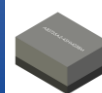


# SMD 2441.75 MHZ SAW FILTER



**ABSTS5A2-45HM03BM**

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**1.1 x 0.9 x 0.5 mm**  
**RoHS Compliant**  
MSL Level = 3

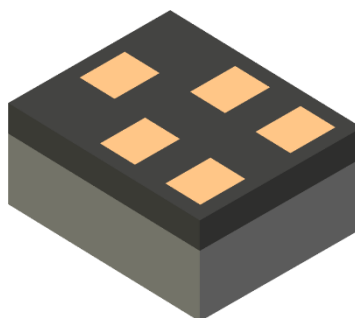
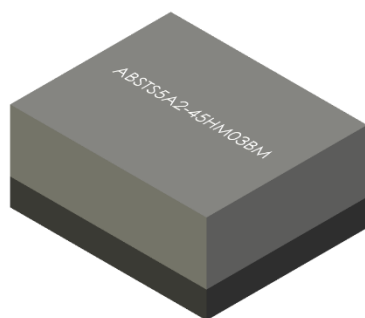
## Features

- 1.1 x 0.9 x 0.5 mm in Size
- Low Insertion Loss: 2.0 dB
- Out-of-Band Rejection: > 15 dB
- 50 Ohms Single-Ended Input & Output
- Maximum Input Power: +10 dBm

## Applications

- Wi-Fi/WLAN Coverage
  - Wi-Fi 4/5 (802.11b/g/n/ac)
- Bluetooth® / ZigBee® / Thread/ Matter
- Router and Networking
- Home Automation and Remote Sensing

## Product Image

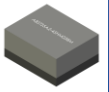


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RoHS Compliant  
MSL Level = 3

## Electrical Specification

Parameters	Minimum	Typical	Maximum	Units	Notes
Center Frequency (fc)	2400	2441.75	2483.5	MHz	
Bandwidth	55	78	-	MHz	
Insertion Loss	-	2.0	2.7	dB	2400~2483.5 MHz
Amplitude Ripple	-	0.7	1.5	dB	2400~2483.5 MHz
Group Delay	-	7.7	13	ns	2400~2483.5 MHz
Attenuation (Refer to min. insertion loss)	30	35	-	dB	0.1 – 960 MHz
	32	35	-		1570 – 1990 MHz
	40	45	-		2110 – 2170 MHz
	30	35	-		2170 – 2300 MHz
	25	33	-		2300 – 2320 MHz
	18	25	-		2320 – 2345 MHz
	10	15	-		2345 – 2365 MHz
	15	20	-		2550 – 2800 MHz
	30	33	-		2800 – 4000 MHz
	30	33	-		4000 – 5000 MHz
VSWR	-	2.0	2.4	-	2400~2483.5 MHz
DC Voltage	-	3	-	V	
Input Power Level	-	-	10	dBm	
Terminating Source Impedance	-	50	-	$\Omega$	
Terminating Load Impedance	-	50	-	$\Omega$	

## Mechanical Specification

Parameters	Specifications
Filter Dimension	1.1 x 0.9 x 0.5 mm
Mounting Type	Surface Mount

## Environmental Specification

Parameters	Specifications
Operating Temperature Range	-30°C ~ +85°C
Storage Temperature Range	-40°C ~ +105°C
MSL level	3

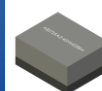


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**ABSTS5A2-45HM03BM**

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**1.1 x 0.9 x 0.5 mm**

**RoHS Compliant**

**MSL Level = 3**

## Ordering Information

Part Number	Description
ABSTS5A2-45HM03BM	SMD 2441.75 MHZ SAW FILTER

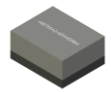
Note: Other options not listed may be available upon request via [Abracon online support](#)



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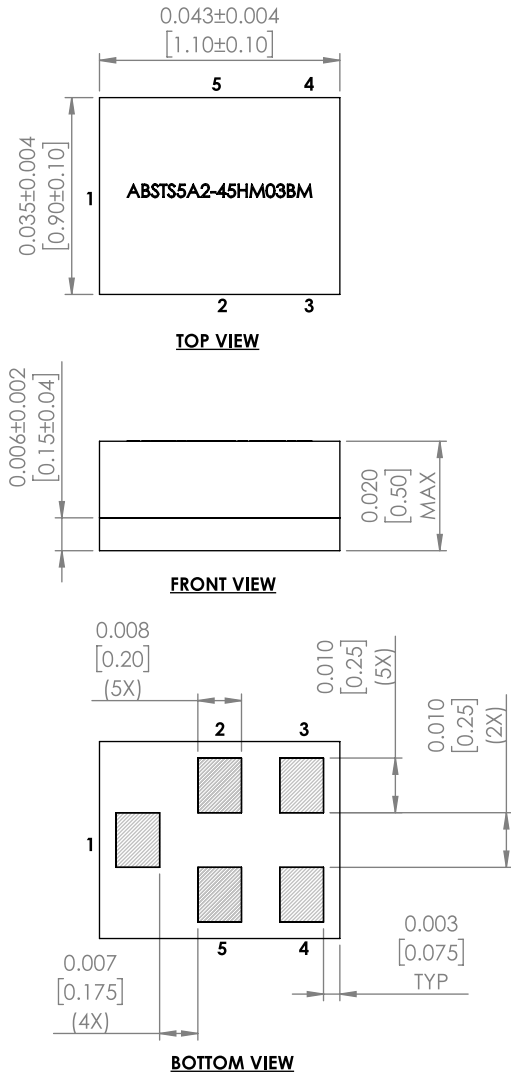


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1.1 x 0.9 x 0.5 mm  
RoHS Compliant  
MSL Level = 3

## Product Dimensions

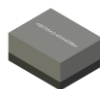


All tolerances are +/-0.05 mm unless otherwise specified  
Coplanarity : 0.1 mm max.  
DIMENSIONS: INCHES[MM]

Unit : inches[mm]

Pin No.	Description
2, 3, 5	Ground
1	Input
4	Output

# SMD 2441.75 MHZ SAW FILTER



ABSTS5A2-45HM03BM

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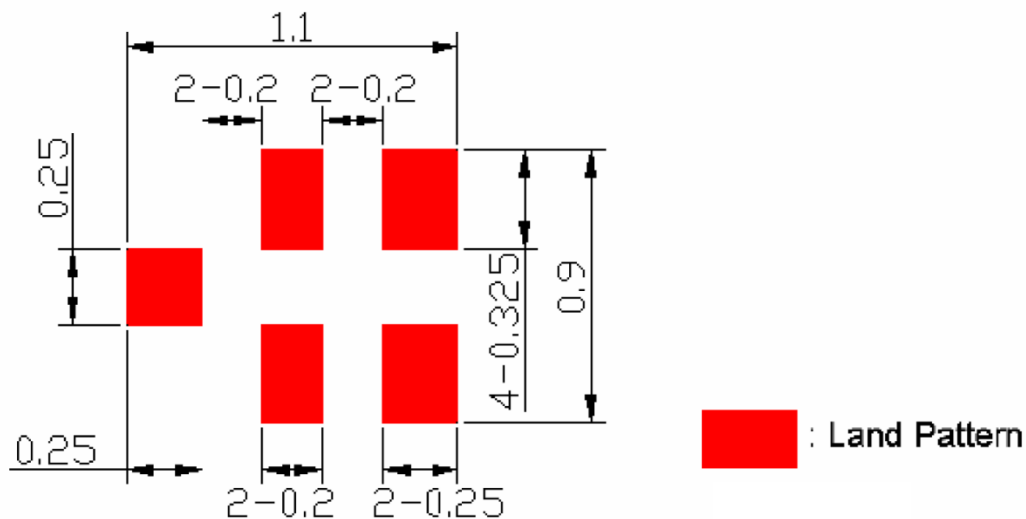


Check Inventory



1.1 x 0.9 x 0.5 mm  
RoHS Compliant  
MSL Level = 3

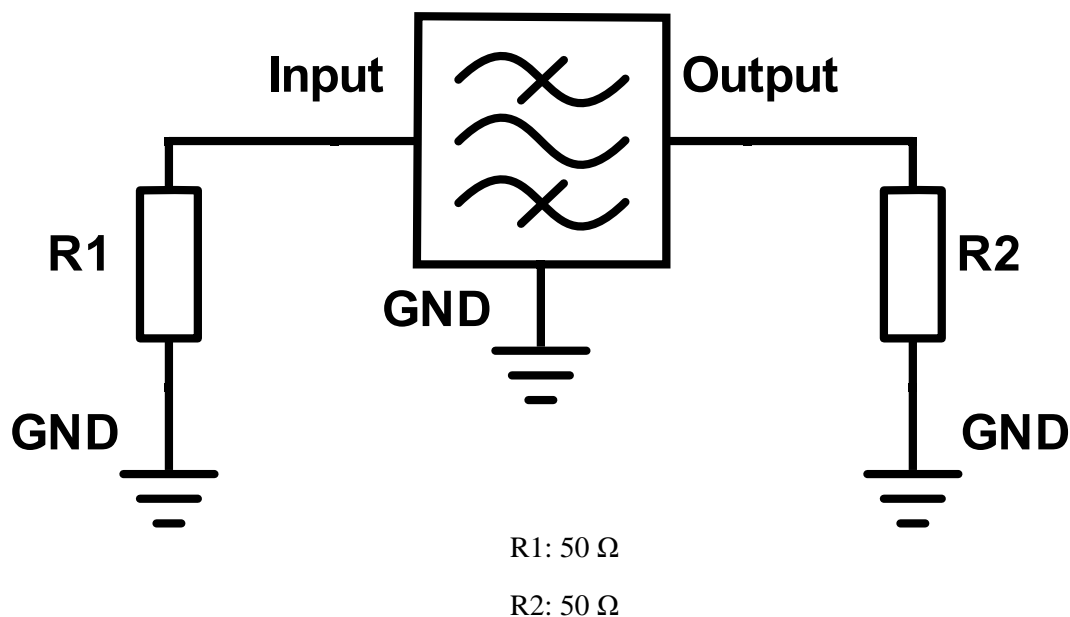
## Recommended Land Pattern



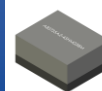
Unit : mm

Please note: The line width should be designed to achieve a 50-ohm characteristic impedance, depending on the PCB material and thickness. For technical assistance, please contact [Abracon online support](#) through our online support platform.

## Measurement Circuit



# SMD 2441.75 MHZ SAW FILTER



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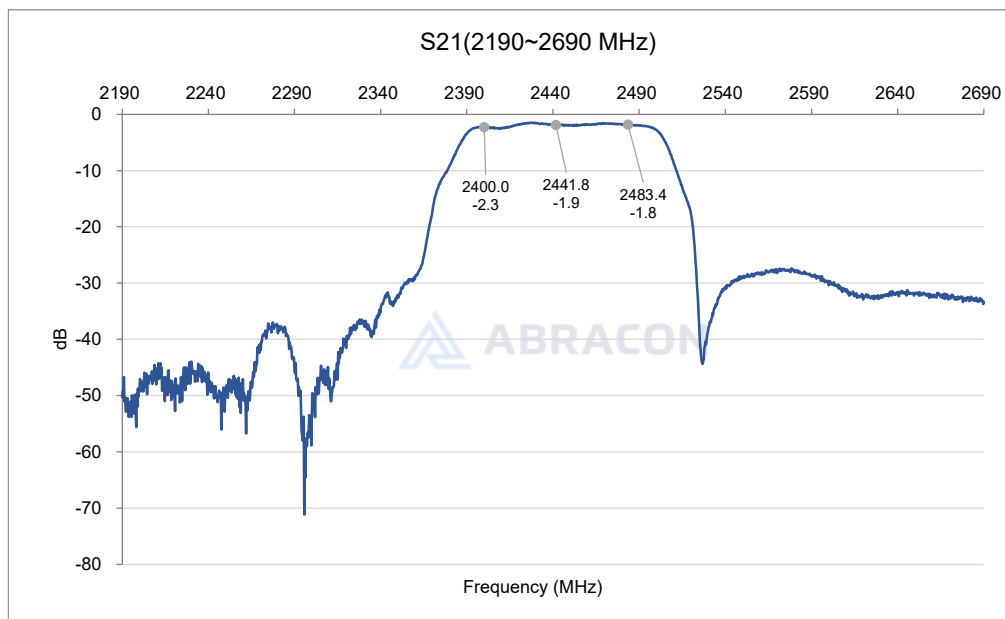
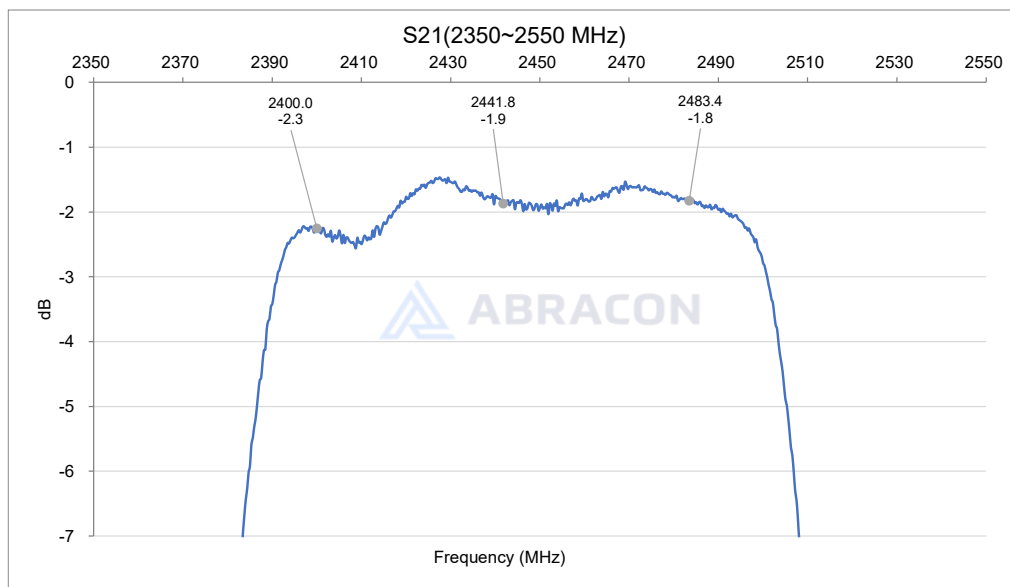
Check Inventory



**1.1 x 0.9 x 0.5 mm**  
**RoHS Compliant**  
**MSL Level = 3**

## Frequency Characteristics

S21 narrow band

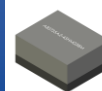


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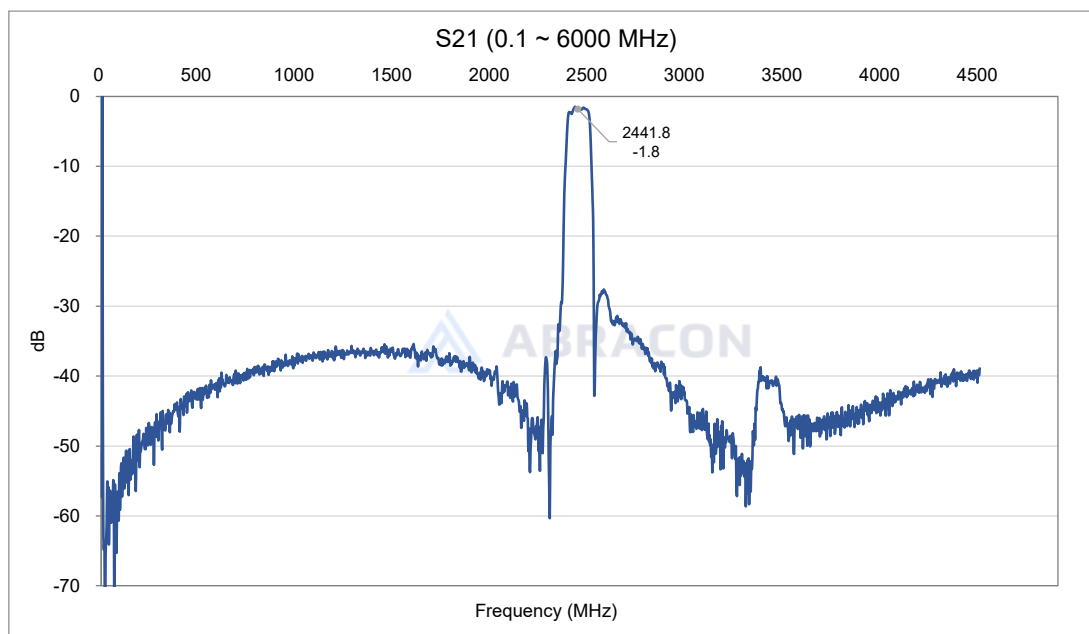


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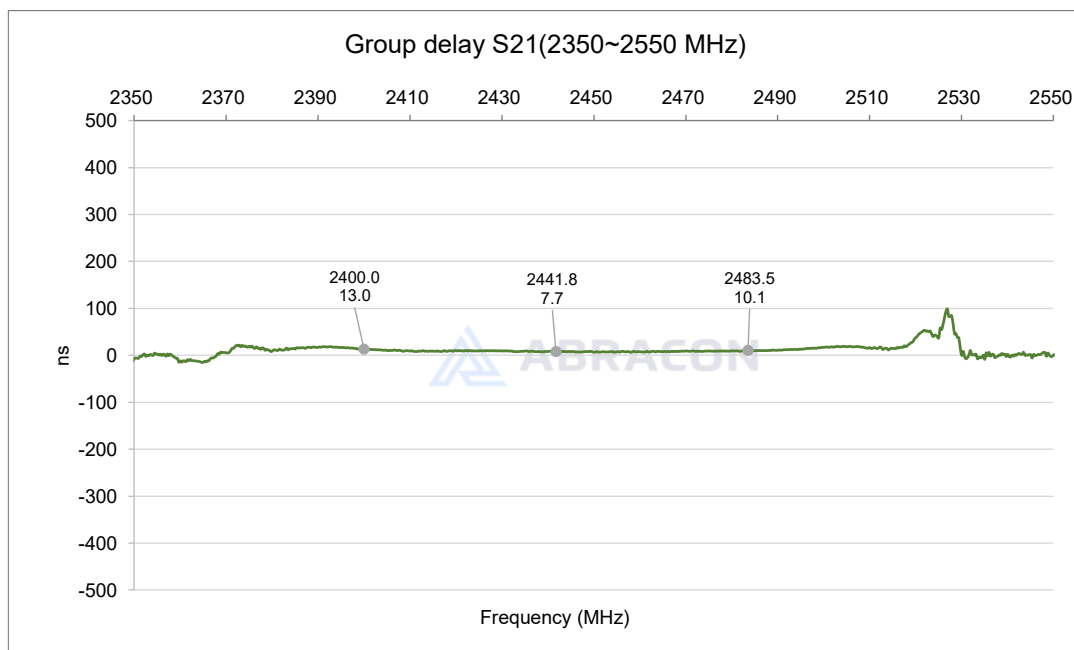


1.1 x 0.9 x 0.5 mm  
**RoHS Compliant**  
MSL Level = 3

## S21 Wide Band



## Group Delay Ripple



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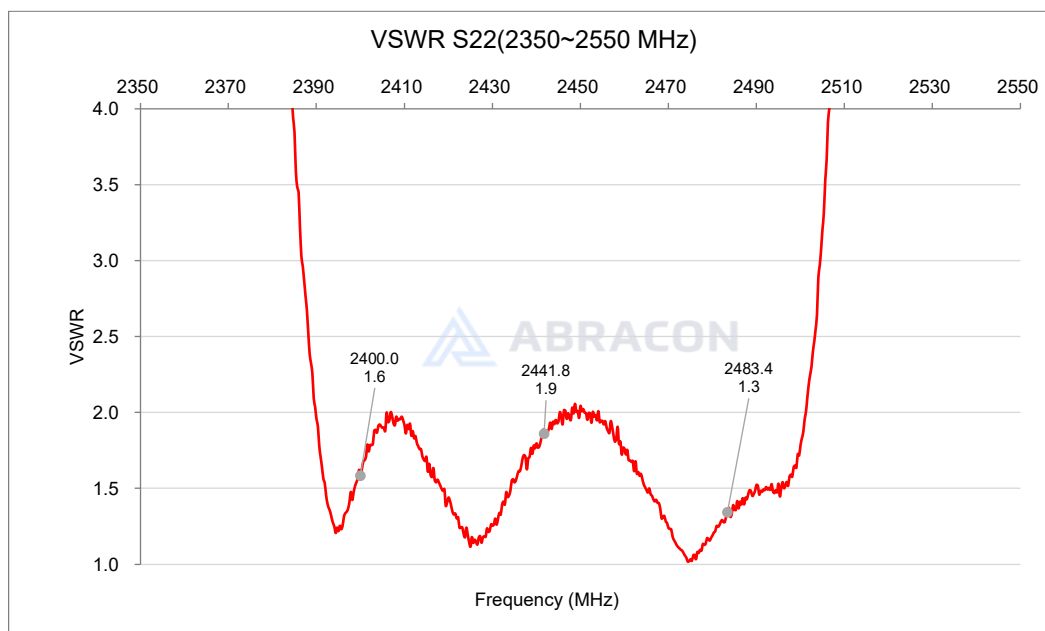
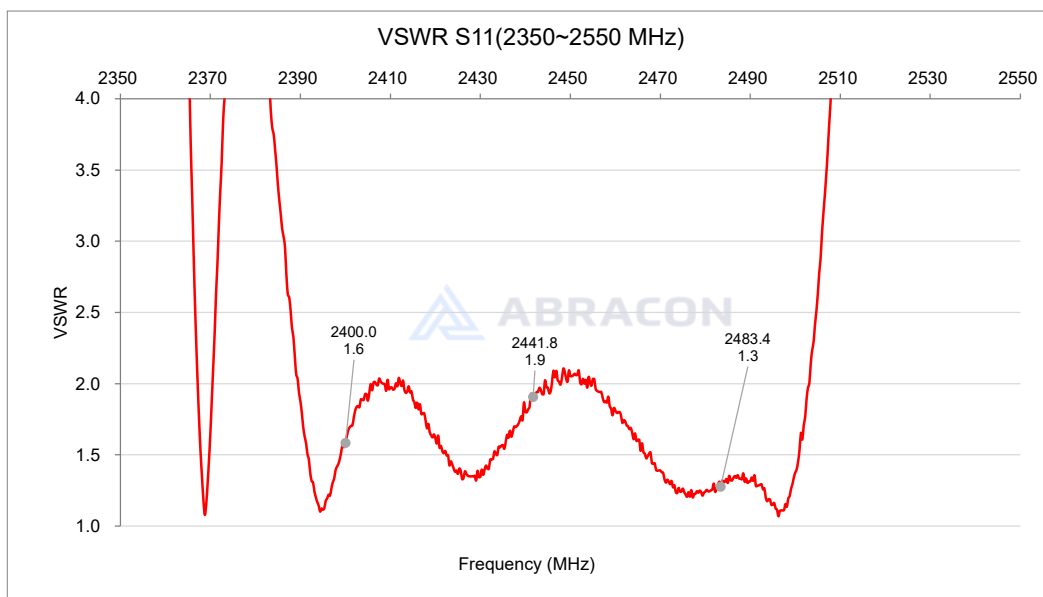


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**1.1 x 0.9 x 0.5 mm**  
**RoHS Compliant**  
**MSL Level = 3**

VSWR (S11 & S22)



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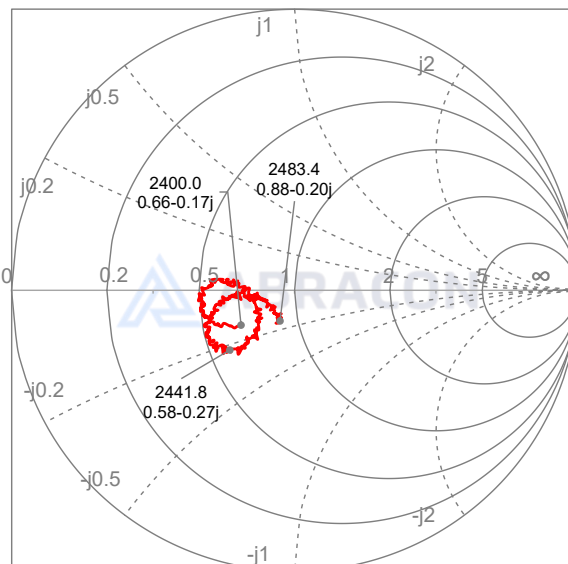
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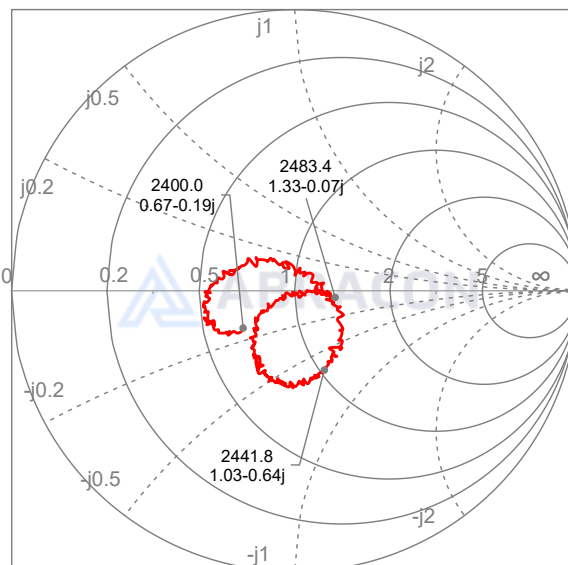
**1.1 x 0.9 x 0.5 mm**  
**RoHS Compliant**  
**MSL Level = 3**

Smith Chart (S11 & S22)

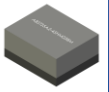
Smith chart S11 (2400~2483.5 MHz)



Smith chart S22 (2400~2483.5 MHz)



# SMD 2441.75 MHZ SAW FILTER



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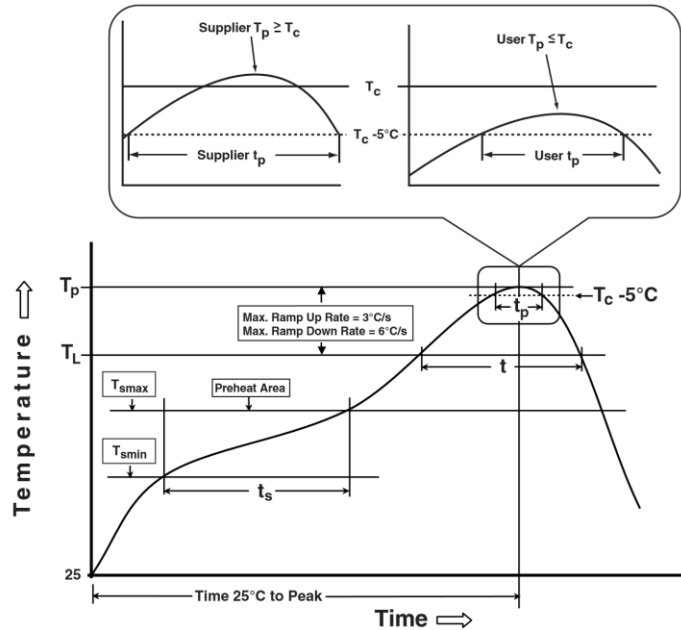


Check Inventory



**1.1 x 0.9 x 0.5 mm**  
**RoHS Compliant**  
**MSL Level = 3**

## Reflow Profile [JEDEC J-STD-020]



**Table 1**

**SnPb Eutectic Process**  
**Classification Temperatures ( $T_c$ )**

Package Thickness	Volume mm <sup>3</sup> <350	Volume mm <sup>3</sup> ≥350
<2.5mm	235°C	220°C
≥2.5mm	220°C	220°C

**Table 2**

**Pb-Free Process**  
**Classification Temperatures ( $T_c$ )**

Package Thickness	Volume mm <sup>3</sup> <350	Volume mm <sup>3</sup> 350-2000	Volume mm <sup>3</sup> >2000
<1.6mm	260°C	260°C	260°C
1.6mm - 2.5mm	260°C	250°C	245°C
>2.5mm	250°C	245°C	245°C

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Preheat / soak		
Temperature minimum ( $T_{smin}$ )	100°C	150°C
Temperature maximum ( $T_{smax}$ )	150°C	180°C
Time ( $T_{smin}$ to $T_{smax}$ ) ( $t_s$ )	60 – 120 sec.	60 – 90 sec.
Average ramp-up rate ( $T_{smax}$ to $T_p$ )	3°C/sec. max	3°C/sec. max
Liquidous temperature ( $T_L$ )	183°C	220°C
Time at Liquidous ( $T_L$ )	60 – 150 sec.	50 – 80 sec.
Peak package body temperature ( $T_p$ )*	See Table 1	See Table 2
Time ( $T_p$ )* within 5°C of the specified classification temperature ( $T_c$ )	20 sec.	20 ~ 40 sec.
Ramp-down rate ( $T_p$ to $T_{smax}$ )	6°C/sec. max	6°C/sec. max
Time 25°C to peak temperature	6 min. max	8 min. max
Reflow cycles	2 max	2 max

\*Tolerance for peak profile temperature ( $T_p$ ) is defined as a supplier minimum and a user maximum.

\*\*Tolerance for time at peak profile temperature ( $t_p$ ) is defined as a supplier minimum and a user maximum.

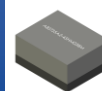


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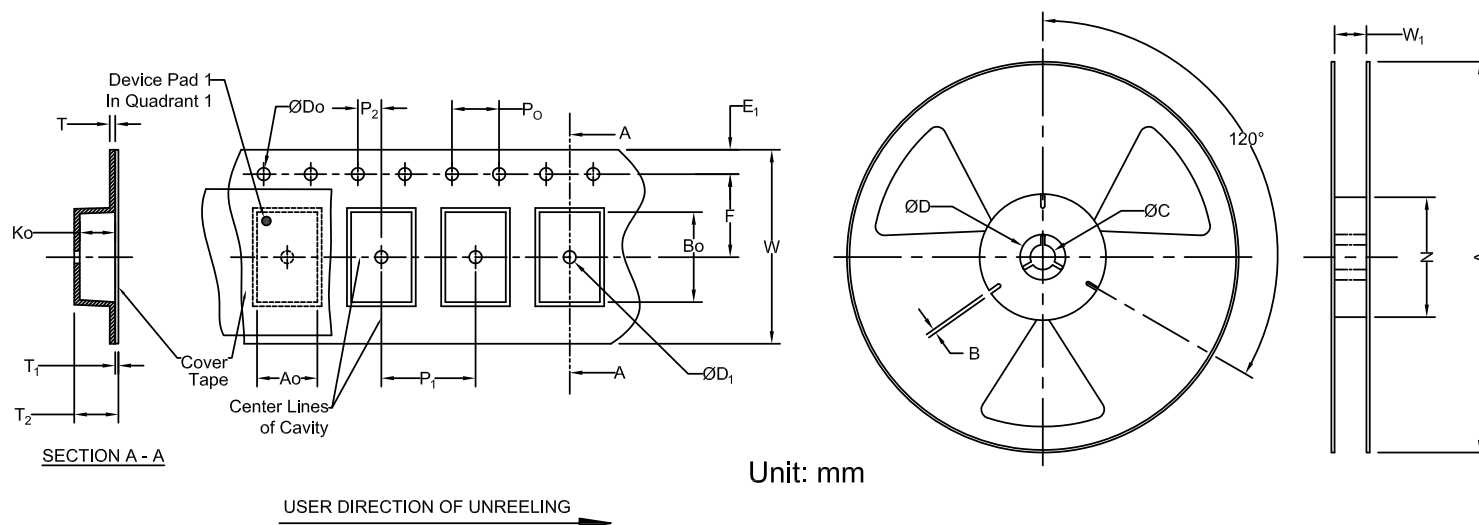


1.1 x 0.9 x 0.5 mm  
RoHS Compliant  
MSL Level = 3

## Packaging

### Tape & Reel

#### 1. Tape & Reel Dimension



Carrier Tape Specifications (mm)

Do	D1	E1	P0	P2	T	F	P1	W	A0	B0	K0	Reel Qty
1.5 ± 0.1	0.5 ± 0.05	1.75 ± 0.1	4.0 ± 0.1	2.0 ± 0.05	0.2 ± 0.05	3.5 ± 0.05	4.0 ± 0.1	8.0 ± 0.2	1.3 ± 0.1	1.06 ± 0.03	0.75 ± 0.05	5,000

Reel Specifications (mm)

A	W1	N	C	B
178.0 ± 1.0	8.4 ± 0.5	72.0 ± 1.0	13.0 ± 0.2	2.5

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