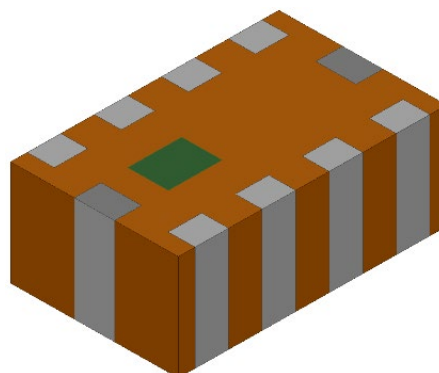




902 – 928 MHz Impedance-matched Filter for Semtech SX126x Series Transceiver Chipsets

- 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

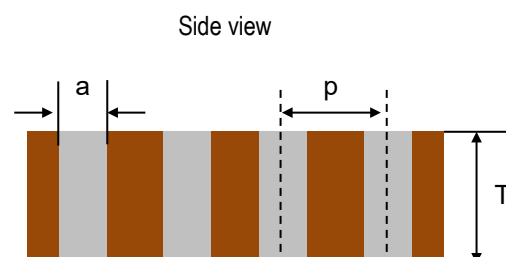
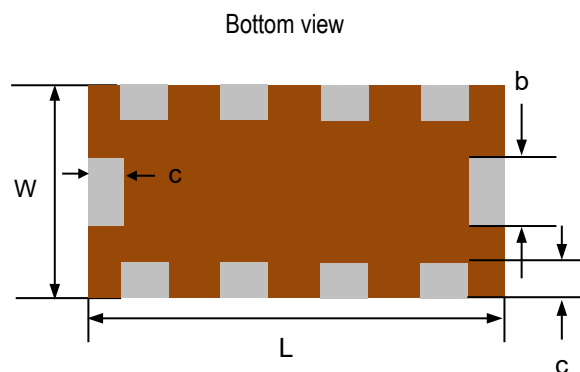
Power Capacity (W)	2 Max. (CW)
Operating Temperature (°C)	-40 to +85
Recommended Storage Conditions post-installation (°C)	-40 to +85
Recommended Storage Conditions and Period for Unused T&R Product ²	45% - 75% RH +5 to +35 °C 18 Months Max. Vacuum-sealed Bag

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>

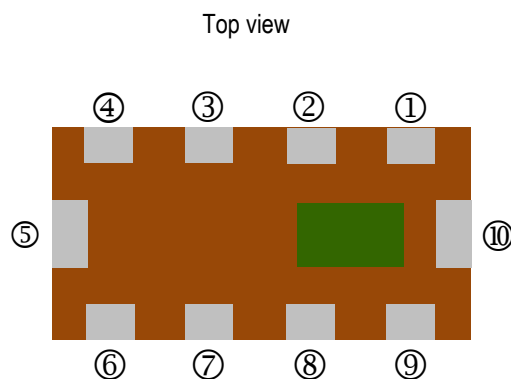
Mechanical Dimensions

	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

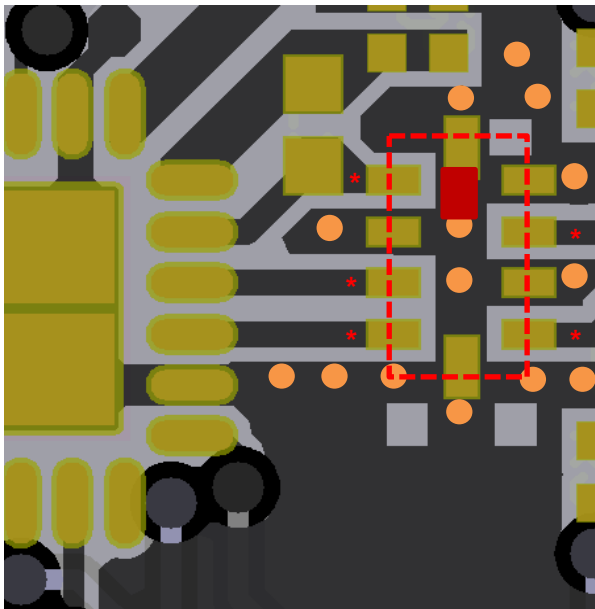


Terminal Configuration

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.

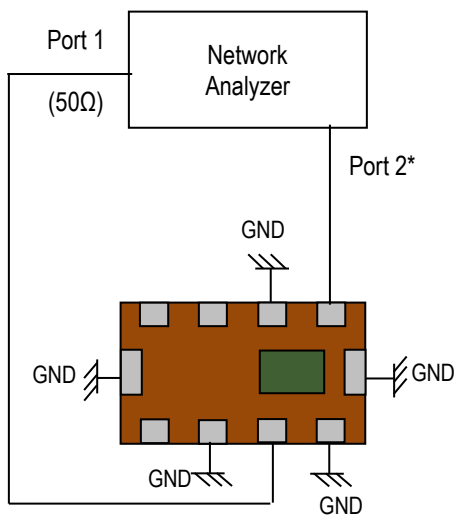
* Transmission line width should be designed to match 50 Ω characteristic impedance, depending on PCB material and thickness.

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



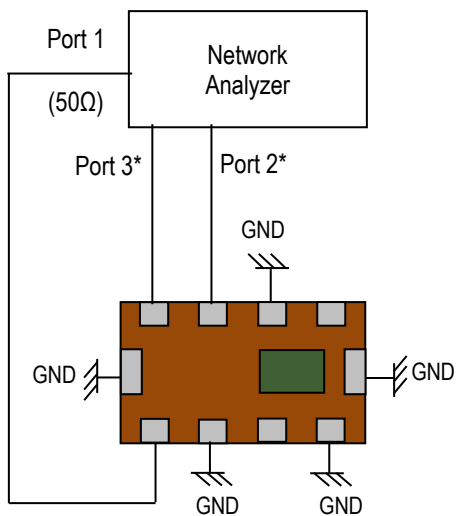
Port 1: Antenna port

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

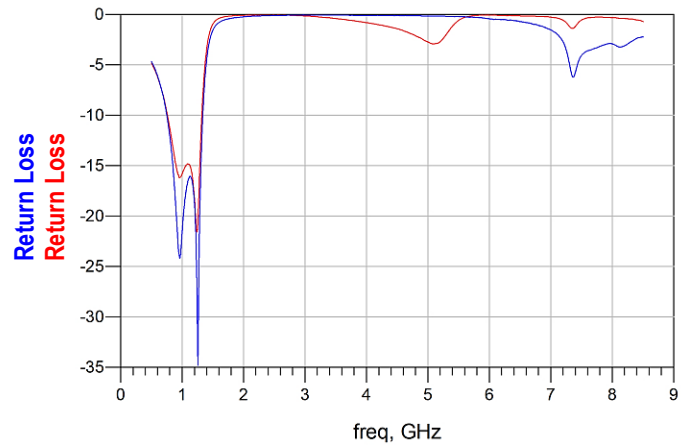
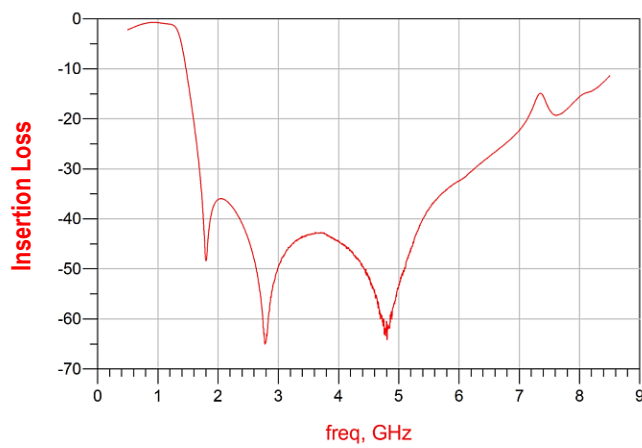
Port 1 Load impedance: 50Ω

Ports 2 and 3: RFI Balanced Port

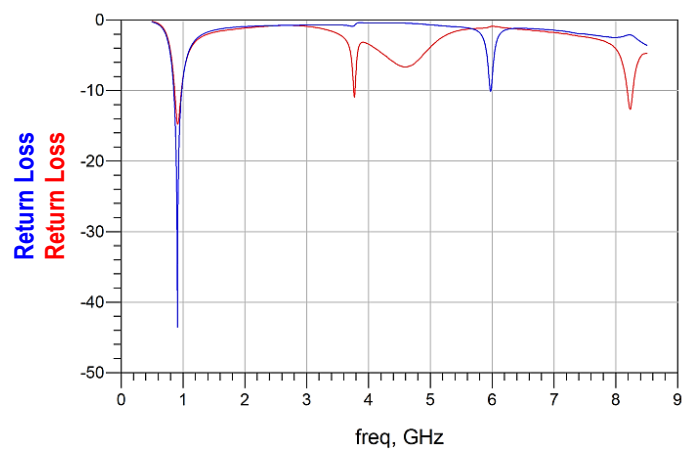
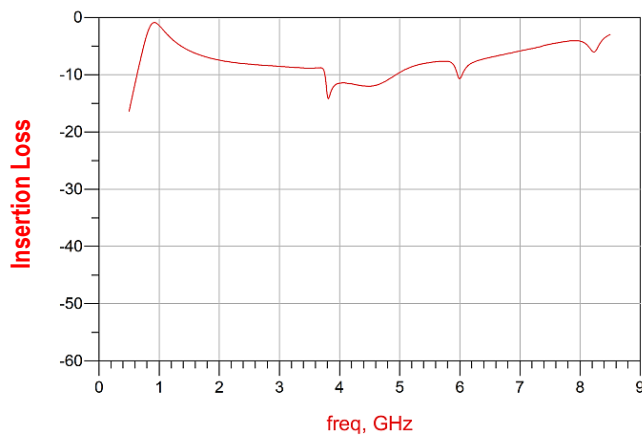
*Port 2 and 3 Load impedance: Complex conjugate match to SEMTECH SX1261, SX1262, LLCC68

RF Measurement

RFO Path Insertion Loss, Return Loss



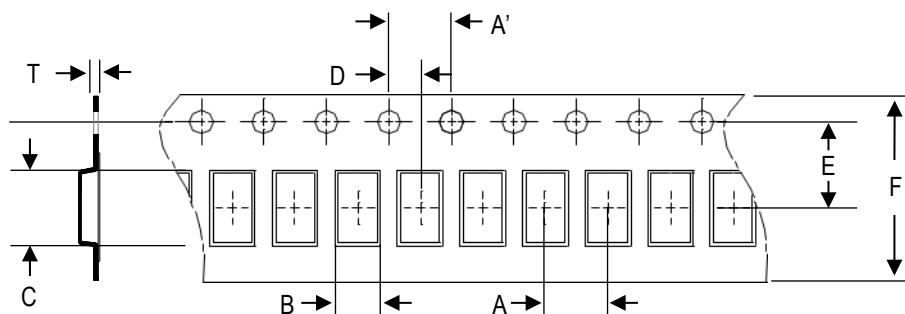
RFI Path Insertion Loss, Return Loss



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

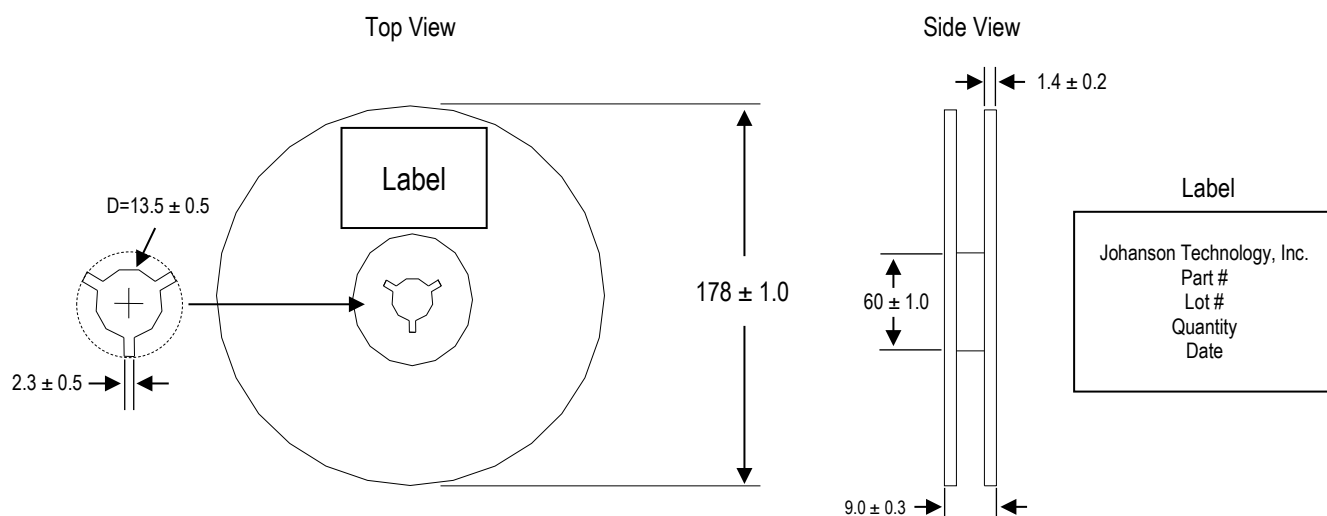
Tape and Reel Specification (Units in mm)

Tape Dimensions

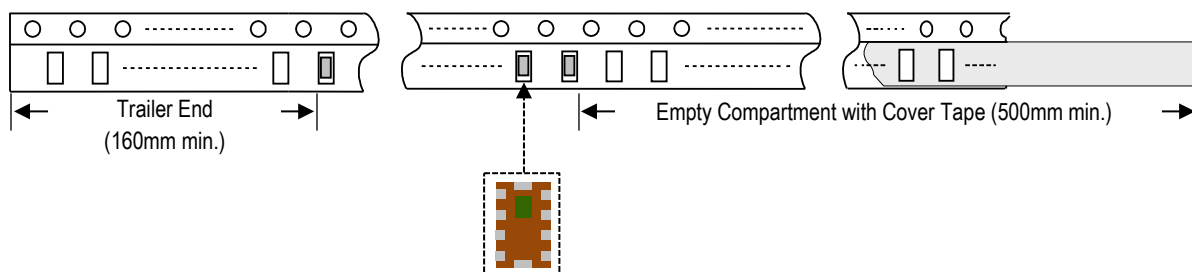


A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
4.0±0.1	4.0±0.1	1.35±0.05	2.15±0.05	2.0±0.05	3.5±0.1	8.0±0.1	1.00±0.05	4,000pcs	Plastic (Embossed)

Reel Dimensions



Leader and Trailer Dimensions



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[BD0810N50100AHF](#) [DC0710J5005AHF](#) [DC2327J5005AHF](#) [X3C19F1-20S](#) [XC3500P-20S](#) [CDBLB455KCAX39-B0](#) [PD0922J5050D2HF](#)
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[B39781B8005P810](#) [B39881B8013P810](#) [B39771B8035P810](#) [B39741B8012P810](#) [B39212B8033P810](#) [B39162B8636P810](#) [SF2225E](#) [SF2275E](#)
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