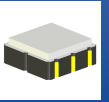


460 MHz SMD SAW Filter



AFII-SW-0018

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3.8 x 3.8 x 1.5 mm
RoHS Compliant
MSL Level = 3

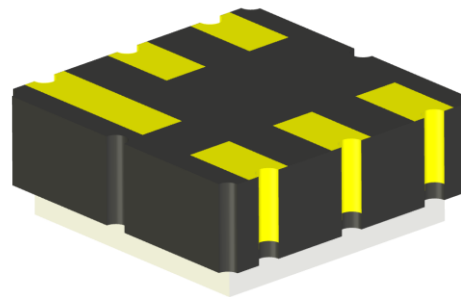
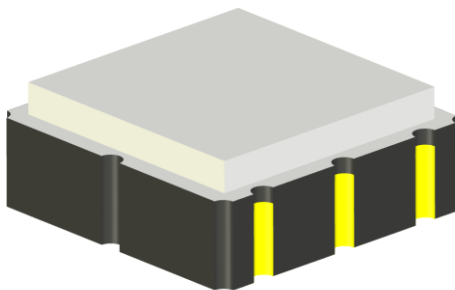
Features

- 3.8 x 3.8 x 1.5 mm in Size
- Low Insertion Loss: 2.0 dB
- Out-of-Band Rejection: > 25 dB
- 50 Ohms Single-Ended Input & Output
- Maximum Input Power: 20dBm
- Industrial Grade -40°C ~ +85°C

Applications

- RF Modules
- Front-End Filter for Wireless Receivers
- Public Safety & Emergency Services
- Land Mobile Radio (LMR)
- Metering (Electric, Water, and Gas)

Product Image



460 MHz SMD SAW Filter



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3.8 x 3.8 x 1.5 mm
RoHS Compliant
MSL Level = 3

Electrical Specification

Parameters	Minimum	Typical	Maximum	Units	Notes
Center Frequency (fc)	-	460.0	-	MHz	
VSWR	-	1.8	2.0	-	450– 470 MHz
Insertion Loss ⁽¹⁾	-	2.0	2.3	dB	450– 470 MHz
Amplitude Ripple ⁽¹⁾	-	0.5	1.0	dB _{p-p}	450– 470 MHz
Group Delay ⁽¹⁾	-	29	38	ns	450– 470 MHz
Group Delay Ripple ⁽¹⁾	-	0.8	2.6	ns	450– 470 MHz
Attenuation ⁽²⁾ (Reference level from 0 dB)	40	45	-	dB	DC ~ 390.0 MHz
	40	42	-		530.0 ~ 900.0 MHz
	30	32	-		900.0 ~ 1500.0 MHz
	20	25	-		1500.0 ~ 3000.0 MHz
Source Impedance (single ended) ⁽³⁾	-	50	-	Ω	
Load Impedance (single ended) ⁽³⁾	-	50	-	Ω	
RF Power Dissipation	-	-	20	dBm	

Notes: (1) Averaged values of linear S-Parameters at +25°C

(2) Averaged values of linear S-Parameters at +25°C

(3) A matching network is unnecessary (refer to the Measurement Circuits section).

Mechanical Specification

Parameters	Specifications
Dimension	3.8 x 3.8 x 1.5 mm
Mounting Type	Surface Mount

Environmental Specification

Parameters	Specifications
Operating Temperature Range	-40°C ~ +85°C
Storage Temperature Range	-45°C ~ +85°C
ESD (HBM)	>100 V
ESD (CDM)	>100 V
MSL level	3
RoHS Compliant	Yes

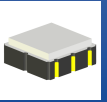


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REVISED: 03-13-25

ABRACON IS
ISO9001-2015
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460 MHz SMD SAW Filter



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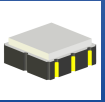
3.8 x 3.8 x 1.5 mm
RoHS Compliant
MSL Level = 3

Ordering Information

Part Number	Description
AFII-SW-0018	460 MHz SMD SAW Filter on Cut Tape
AFII-SW-0018-T	460 MHz SMD SAW Filter on Tape & Reel
AFII-SW-0018-EVB	460 MHz SMD SAW Filter Evaluation Board

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

460 MHz SMD SAW Filter



AFII-SW-0018

Request Samples

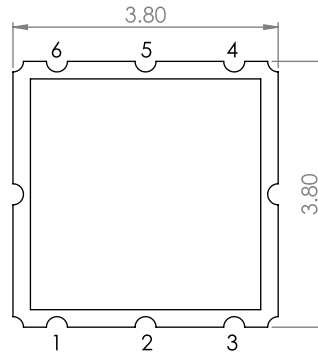


Check Inventory

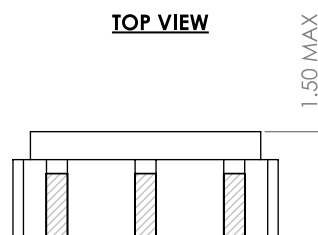


3.8 x 3.8 x 1.5 mm
RoHS Compliant
MSL Level = 3

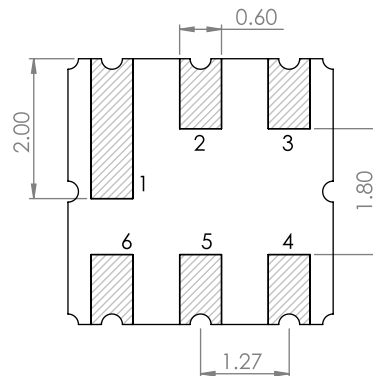
Product Dimensions



TOP VIEW



FRONT VIEW

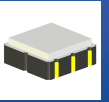


BOTTOM VIEW

Unit : mm

Pin No.	Description
2	Input
1,3,4,6	Ground
5	Output

460 MHz SMD SAW Filter



AFII-SW-0018

Request Samples

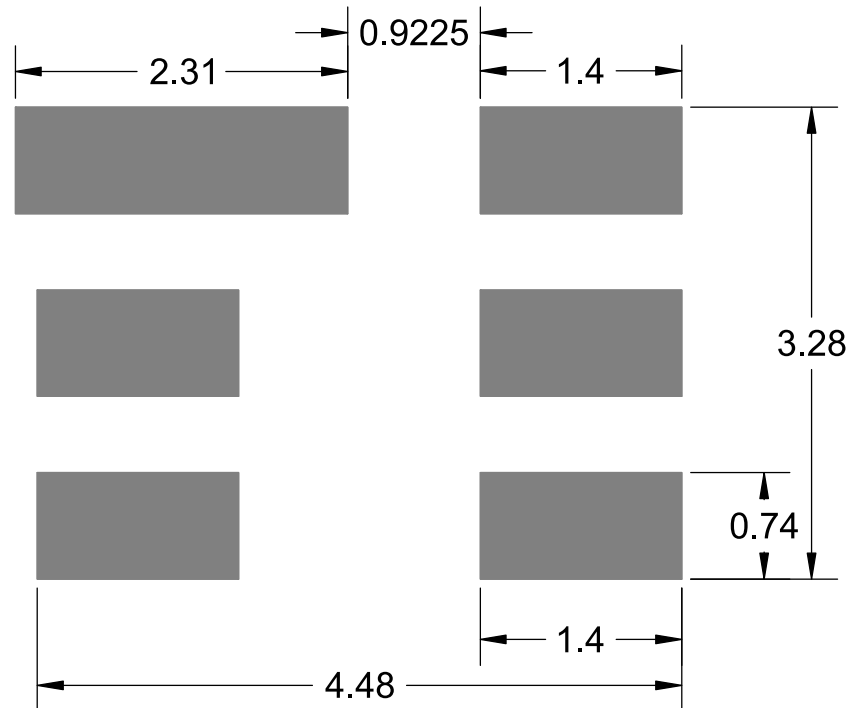


Check Inventory



3.8 x 3.8 x 1.5 mm
RoHS Compliant
MSL Level = 3

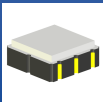
Recommended Land Pattern



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.

460 MHz SMD SAW Filter



AFII-SW-0018

Request Samples

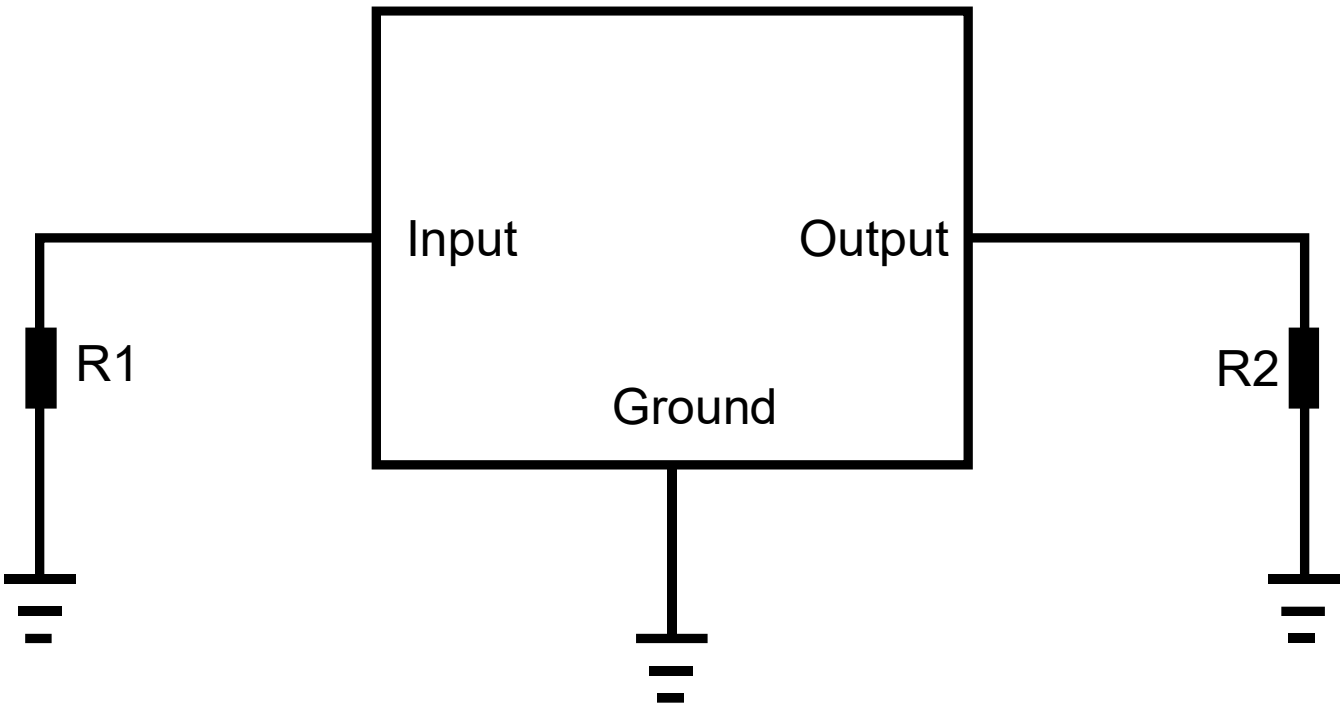


Check Inventory



3.8 x 3.8 x 1.5 mm
RoHS Compliant
MSL Level = 3

Measurement Circuit



Port	Matching Component
Input	R1:50Ω
Output	R2:50Ω

460 MHz SMD SAW Filter



AFII-SW-0018

Request Samples



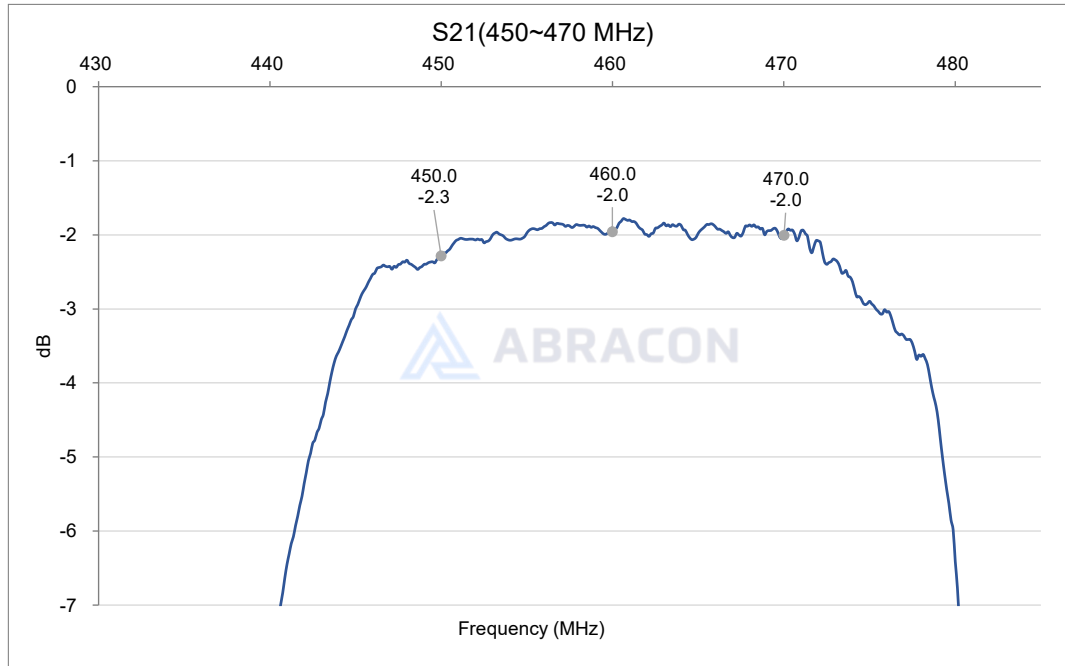
Check Inventory



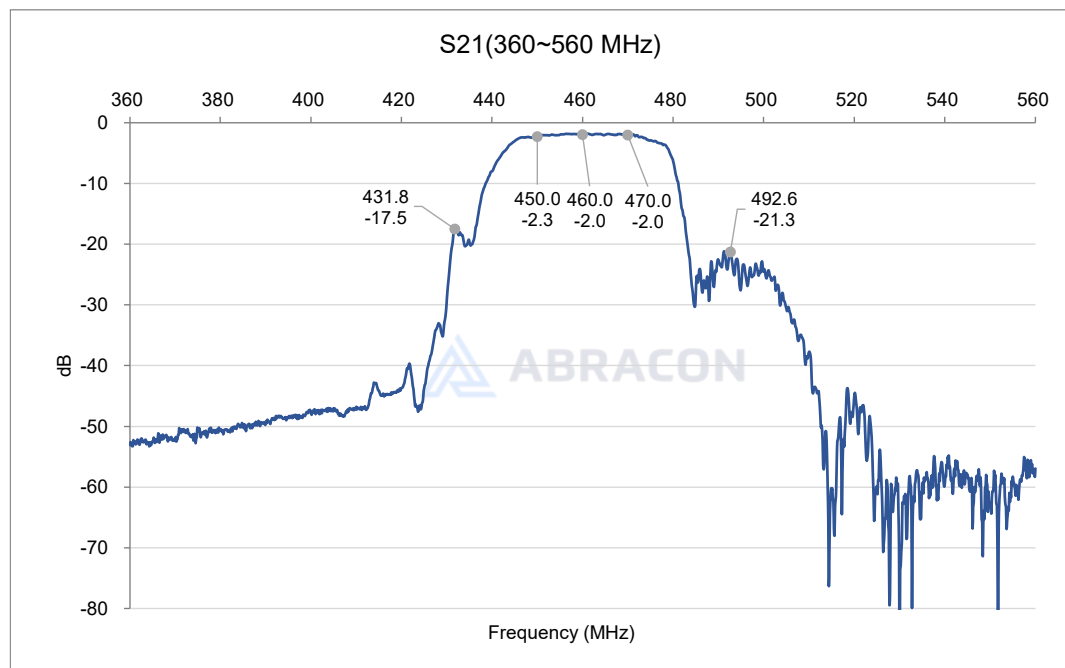
3.8 x 3.8 x 1.5 mm
RoHS Compliant
MSL Level = 3

Frequency Characteristics

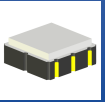
S21 narrow band



S21



460 MHz SMD SAW Filter



AFII-SW-0018

Request Samples

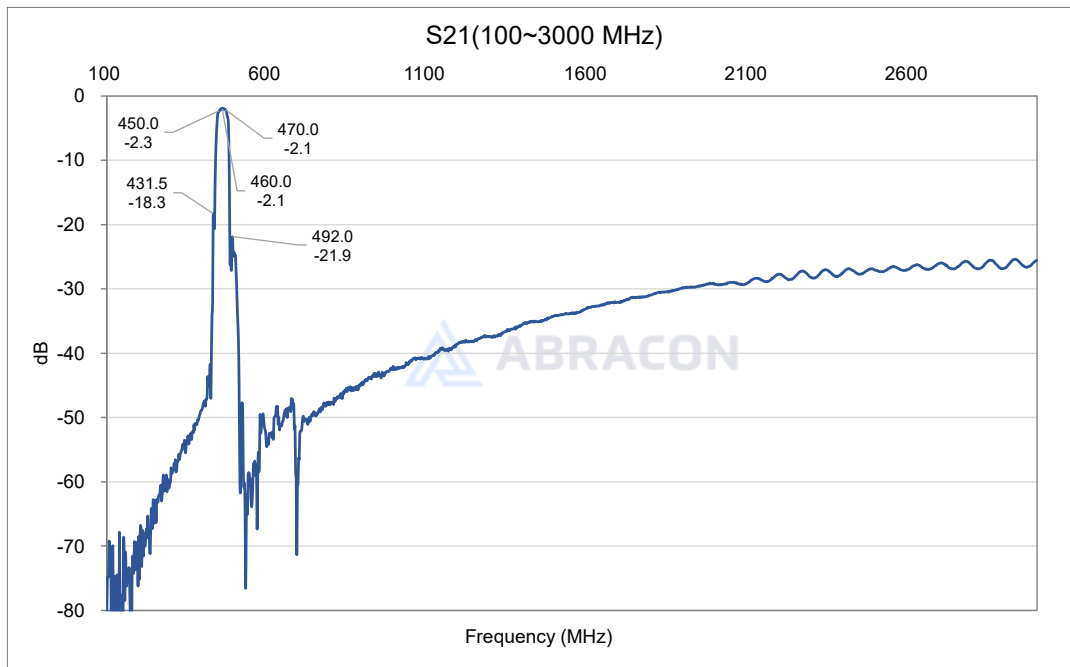


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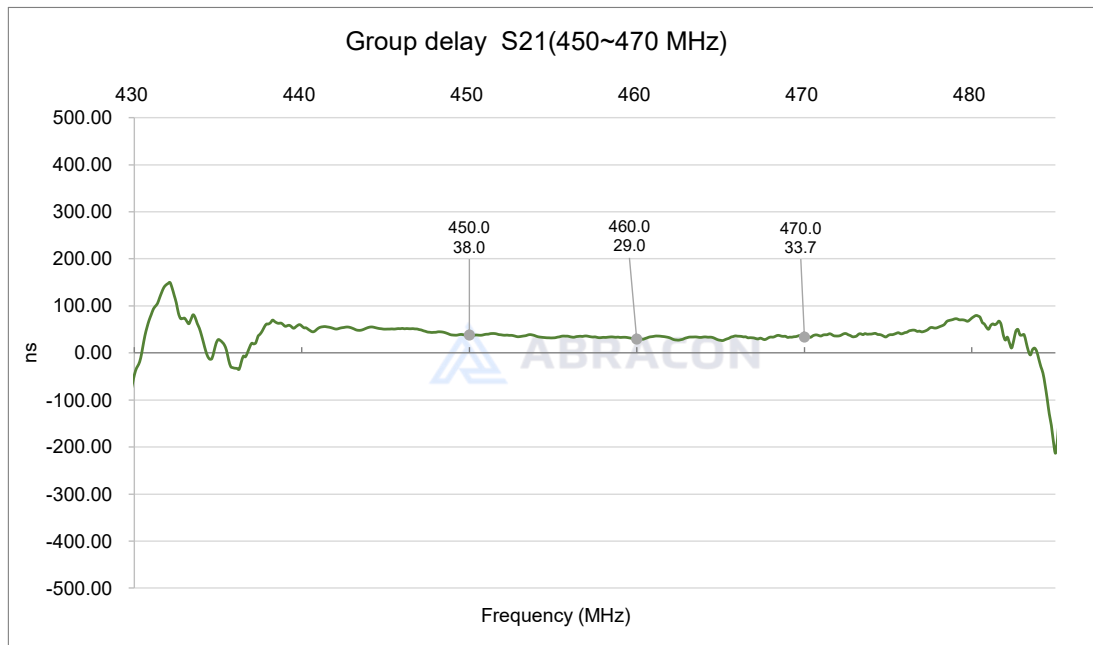


3.8 x 3.8 x 1.5 mm
RoHS Compliant
MSL Level = 3

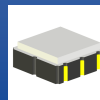
S21 wide band



Group Delay



460 MHz SMD SAW Filter



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Request Samples

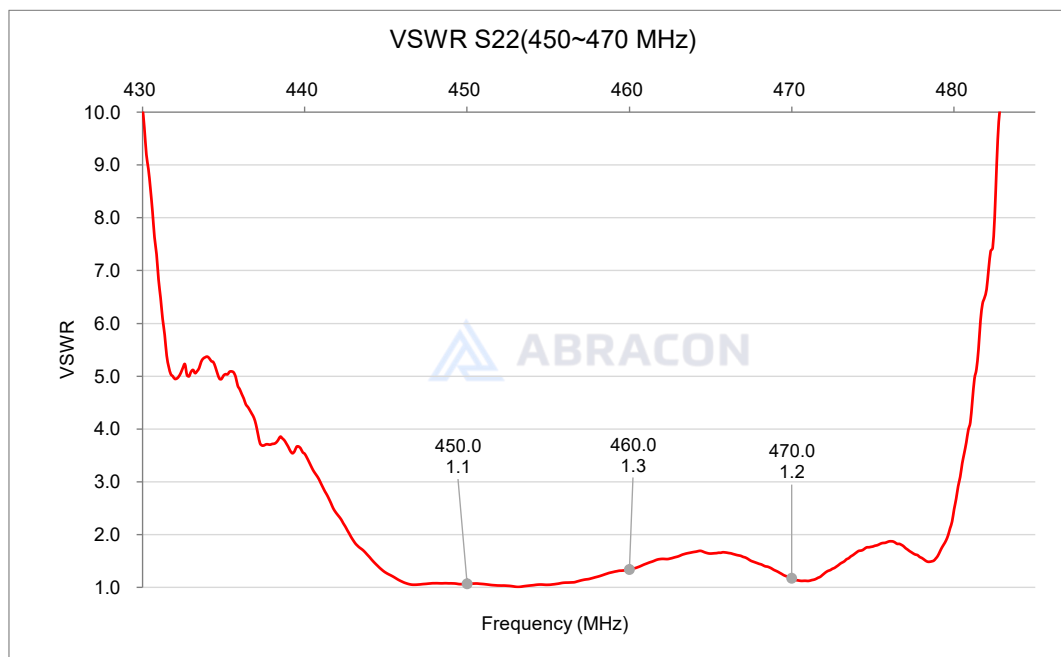
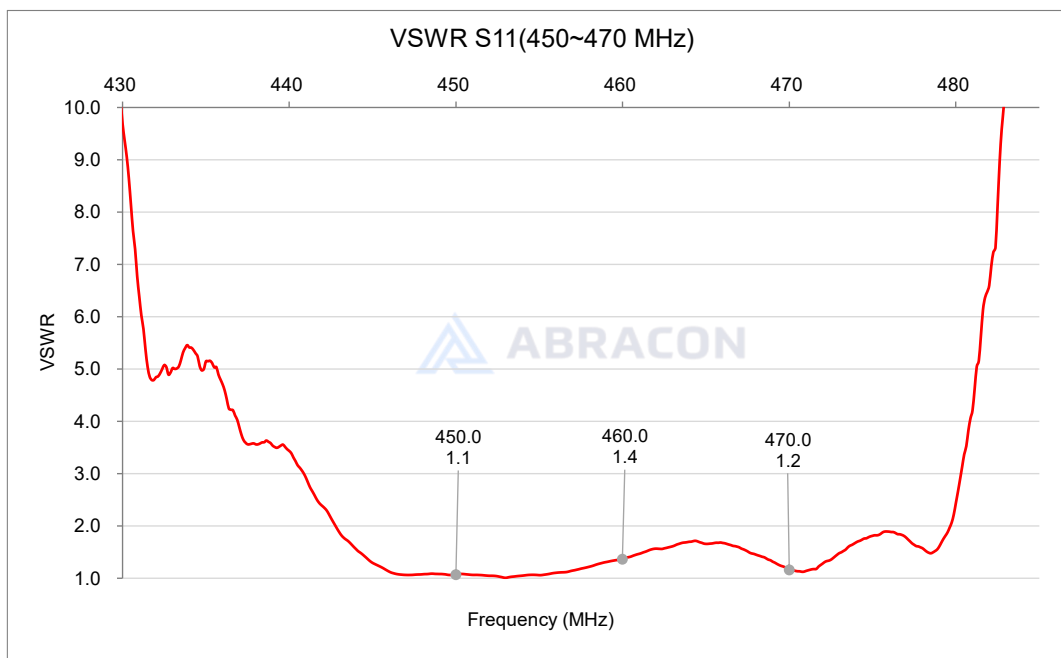


Check Inventory

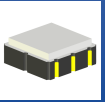


3.8 x 3.8 x 1.5 mm
RoHS Compliant
MSL Level = 3

VSWR (S11 & S22)



460 MHz SMD SAW Filter



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Request Samples



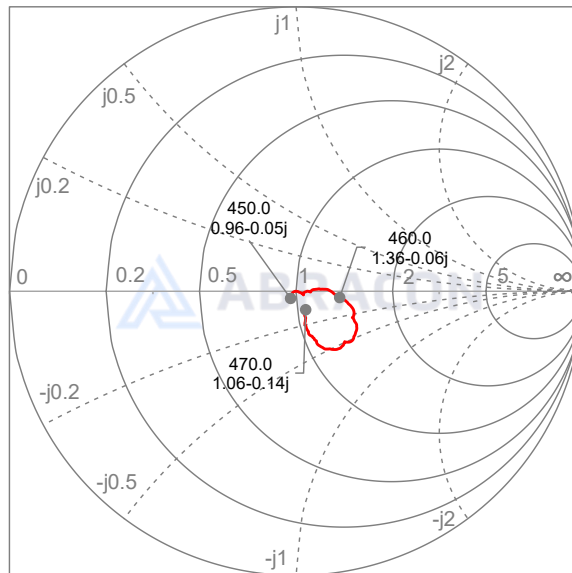
Check Inventory



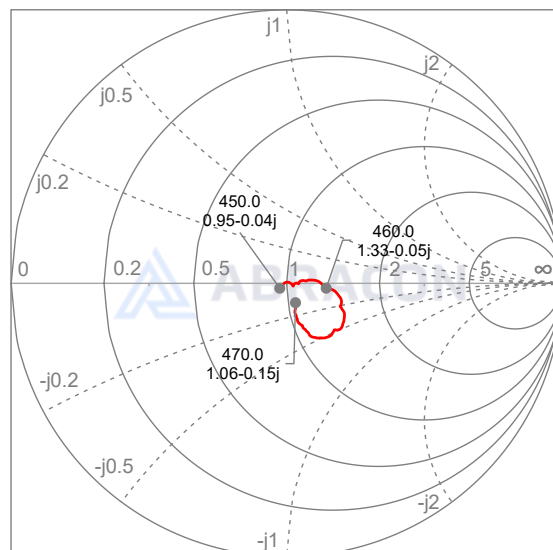
3.8 x 3.8 x 1.5 mm
RoHS Compliant
MSL Level = 3

Smith Chart (S11 & S22)

Smith chart S11 (450~470MHz)



Smith chart S22 (450~470MHz)



460 MHz SMD SAW Filter



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Check Inventory



3.8 x 3.8 x 1.5 mm
RoHS Compliant
MSL Level = 3

Reflow Profile [JEDEC J-STD-020]

Solder Paste: Ag3.0/Cu0.5/Sn

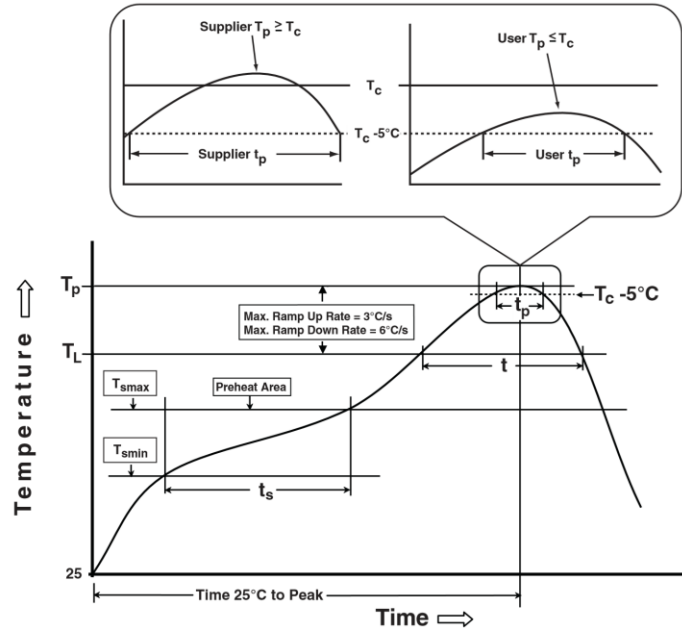


Table 1

SnPb Eutectic Process
Classification Temperatures (T_c)

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

Table 2

Pb-Free Process
Classification Temperatures (T_c)

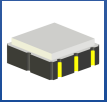
Package Thickness	Volume mm ³ <350	Volume mm ³ 350-2000	Volume mm ³ >2000
<1.6mm	260°C	260°C	260°C
1.6mm - 2.5mm	260°C	250°C	245°C
>2.5mm	240°C	240°C	240°C

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 – 180 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.	5 sec.
Ramp-down rate (T_p to T_{smax})	6°C/sec. max	3°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.

460 MHz SMD SAW Filter



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Request Samples



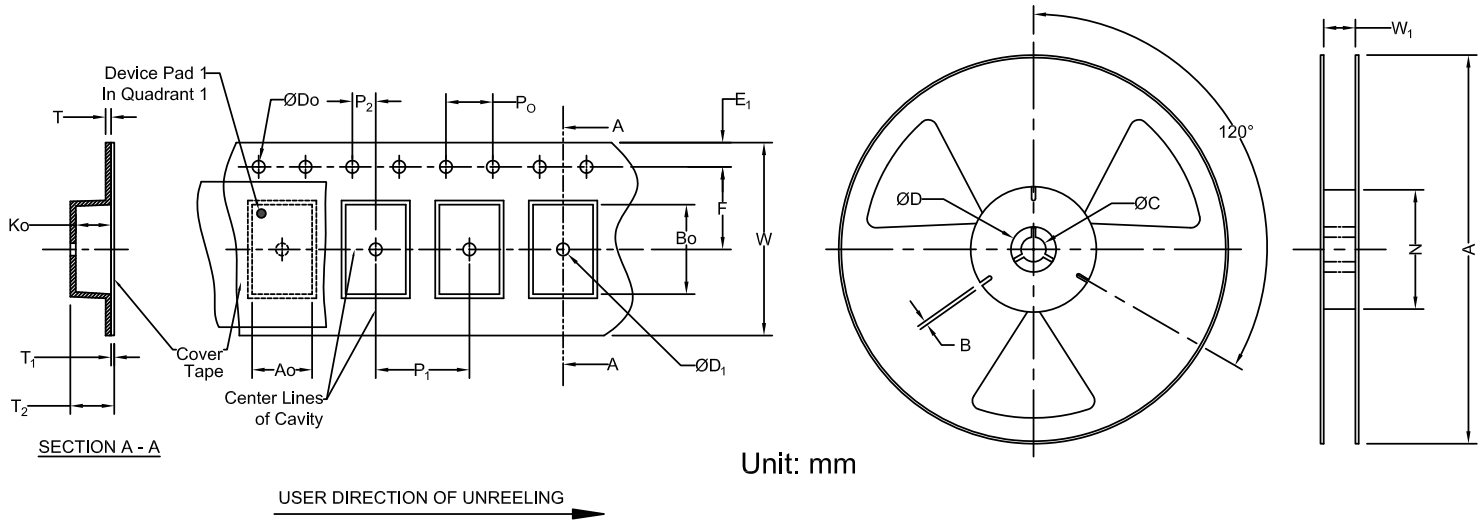
Check Inventory



3.8 x 3.8 x 1.5 mm
RoHS Compliant
MSL Level = 3

Packaging

Tape & Reel Dimension



Carrier Tape Specifications (mm)

D0	D1	E1	P0	P2	T	F	P1	W	A0	B0	K0	Reel Qty
1.50 ± 0.1	1.50 ± 0.1	1.75 ± 0.1	4.0 ± 0.1	2.0 ± 0.10	0.3 ± 0.05	5.5 ± 0.05	8.0 ± 0.1	12.0 ± 0.1	4.1 ± 0.05	4.1 ± 0.05	1.6 ± 0.05	1,000

Reel Specifications (mm)

A	W1	N	C	B
178.0	12.4 ± 1.00	60.0	13.0 ± 0.50	2.0 ± 0.50

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