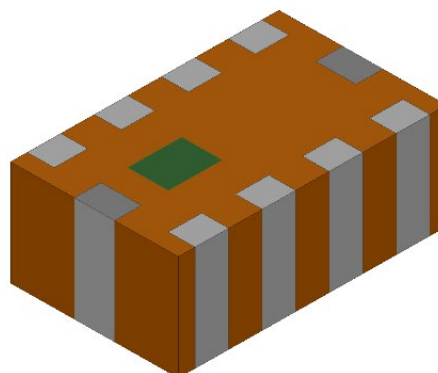




902 – 928 MHz Impedance-matched Filter for Semtech SX126x Series Transceiver Chipsets

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



General Specifications¹

Passband Frequency (MHz)	902 - 928
Impedance, Antenna-side (Ω)	50
Impedance, Transceiver-side (Ω)	Impedance match to Semtech SX1261, SX1262, LLCC8 chipsets
Insertion Loss (dB)	0.8 Typ. (1.4 Max.)
Return Loss (dB)	12 Min.
Attenuation	
Frequency Range (MHz)	1724 – 1856
Attenuation (dB)	25 Min.
Frequency Range (MHz)	2586 – 2784
Attenuation (dB)	35 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

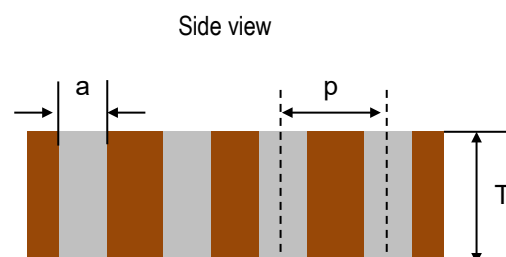
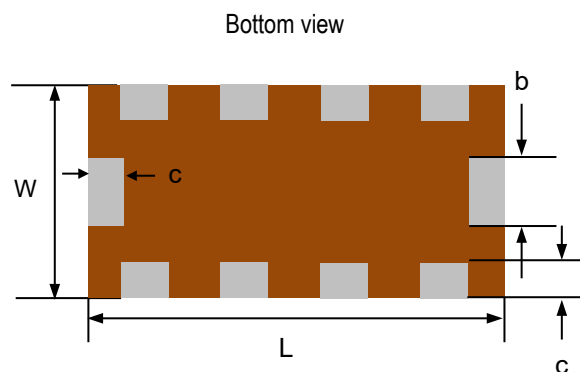
Power Capacity (W)	2 Max. (CW)
Operating Temperature (°C)	-40 to +85
Recommended Storage Conditions post-installation (°C)	-40 to +85
Recommended Storage Conditions and Period for Unused T&R Product ²	45% - 75% RH +5 to +35 °C 18 Months Max. Vacuum-sealed Bag

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>

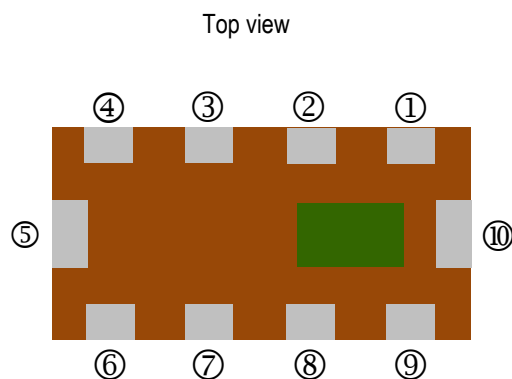
Mechanical Dimensions

	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

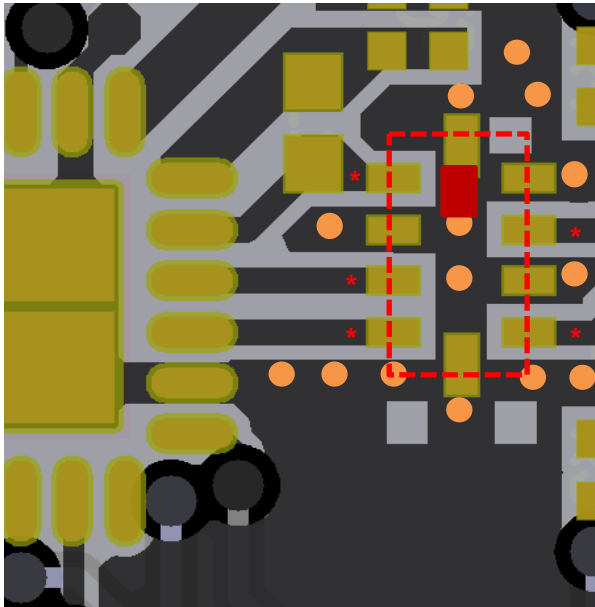


Terminal Configuration

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)

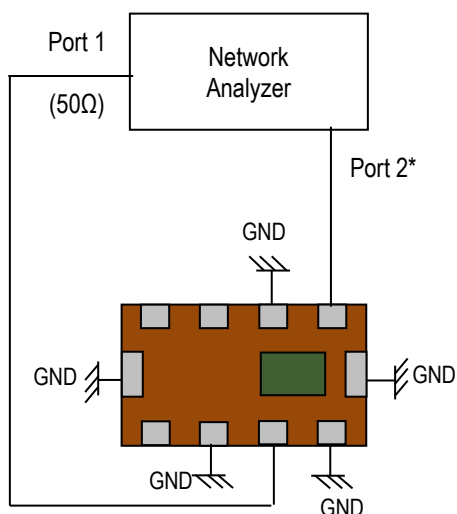
NOTE: GND via placement is crucial to the harmonic attenuation capability of the filter.

* Transmission line width should be designed to match 50 Ω 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



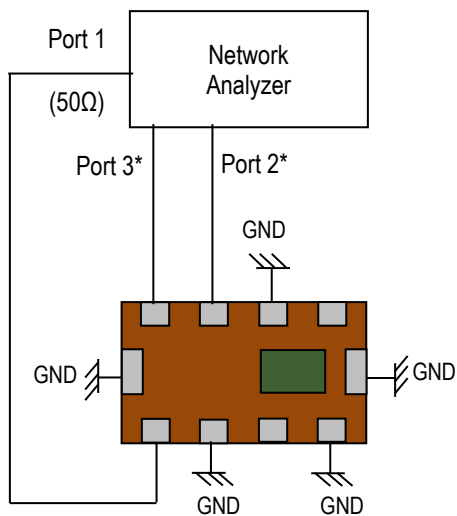
Port 1: Antenna port

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

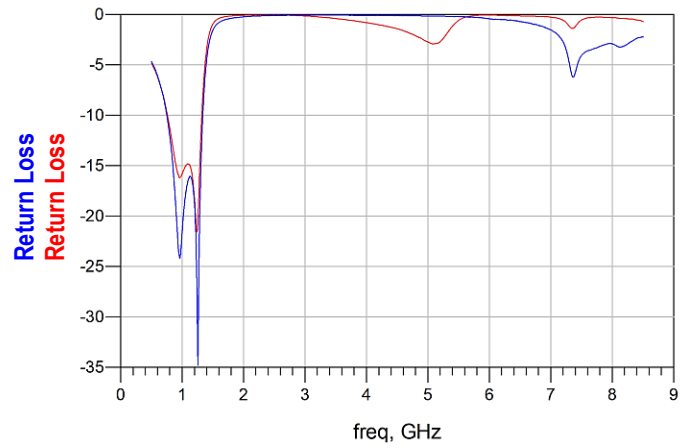
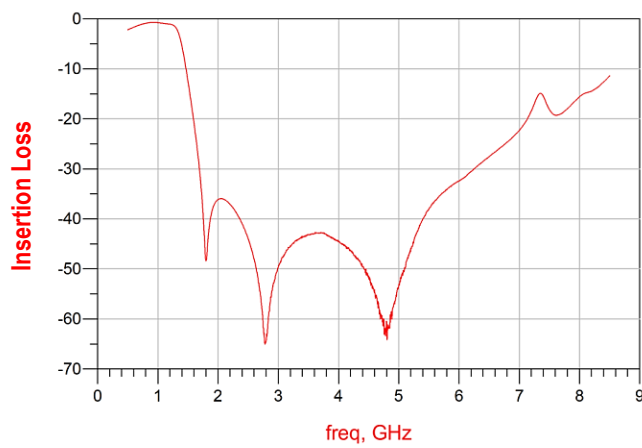
Ports 2 and 3: RFI Balanced Port

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

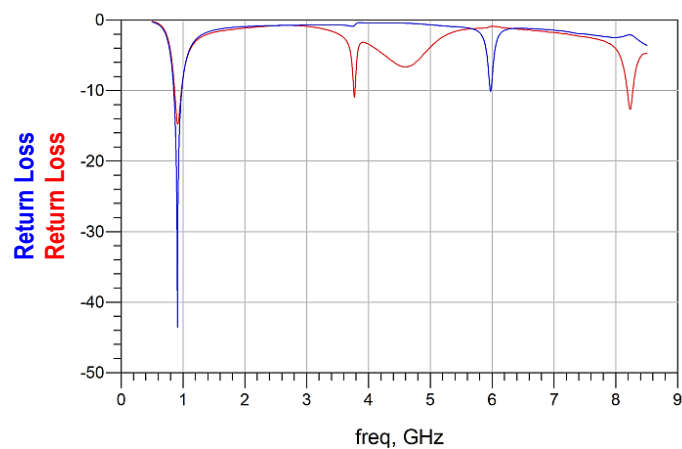
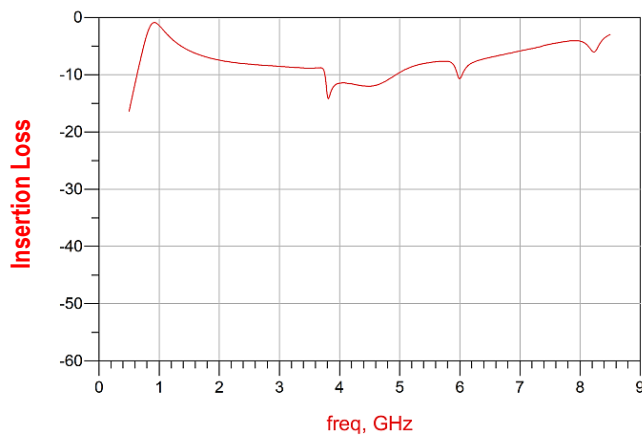


RF Measurement

RFO Path Insertion Loss, Return Loss



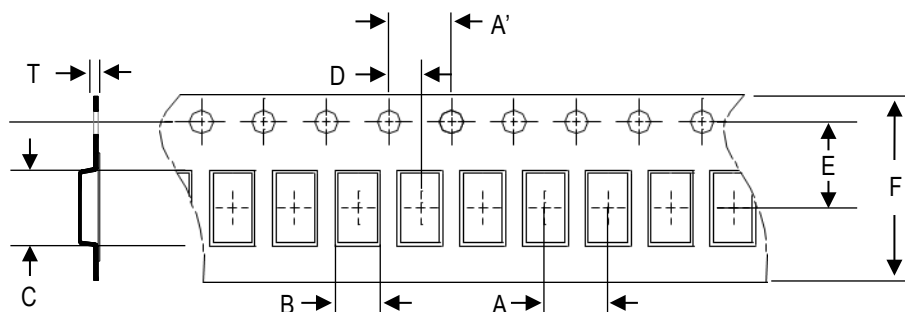
RFI Path Insertion Loss, Return Loss



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

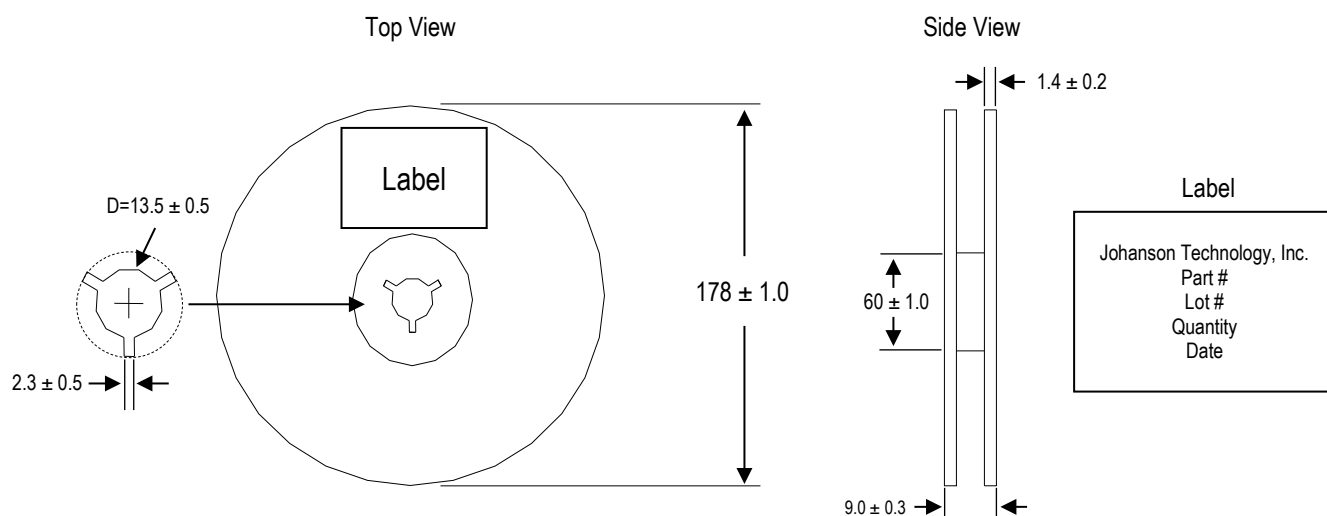
Tape and Reel Specification (Units in mm)

Tape Dimensions

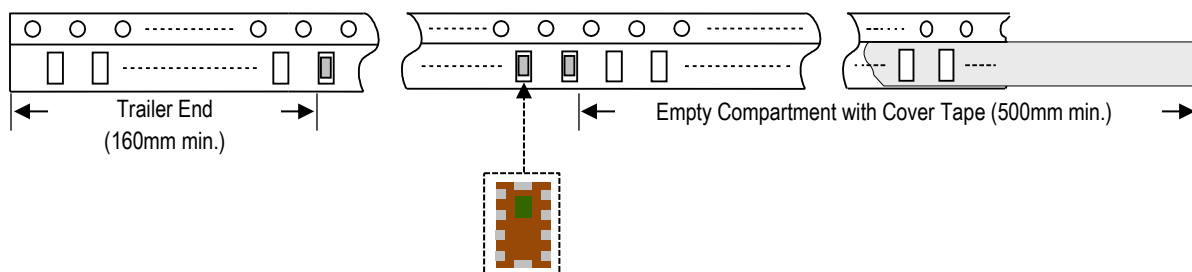


A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
4.0±0.1	4.0±0.1	1.35±0.05	2.15±0.05	2.0±0.05	3.5±0.1	8.0±0.1	1.00±0.05	4,000pcs	Plastic (Embossed)

Reel Dimensions



Leader and Trailer Dimensions



Orderable Part Number

Packaging Style	Part Number
Bulk (loose pcs.)	0900FM15D0039001B
T & R (7" Reel Embossed Tape)	0900FM15D0039001E (Qty: 4,000 pcs./reel)

Important Links

[0900FM15D0039001E Product Page](#)

[0900FM15D0039001E Application Note AN100](#)

[900MHz Chip 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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