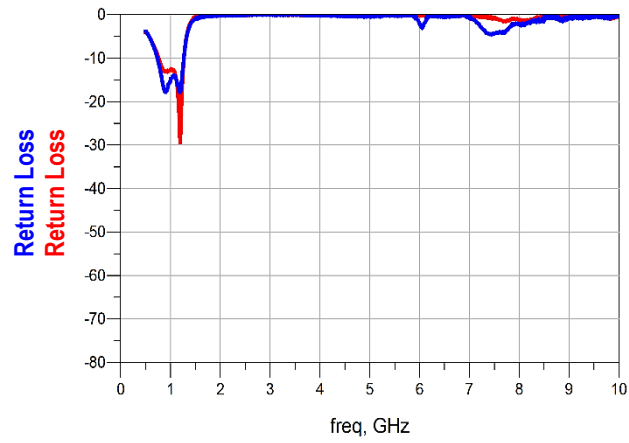
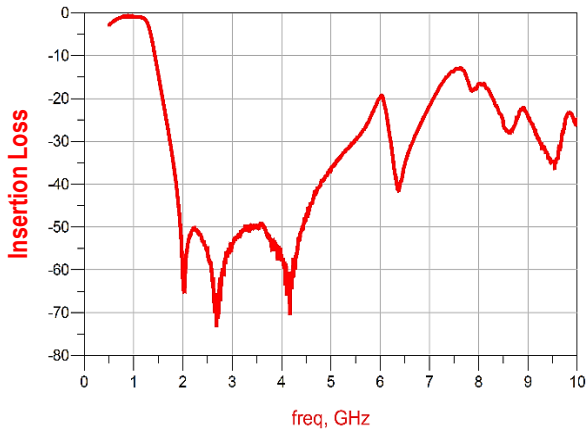
Port 1 Load impedance: 50Ω

Ports 2 and 3: RFI Balanced Port

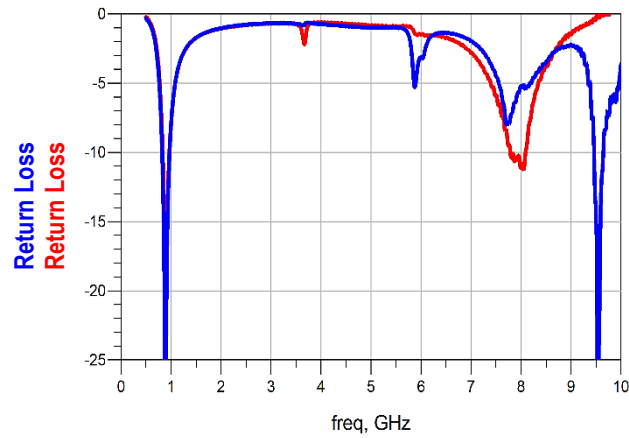
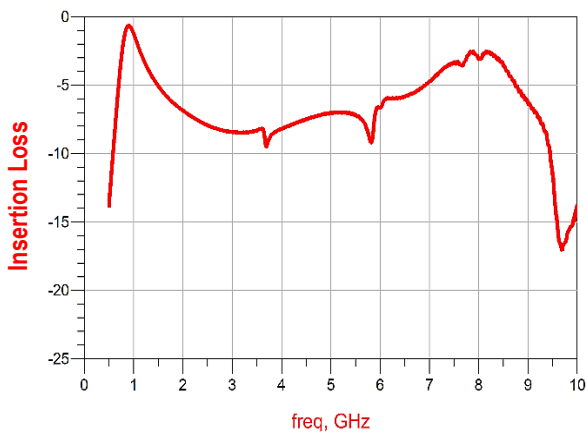
*Port 2 and 3 Load impedance: Complex conjugate match to SEMTECH SX1261, SX1262, LLCC68

RF Measurement

RFO Path Insertion Loss, Return Loss



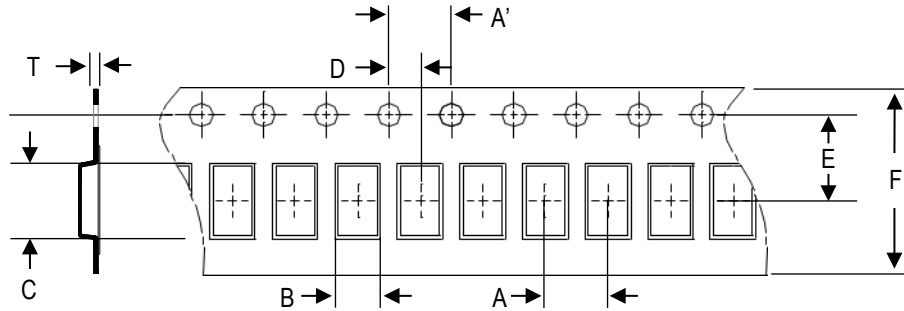
RFI Path Insertion Loss, Return Loss



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

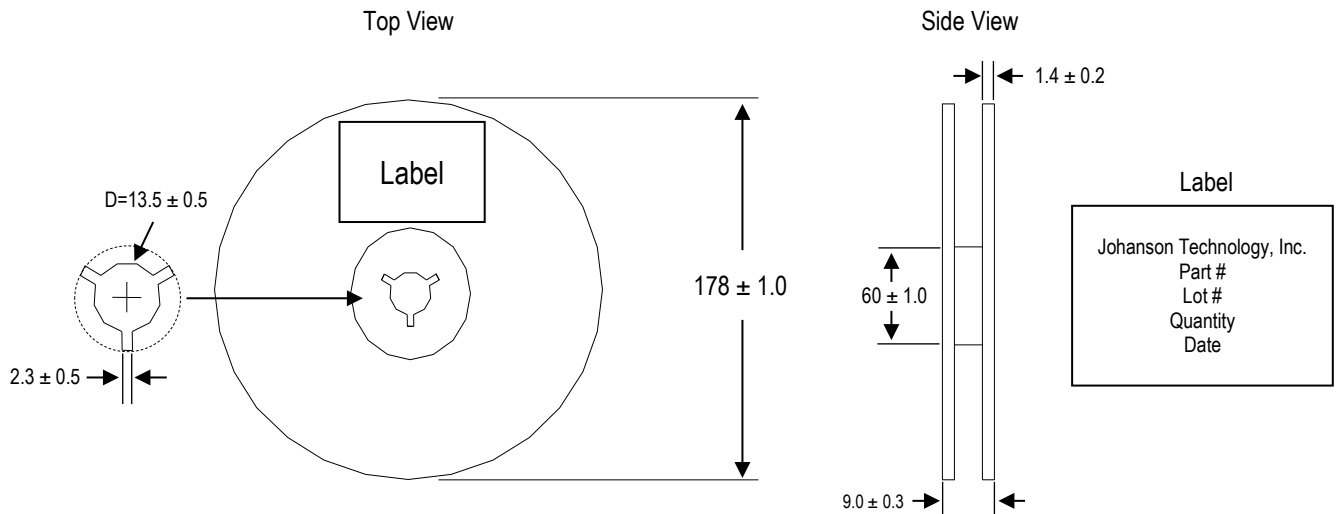
Tape and Reel Specification (Units in mm)

Tape Dimensions

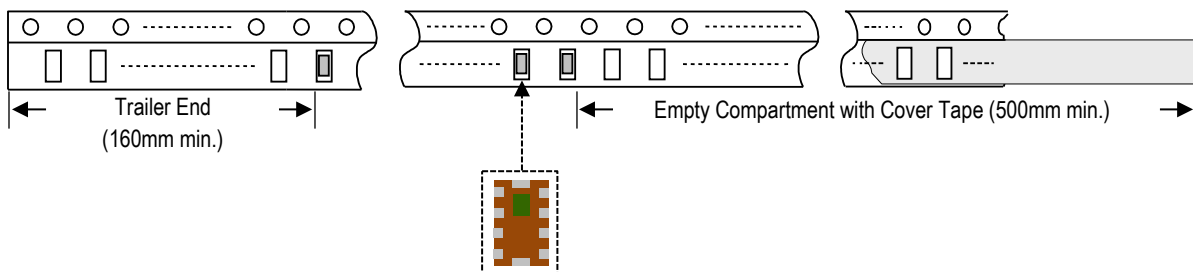


A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
4.0±0.1	4.0±0.1	1.35±0.05	2.15±0.05	2.0±0.05	3.5±0.1	8.0±0.1	1.00±0.05	4,000pcs	Plastic (Embossed)

Reel Dimensions



Leader and Trailer Dimensions



Orderable Part Number

Packaging Style	Part Number
Bulk (loose pcs.)	0900FM15K0039001B
T & R (7" Reel Embossed Tape)	0900FM15K0039001E (Qty: 4,000 pcs./reel)

Important Links

[0900FM15K0039001E Product Page](#)

[0900FM15K0039001E Application Note AN101](#)

[900MHz Chip Antennas](#)

[Antenna Tuning, Optimization, and Validation Services](#)

[Soldering Information](#)

[MSL Information](#)

[Packaging Information](#)

[Recommended Storage Condition and Max Shelf Life](#)

[RoHS Compliance](#)