

## TMX W319

### SAW Filter datasheet

3.0 x 3.0 mm, SMD

#### Table of Contents

<b>Features</b> .....	1
<b>Maximum Ratings</b> .....	1
<b>Frequency and Electrical Characteristics (Reference temperature @ 25°C)</b> .....	1
<b>Model Outline, Pin Connection and Marking</b> .....	2
<b>Test Circuit</b> .....	2
<b>Frequency Characteristics</b> .....	3
<b>Recommended Reflow Soldering Profile</b> .....	4
<b>Tape and Reel Specifications</b> .....	5

# TMX W319

SAW Bandpass Filters | Wireless Communications

## Features

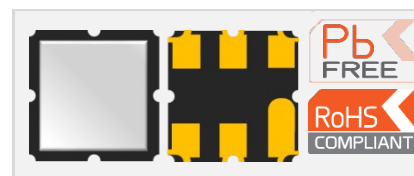
### Features

- 902.5 MHz center frequency
- Ceramic package for Surface Mounted Technology
- 25 MHz usable Passband
- 50 Ω Single Configuration

### Applications

- GSM Tx RF SAW Filter

3.0 x 3.0 mm



## Maximum Ratings

Parameter	Min.	Typ.	Max.	Unit
Storage temperature range ( $T_{stg}$ )	-40		85	°C
Operating temperature range ( $T_A$ )	-30		85	°C
DC voltage ( $V_{DC}$ )			0	V
Maximum Input Power Handling			10	dBm

## Frequency and Electrical Characteristics (Reference temperature @ 25°C)

Parameter	Min.	Typ. <sup>1</sup>	Max.	Unit
Source impedance <sup>2</sup> (Single ended)		50		Ω
Load impedance <sup>2</sup> (Single ended)		50		Ω
Center frequency ( $f_c$ )		902.5		MHz
Bandwidth (BW, passband width)	25.00			MHz
Insertion Loss (IL, 890 – 915 MHz)		2.9	3.6	dB
Amplitude ripple (890 – 915 MHz)		0.5	1.6	dB
VSWR (890 – 915 MHz)		1.5	2.3	dB
Absolute Attenuation				dB
DC to 845.0 MHz	45	51		
From 925.3 to 935.3 MHz	5	21		
From 935.3 to 980 MHz	25	28		
From 980 to 1200 MHz	50	54.8		
From 1200 to 3000 MHz	25	28		
Temperature coefficient of frequency		-35		ppm/K

<sup>1</sup> Typical values are nominal performances at room temperature

<sup>2</sup> No matching network required for operation at 50 Ω

# TMX W319

SAW Bandpass Filters | Wireless Communications



## Model Outline, Pin Connection and Marking

**TOP VIEW**

3.0 SQ

Marking

A B C

F E D

**FRONT VIEW**

0.9

1.3 max

**BOTTOM VIEW**

2.54

0.6

1.5

0.65

1.3

1.6

A B C

F E D

Marking		Note
Line 1	W319	RakonXpress designation
Line 2	C638AA	C = Production code 6 = Year 2016 51 = Week 51
Line 3	•	• = Identify black dot

Pin	Connections
B	Input
E	Output
A, C, D, F	Case Ground

**RECOMMENDED PAD LAYOUT**

**TOP VIEW**

3.20 SQ

0.96 (x5)

1.27

1.7

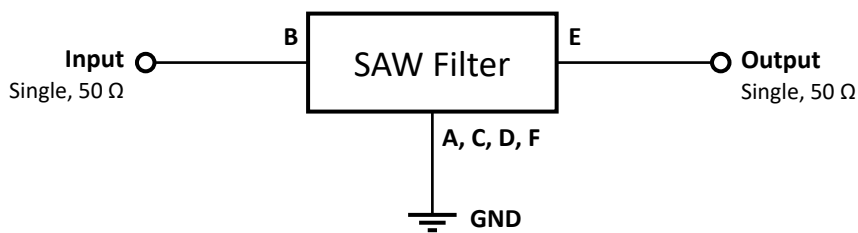
0.38

0.81 (x6)

Unit: mm

## Test Circuit

### 50 Ω / 50 Ω Configuration



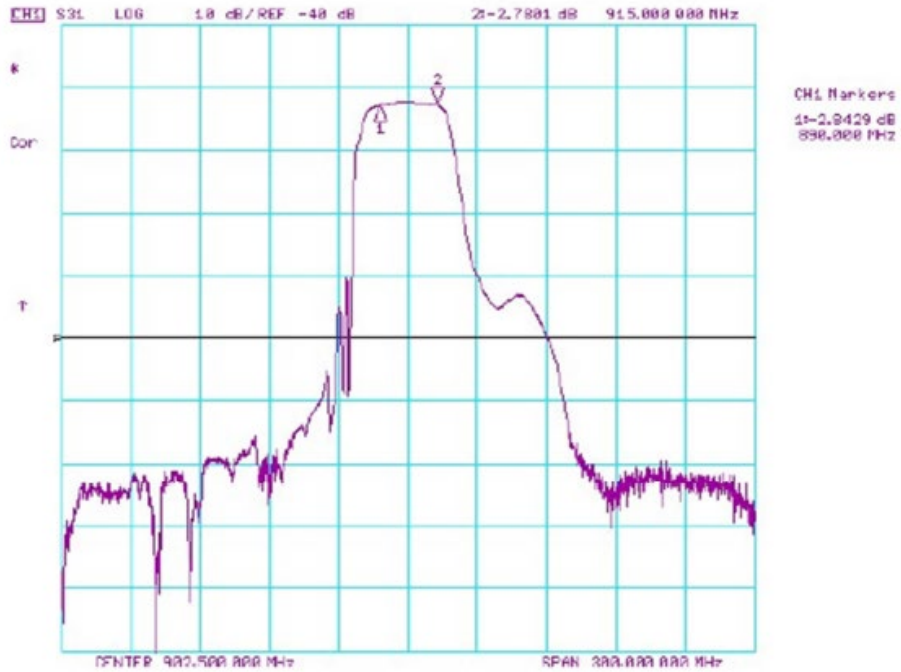
# TMX W319

SAW Bandpass Filters | Wireless Communications

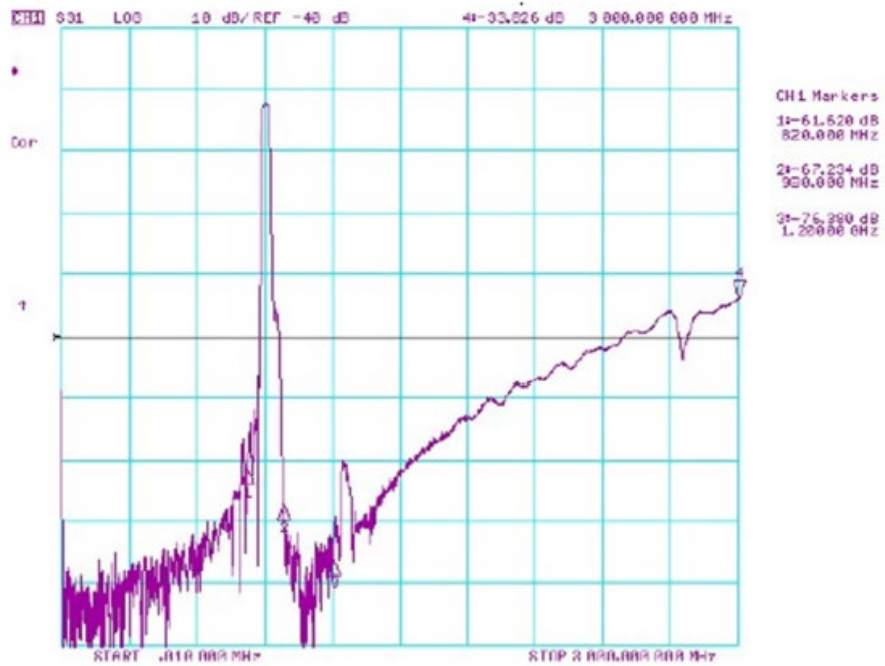


## Frequency Characteristics

TYPICAL S21 RESPONSE



WIDEBAND

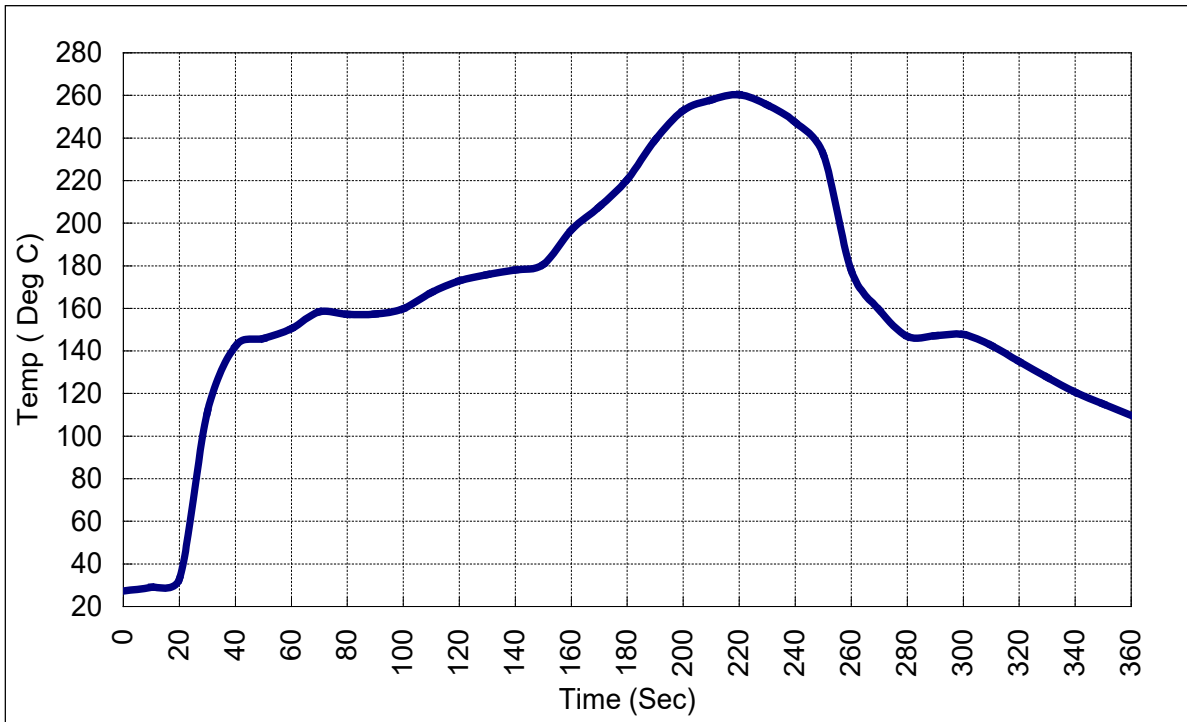


## TMX W319

SAW Bandpass Filters | Wireless Communications



### Recommended Reflow Soldering Profile



**NOTE:**

- The components shall remain within the electrical specifications after it soldered on the 1mm thickness PCB board and dipped in the solder at  $260 \pm 5^{\circ}\text{C}$  during  $10 \pm 1$  seconds.
- The components shall remain within the electrical specifications after it soldered by electric iron, solder at  $350 \pm 10^{\circ}\text{C}$  during 3~4 seconds. Recovery time:  $2 \pm 0.5\text{h}$ .
- Ultrasonic cleaning may cause deterioration and destruction of the component. Please avoid ultrasonic cleaning.
- Only leads of component may be soldered. Please avoid soldering another part of component.

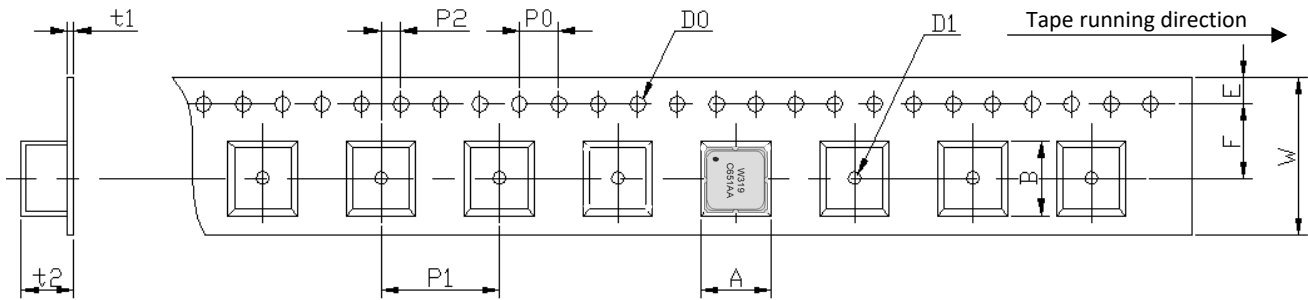
# TMX W319

SAW Bandpass Filters | Wireless Communications



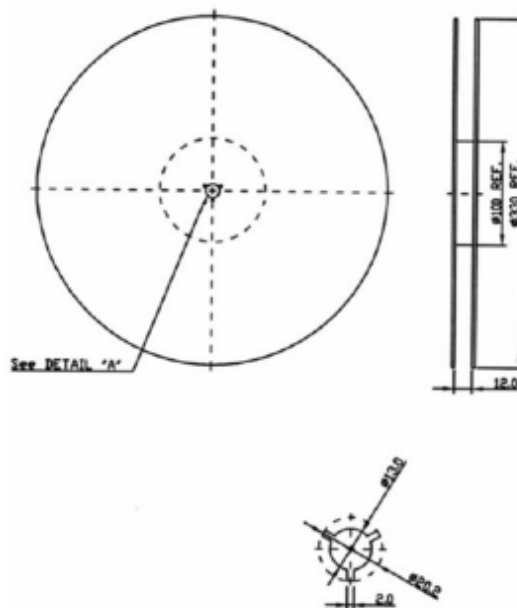
## Tape and Reel Specifications

### TAPE DETAILS:



Parameter	Code	Dimension	Tolerance
Height of component hole	A	3.35 max	
Width of component hole	B	3.35 max	
Diameter of sprocket hole	D <sub>0</sub>	Φ 1.5	± 0.1
Diameter of feed hole	D <sub>1</sub>	Φ 1.5	± 0.25
Pitch of sprocket hole	P <sub>0</sub>	4.0	± 0.2
Length from hole center to component center	P <sub>1</sub>	8.0	± 0.1
Length from Pocket hole center to sprocket hole center	P <sub>2</sub>	2.0	± 0.2
Width of carrier tape	W	12.0	± 0.3
Width of adhesive tape	F	5.5	± 0.3
Gap of hold down tape and carrier tape	E	1.75	± 0.1
Thickness of Embossed tape sheet	t <sub>1</sub>	0.31 max	
Thickness of Embossed tape	t <sub>2</sub>	1.7 max	

### REEL DETAILS:



### NOTE:

- Unit: mm
- Standard Packing Quantity (SPQ) is 1000 pieces/ reel