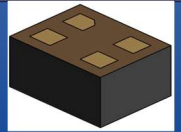


2.4GHz SMD SAW Filter



ABSES4AL-45CM03AM

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0.9 x 0.7 x 0.55 mm

RoHS Compliant

MSL LEVEL=3

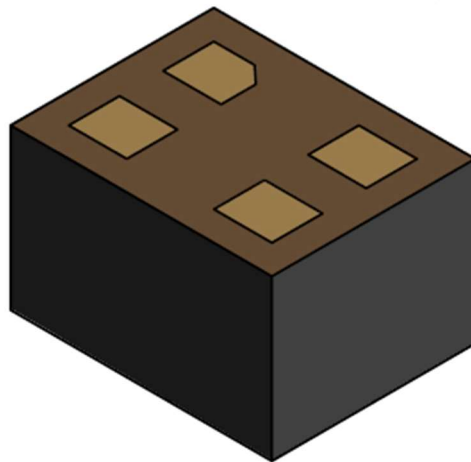
Features

- Bandpass SAW Filter with 82 MHz bandwidth
- Ultra-small Surface Mount 0.9 x 0.7 x 0.55 mm package
- Single-Ended Input and Output
- Excellent selectivity with high out-of-band rejection

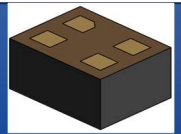
Applications

- WiFi/WLAN coverage
- Bluetooth/ZigBee
- Smart Meters
- Hotspots and Router
- ISM Band Applications

Product Image



2.4GHz SMD SAW Filter



ABSES4AL-45CM03AM

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0.9 x 0.7 x 0.55 mm

RoHS Compliant

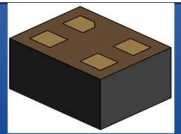
MSL LEVEL=3

Electrical Specification

Parameters	Minimum	Typical	Maximum	Units	Notes
Insertion Loss	-	1.48	2.4	dB	2401 - 2483 MHz
Amplitude Ripple	-	1.3	-	dB _{p-p}	2401 - 2483 MHz
Attenuation	35	42	-	dB	10 - 1559 MHz
	35	42	-		1559 - 1606 MHz
	33	41	-		1710 - 1785 MHz
	33	42	-		1805 - 1880 MHz
	35	42	-		1850 - 1995 MHz
	35	48	-		2110 - 2200 MHz
	40	46	-		2300 - 2350 MHz
	36	48	-		2505 - 2570 MHz
	35	44	-		2555 - 2655 MHz
	35	44	-		2620 - 2690 MHz
	30	37	-		3300 - 5000 MHz
	35	41	-		4800 - 5000 MHz
35	40	-	5150 - 5925 MHz		
VSWR	-	1.1	1.5		2401 - 2483 MHz
DC Voltage	-	-	3	V	
Input Power	-	-	26	dBm	
Source Impedance (single ended)	-	50	-	Ω	
Load Impedance (single ended)	-	50	-	Ω	

Notes: (1) With Matching Network (Ref. Testing Environment Circuit as shown below)

2.4GHz SMD SAW Filter



ABSES4AL-45CM03AM

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0.9 x 0.7 x 0.55 mm

RoHS Compliant

MSL LEVEL=3

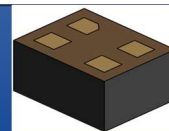
Mechanical Specification

Parameters	Specifications
Dimension	0.9 x 0.7 x 0.55 mm
Mounting Type	SMD Mount

Environmental Specification

Parameters	Specifications
Operating Temperature Range	-20°C ~ +85°C
Storage Temperature Range	-40°C ~ +85°C
RoHS Complaint	Yes
ESD Voltage (HBM)	> 100 V
ESD Voltage (CDM)	> 100 V
Moisture Sensitivity Levels	3

2.4GHz SMD SAW Filter



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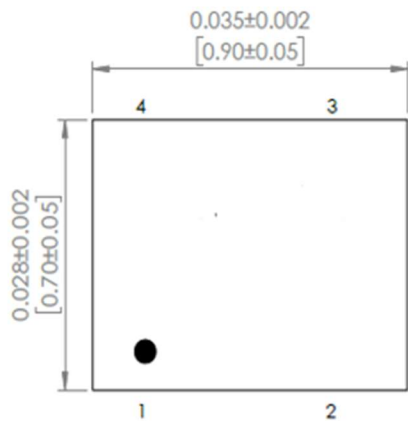
0.9 x 0.7 x 0.55 mm

RoHS Compliant

MSL LEVEL=3

Product Dimensions

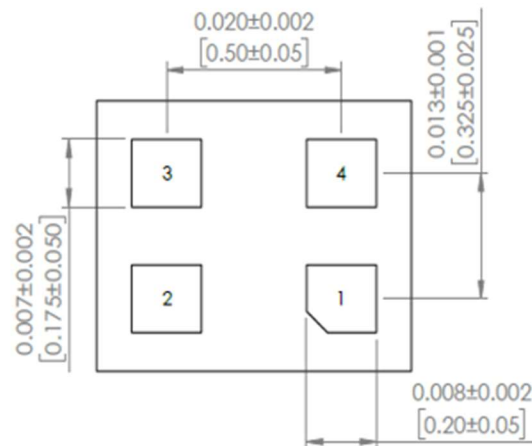
DIMENSIONS: INCHES [mm]



TOP VIEW



SIDE VIEW



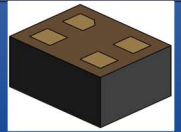
BOTTOM VIEW



FRONT VIEW

Pin #	Function
1	Input
3	Output
2,4	Ground

2.4GHz SMD SAW Filter



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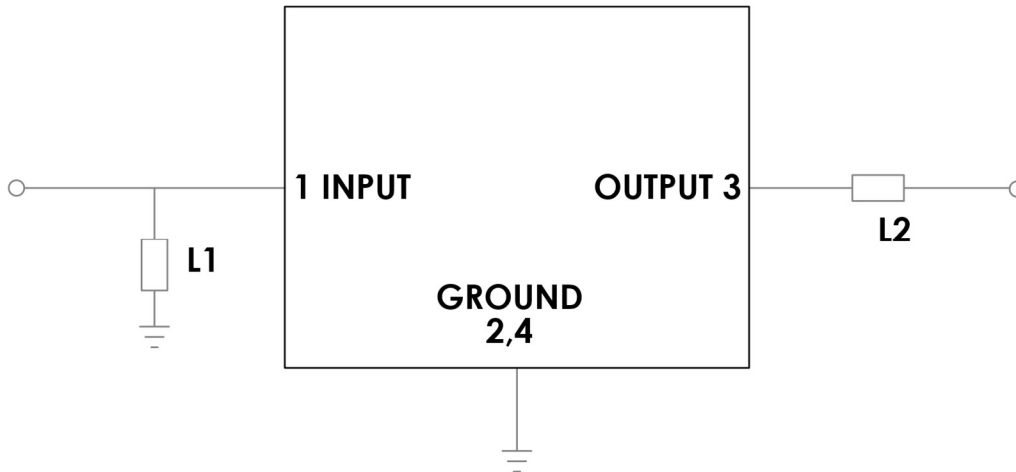


0.9 x 0.7 x 0.55 mm

RoHS Compliant

MSL LEVEL=3

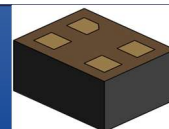
Measurement Circuit



Port	Matching Component
Input	L1: 4.6 nH (Ideal inductor)
Output	L2: 0.96 nH (Ideal inductor)

1. Matching component values shown are recommended based on the evaluation board. Value adjustment may be required on the end-user's circuit boards for the selected component manufacturer and PCB material.

2.4GHz SMD SAW Filter



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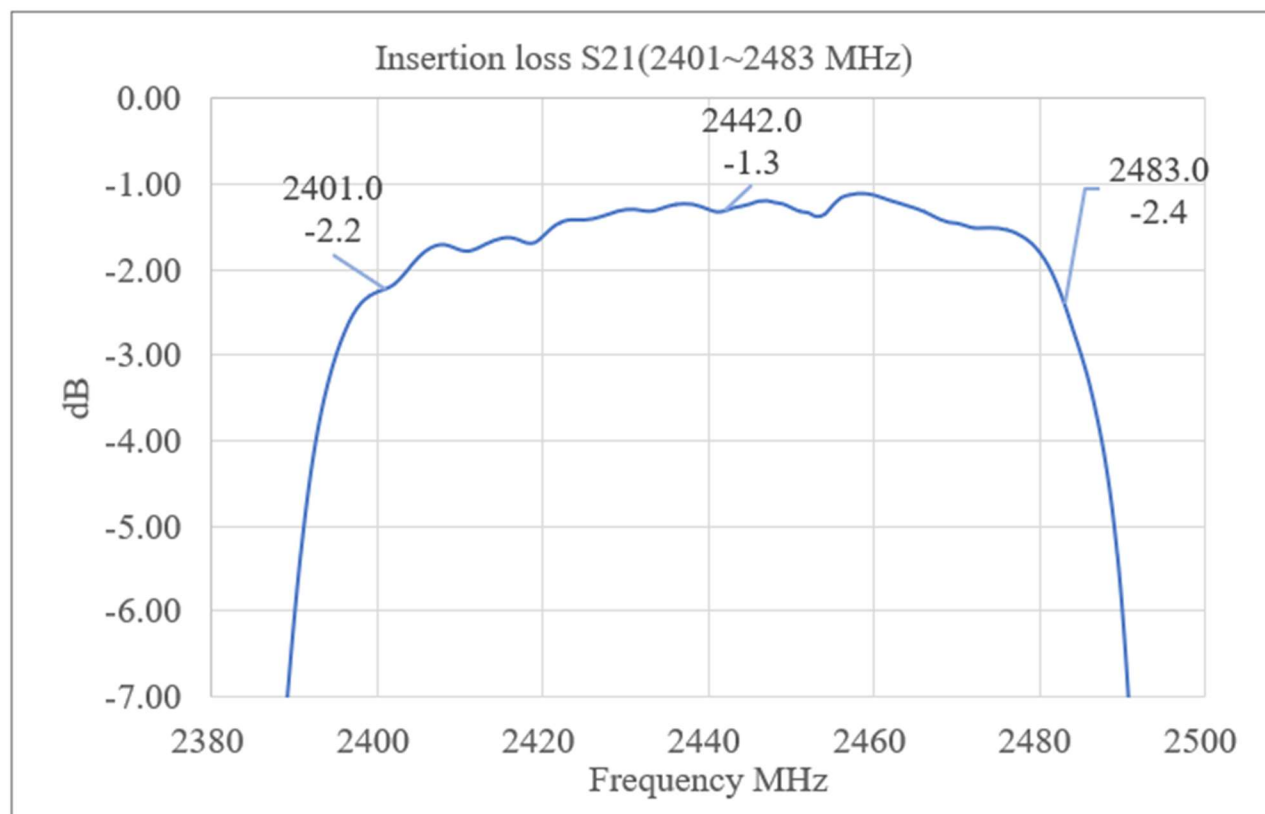
0.9 x 0.7 x 0.55 mm

RoHS Compliant

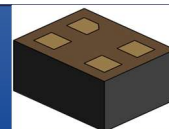
MSL LEVEL=3

Frequency Characteristics

S21 narrow band



2.4GHz SMD SAW Filter



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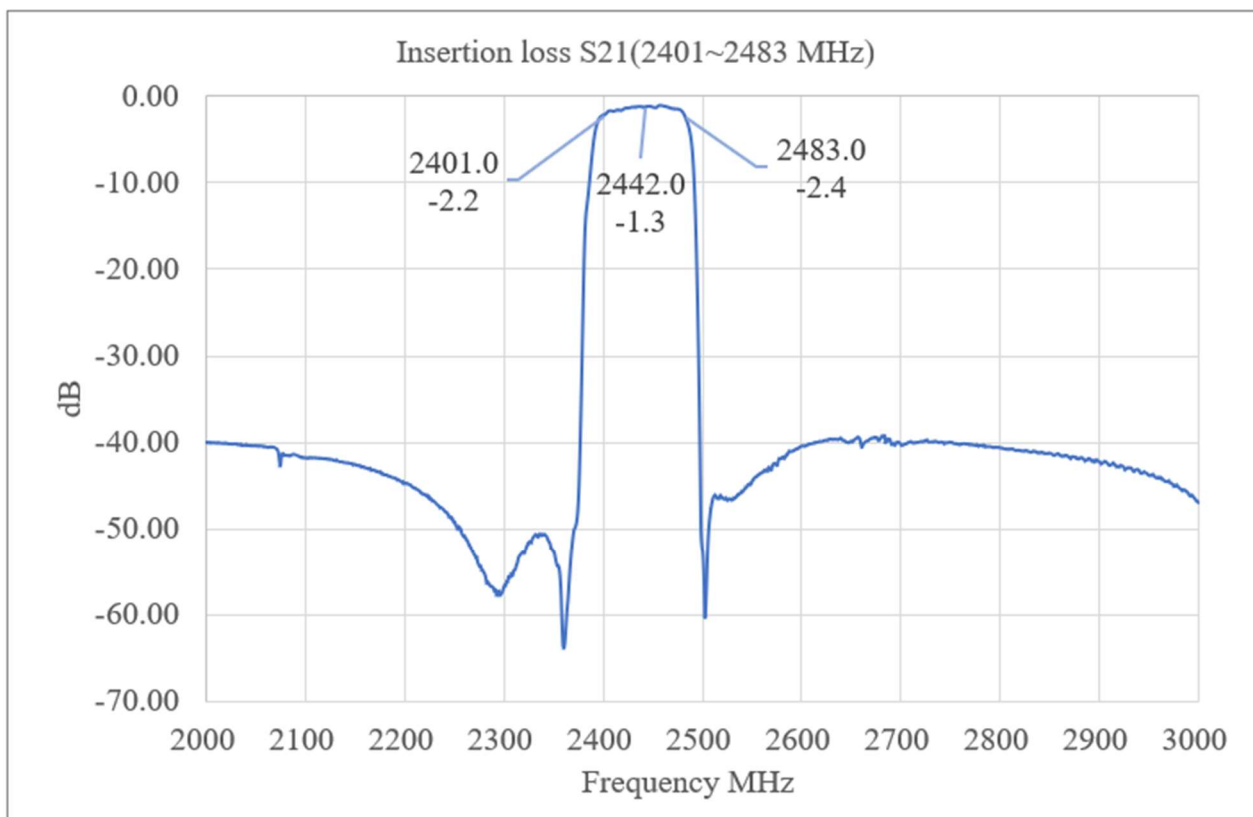


0.9 x 0.7 x 0.55 mm

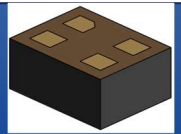
RoHS Compliant

MSL LEVEL=3

S21 wide band



2.4GHz SMD SAW Filter



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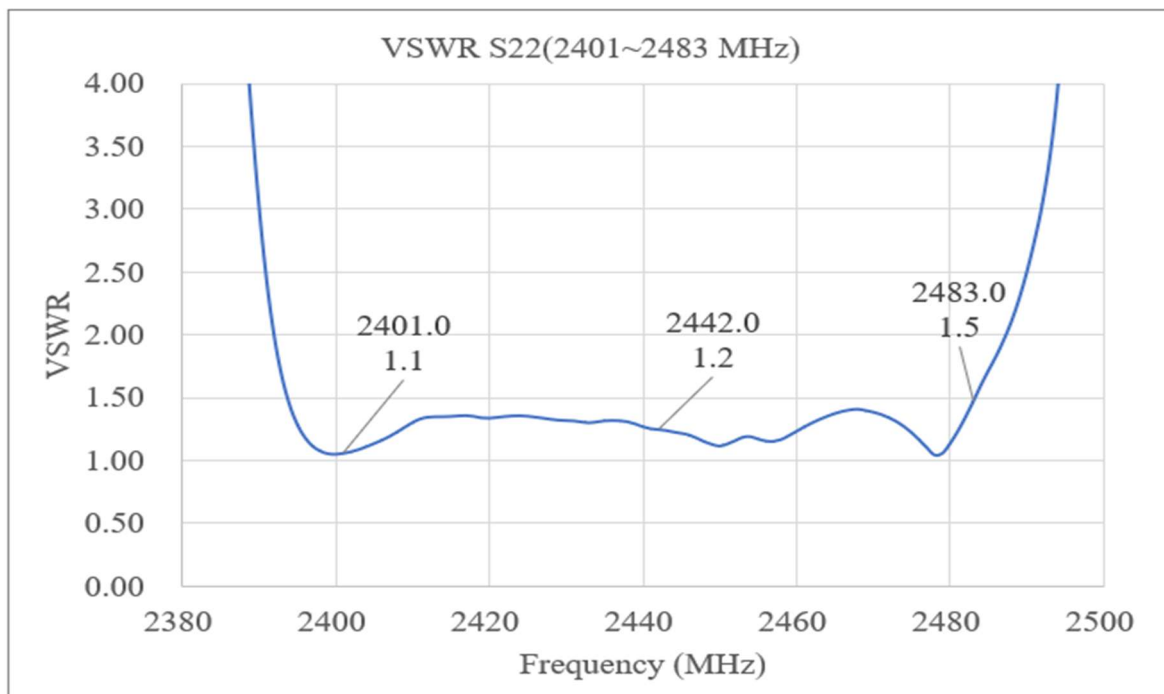
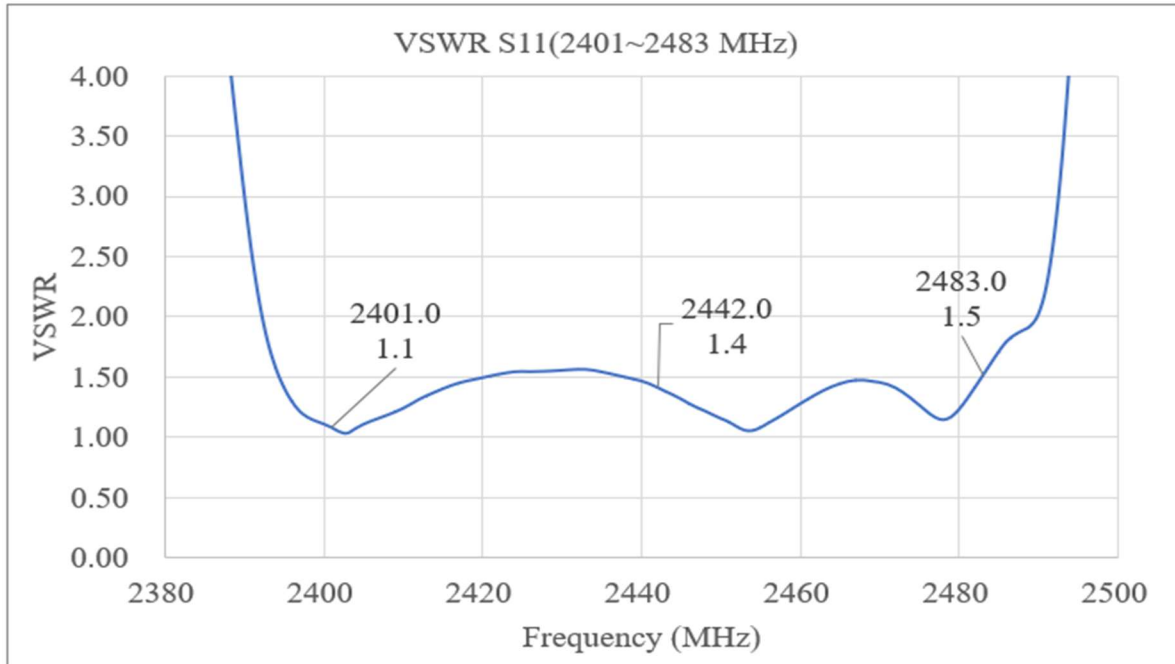


0.9 x 0.7 x 0.55 mm

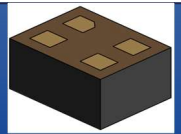
RoHS Compliant

MSL LEVEL=3

VSWR (S11 & S22)



2.4GHz SMD SAW Filter



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0.9 x 0.7 x 0.55 mm
RoHS Compliant
MSL LEVEL=3

Reflow Profile

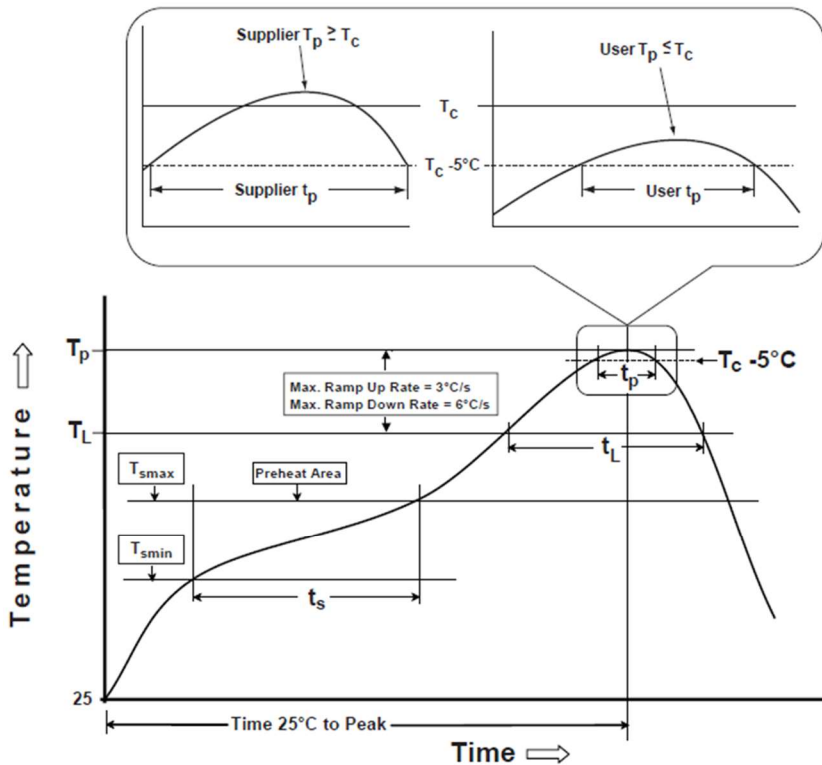


Table 1

SnPb Eutectic Process Classification Temperatures (T_c)		
Package Thickness	Volume mm^3 <350	Volume mm^3 \geq 350
<2.5 mm	235 °C	220 °C
\geq 2.5 mm	220 °C	220 °C

Table 2

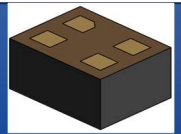
Pb-Free Process Classification Temperatures (T_c)			
Package Thickness	Volume mm^3 <350	Volume mm^3 350-2000	Volume mm^3 >2000
<1.6 mm	260 °C	260 °C	260 °C
1.6 mm - 2.5 mm	260 °C	250 °C	245 °C
>2.5 mm	250 °C	245 °C	245 °C

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	200°C
Time (T_{smin} to T_{smax}) (t_s)	60 - 120 sec.	60 - 120 sec.
Average ramp-up rate (T_{smax} to T_p)	3°C/sec. max	3°C/sec. max
Liquidous temperature (T_L)	183°C	217°C
Time at liquidous (t_L)	60 - 150 sec.	60 - 150 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.	30 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 supplier minimum and a user maximum.

2.4GHz SMD SAW Filter



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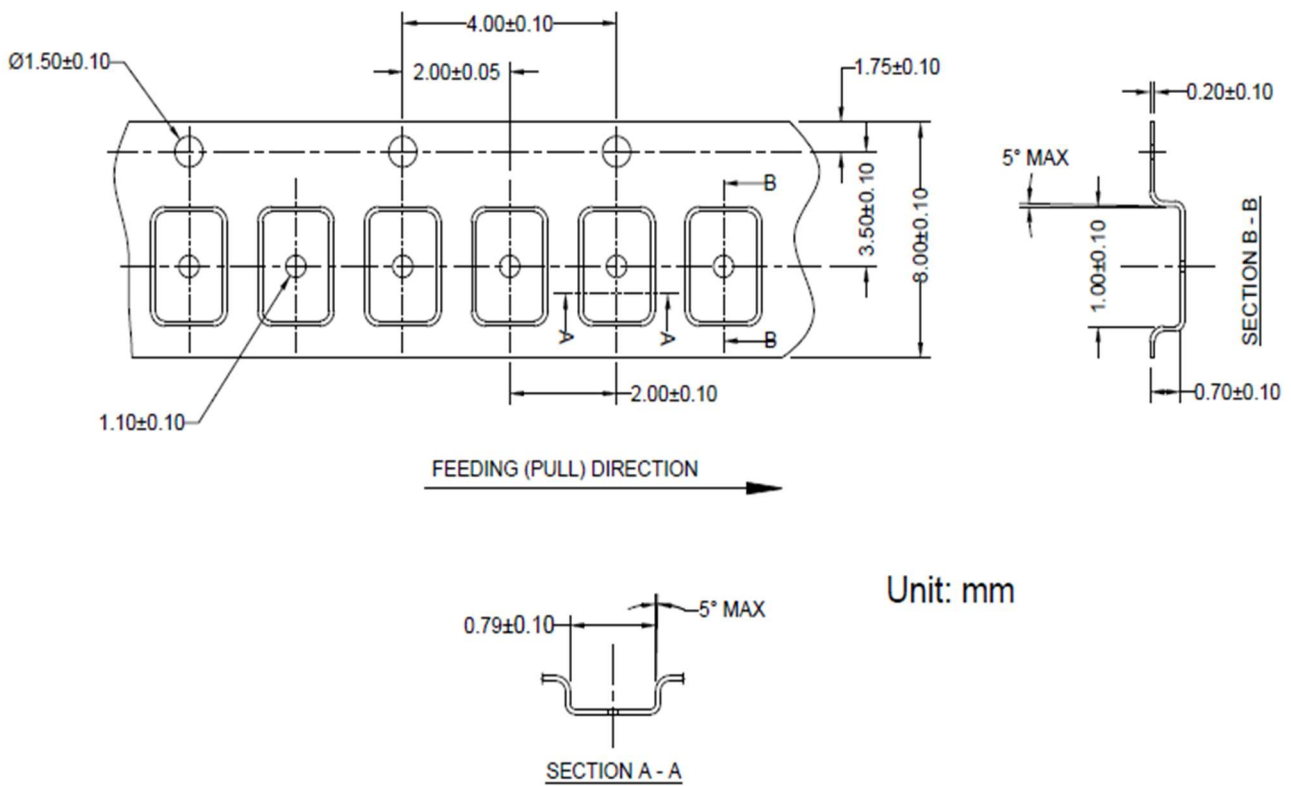
0.9 x 0.7 x 0.55 mm
RoHS Compliant
MSL LEVEL=3

Packaging(mm)

ABS4AL-45CM03AM: 10Kpcs/reel

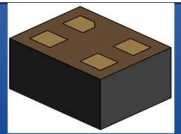
Tape & Reel Dimension

Tape



Unit: mm

2.4GHz SMD SAW Filter



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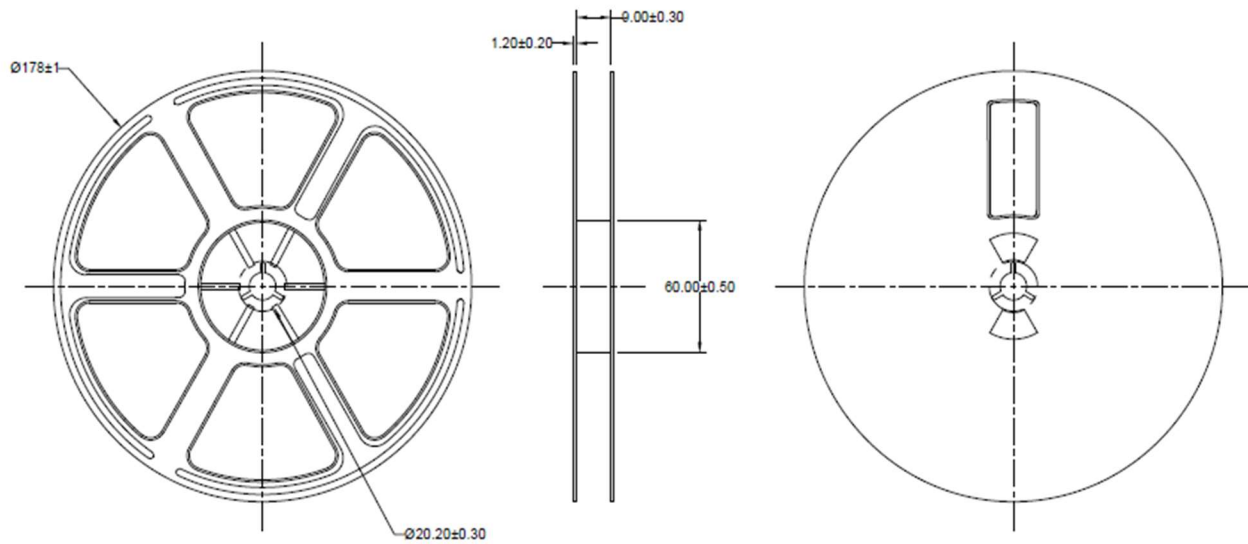


Check Inventory



0.9 x 0.7 x 0.55 mm
RoHS Compliant
MSL LEVEL=3

Reel



Unit: mm

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