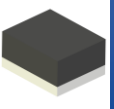


SMD 1176.45 MHZ SAW Filter



AFII-SW-0074-Q

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1.4 x 1.1 x 0.6 mm
RoHS Compliant
MSL Level = 1

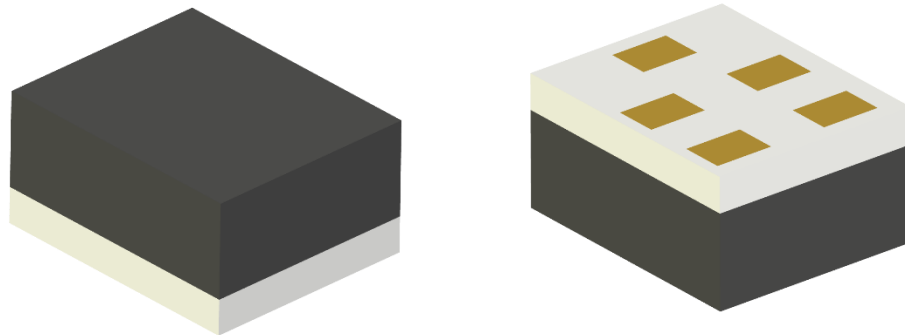
Features

- AEC-Q200 Qualified
- GNSS L5 Band Support
- 1.4 x 1.1 x 0.6 mm in Size
- Low Insertion Loss: 1.4 dB
- Out-of-Band Rejection: > 29 dB
- Maximum Input Power: +13 dBm
- RoHS Compliant

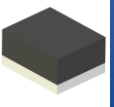
Applications

- RF Modules
- RTK Systems
- Automotive Transportation & Telematics
- Asset Tracking / Fleet Management
- UAVs, Robotics & Autonomous Vehicles
- Micro-Mobility Solutions

Product Image



SMD 1176.45 MHZ SAW Filter



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1.4 x 1.1 x 0.6 mm
RoHS Compliant
MSL Level = 1

Electrical Specification

Parameters	Minimum	Typical	Maximum	Units	Notes
Center Frequency(fc)	-	1176.45	-	MHz	-
VSWR ⁽¹⁾	-	1.8	2.1	-	1166.23 ~ 1186.67MHz
Insertion Loss ⁽¹⁾	-	1.4	2.2	dB	1166.23 ~ 1186.67MHz
Amplitude Ripple ⁽¹⁾	-	0.4	1.4		1166.23 ~ 1186.67MHz
Attenuation ⁽¹⁾ (Reference level from 0 dB)	30	45	-	dB	100 ~1080 MHz
	20	29	-		1080 ~1130 MHz
	30	34	-		1230 ~2000 MHz
	25	32	-		2000 ~3000 MHz
Group Delay ⁽¹⁾ (+25 °C)	-	17	18	ns	1166.23 ~ 1186.67MHz
Group Delay Ripple ⁽¹⁾ (+25 °C)	-	4	8	ns	1166.23 ~ 1186.67MHz
Source Impedance ⁽²⁾ (single ended)	-	50	-	Ω	-
Load Impedance ⁽²⁾ (single ended)	-	50	-	Ω	-
Input Power Level	-	-	13	dBm	-
DC Voltage (V)	-	-	3	V	-
Temperature Coefficient of Frequency	-	-36	-	ppm/°C	-

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

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

Mechanical Specification

Parameters	Specifications
Filter Dimension	1.4 x 1.1 x 0.6 mm
Mounting Type	Surface Mount

Environmental Specification

Parameters	Specifications
Operating Temperature Range	-40°C ~ +105°C
Storage Temperature Range	-40°C ~ +125°C
MSL level	1
ESD	50 V (MM) 100 V (HBM)

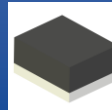


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SMD 1176.45 MHZ SAW Filter



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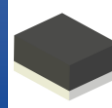
1.4 x 1.1 x 0.6 mm
RoHS Compliant
MSL Level = 1

Ordering Information

Part Number	Description
AFII-SW-0074-Q	SMD 1176.45 MHZ SAW Filter on Cut Tape
AFII-SW-0074-Q-T	SMD 1176.45 MHZ SAW Filter on Tape & Reel
AFII-SW-0074-Q-EVB	SMD 1176.45 MHZ SAW Filter Evaluation Board

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

SMD 1176.45 MHZ SAW Filter



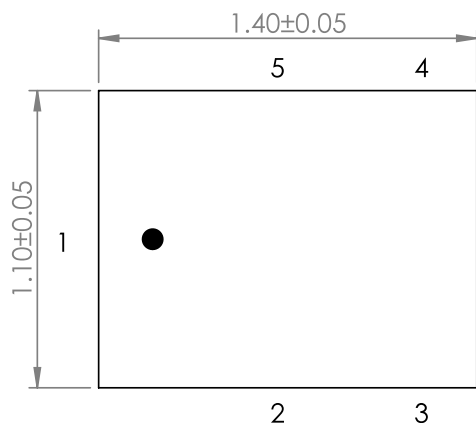
AFII-SW-0074-Q

Request Samples 

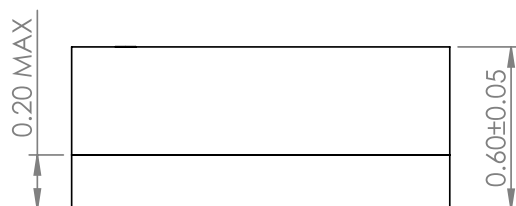
Check Inventory 

1.4 x 1.1 x 0.6 mm
RoHS Compliant
MSL Level = 1

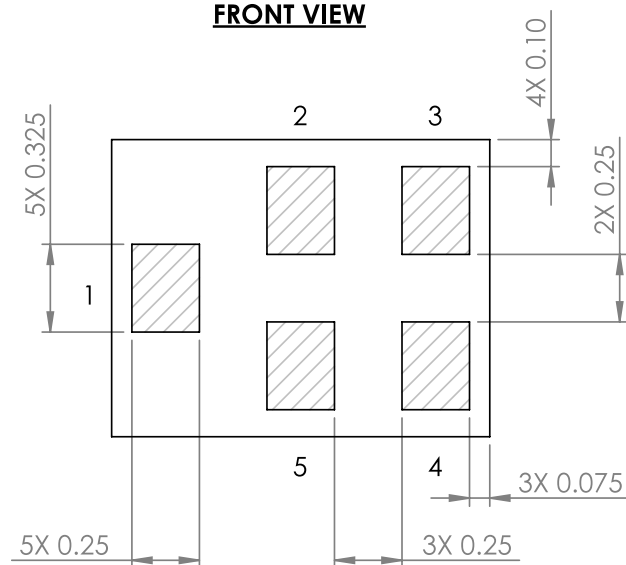
Product Dimensions



TOP VIEW

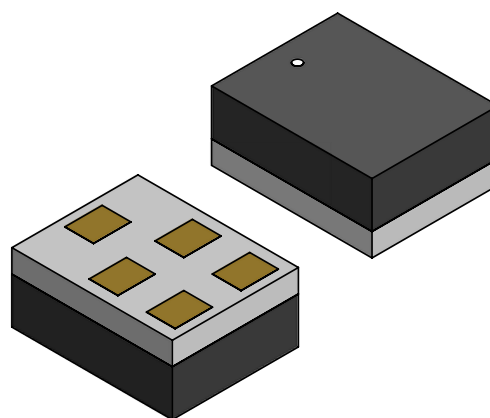


FRONT VIEW



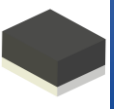
BOTTOM VIEW

PIN #	SYMBOL	FUNCTION
1	IN	INPUT
2	GND	GROUND
3	GND	GROUND
4	OUT	OUTPUT
5	GND	GROUND



Unit : mm

SMD 1176.45 MHZ SAW Filter



AFII-SW-0074-Q

Request Samples

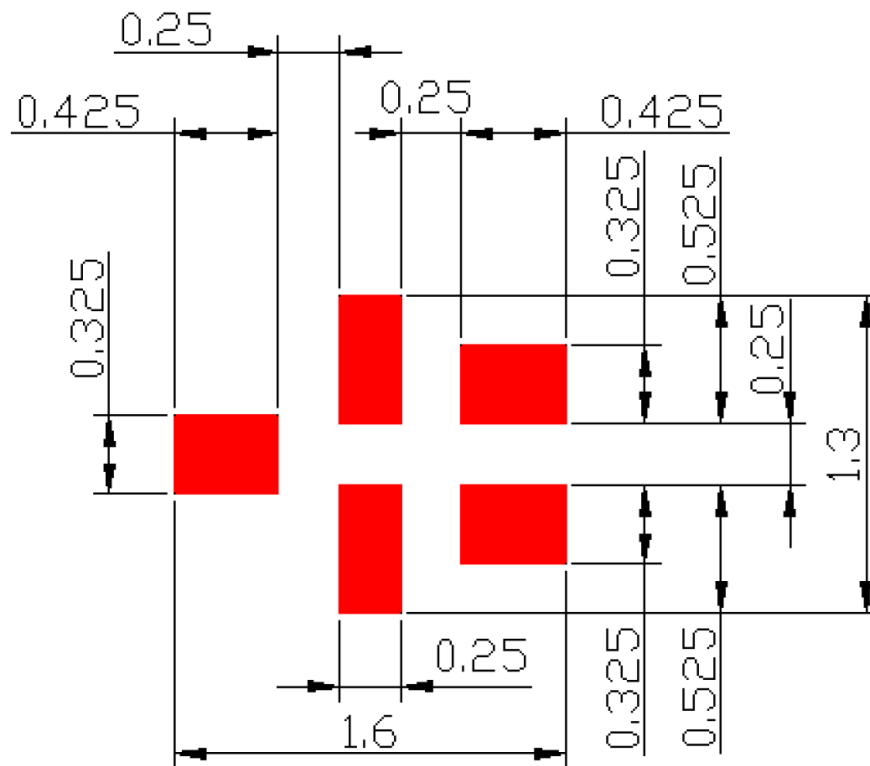


Check Inventory



1.4 x 1.1 x 0.6 mm
RoHS Compliant
MSL Level = 1

Recommended Land Pattern

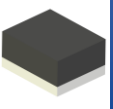


 : Land Pattern

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

SMD 1176.45 MHZ SAW Filter



AFII-SW-0074-Q

Request Samples

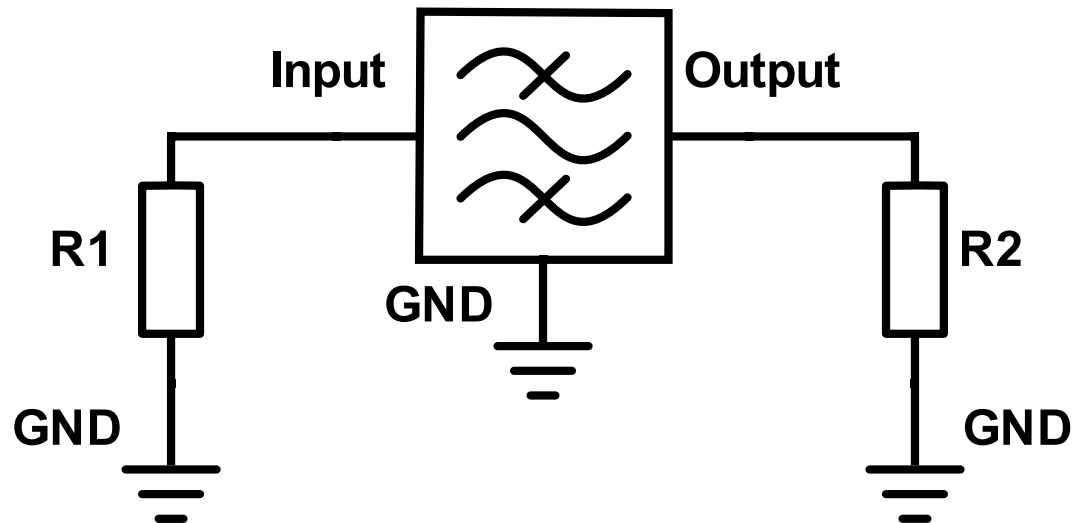


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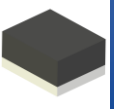
1.4 x 1.1 x 0.6 mm
RoHS Compliant
MSL Level = 1

Measurement Circuit



Port	Matching Component
Input (Pin 1)	R1: 50 Ω
Output (Pin 4)	R2: 50 Ω

SMD 1176.45 MHz SAW Filter



AFII-SW-0074-Q

Request Samples



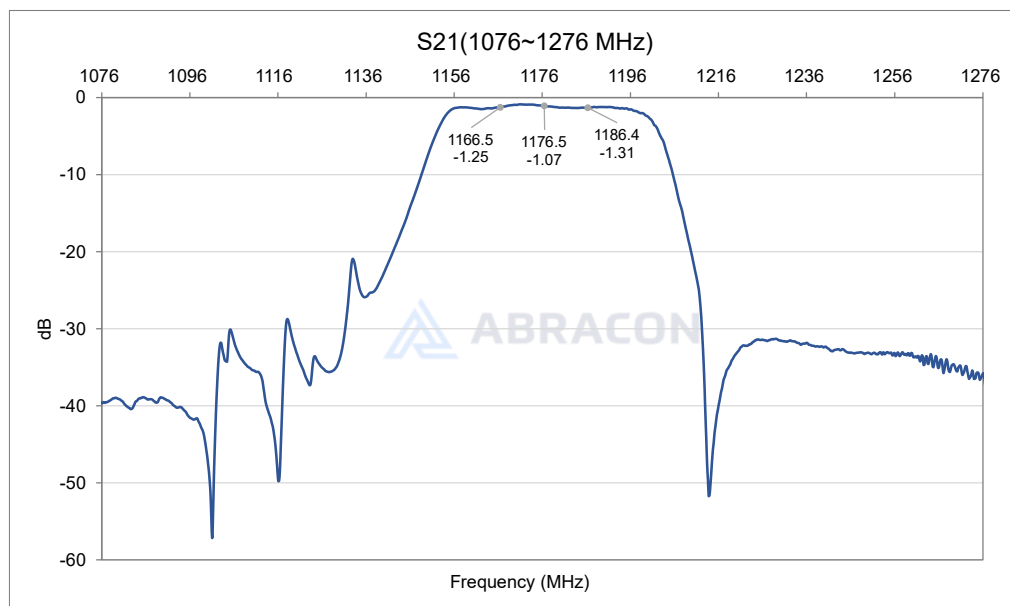
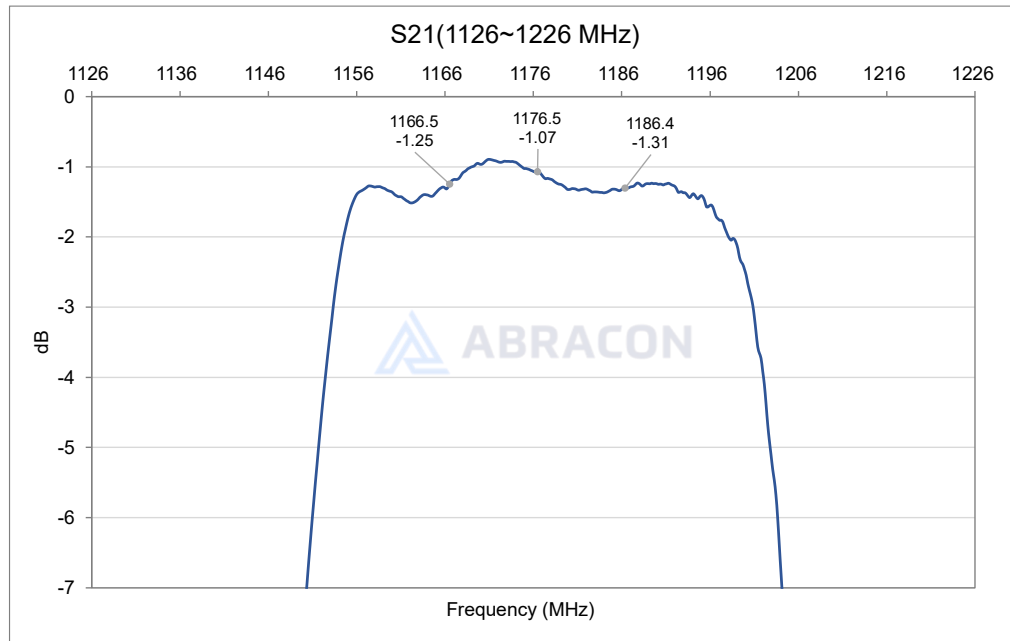
Check Inventory



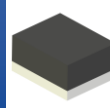
1.4 x 1.1 x 0.6 mm
RoHS Compliant
MSL Level = 1

Frequency Characteristics

S21 narrow band



SMD 1176.45 MHz SAW Filter



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Request Samples

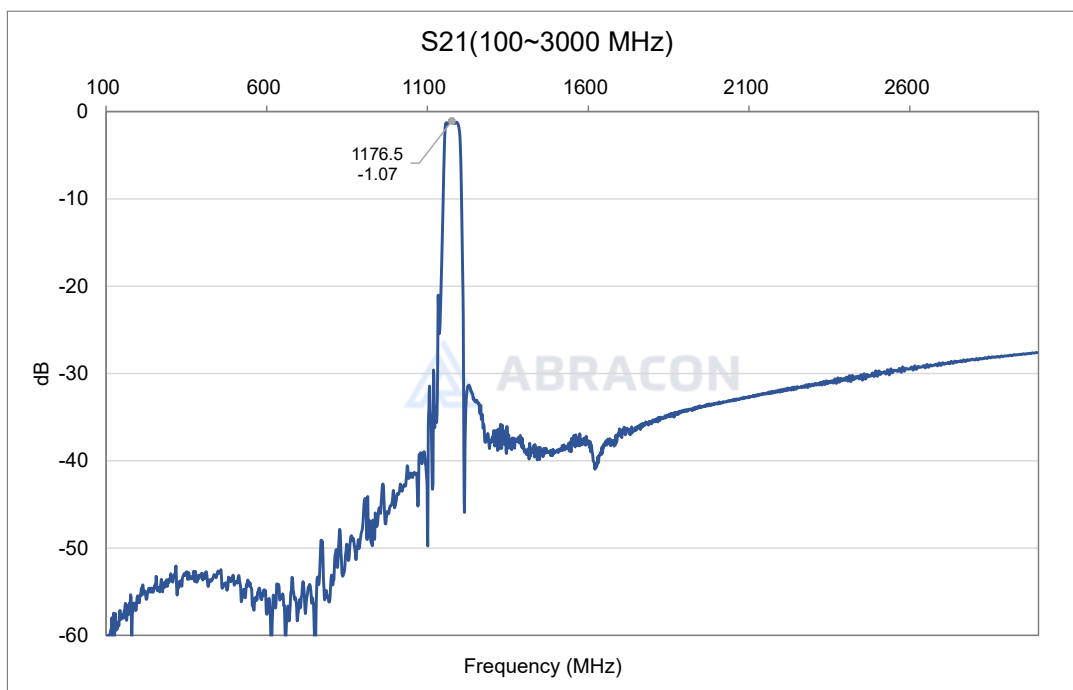


Check Inventory

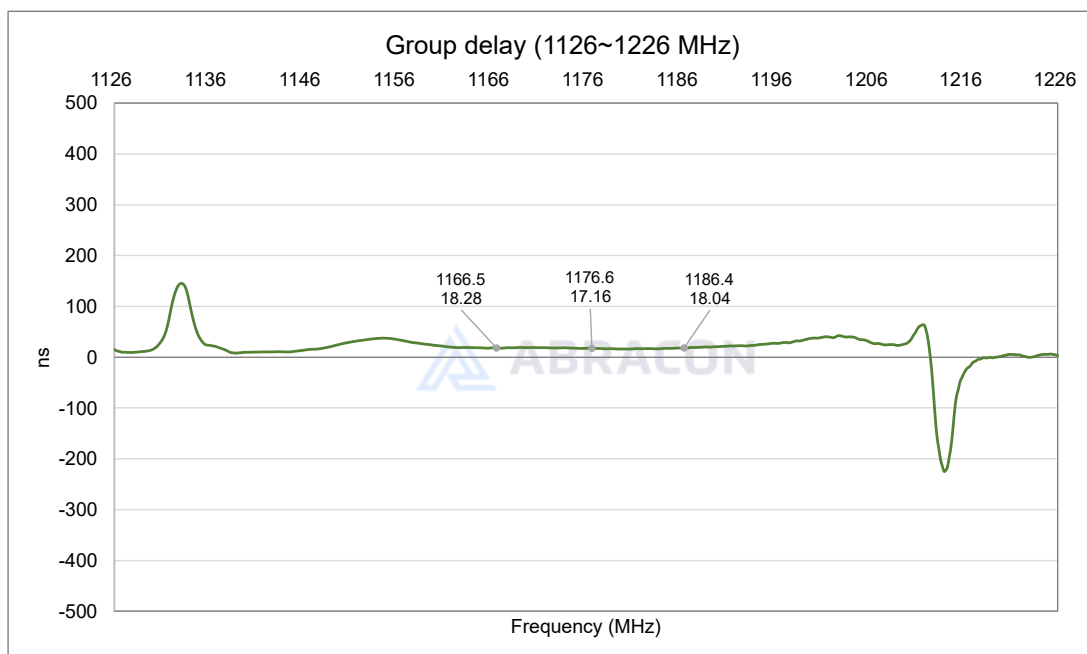


1.4 x 1.1 x 0.6 mm
RoHS Compliant
MSL Level = 1

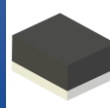
S21 Wide Band



Group Delay



SMD 1176.45 MHz SAW Filter



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Request Samples

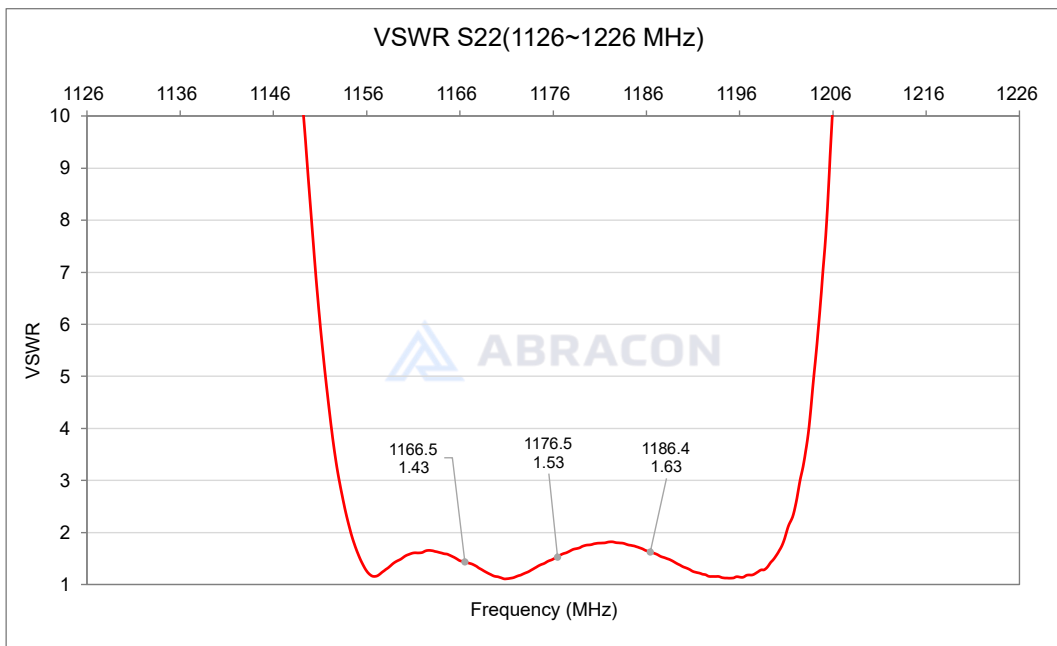
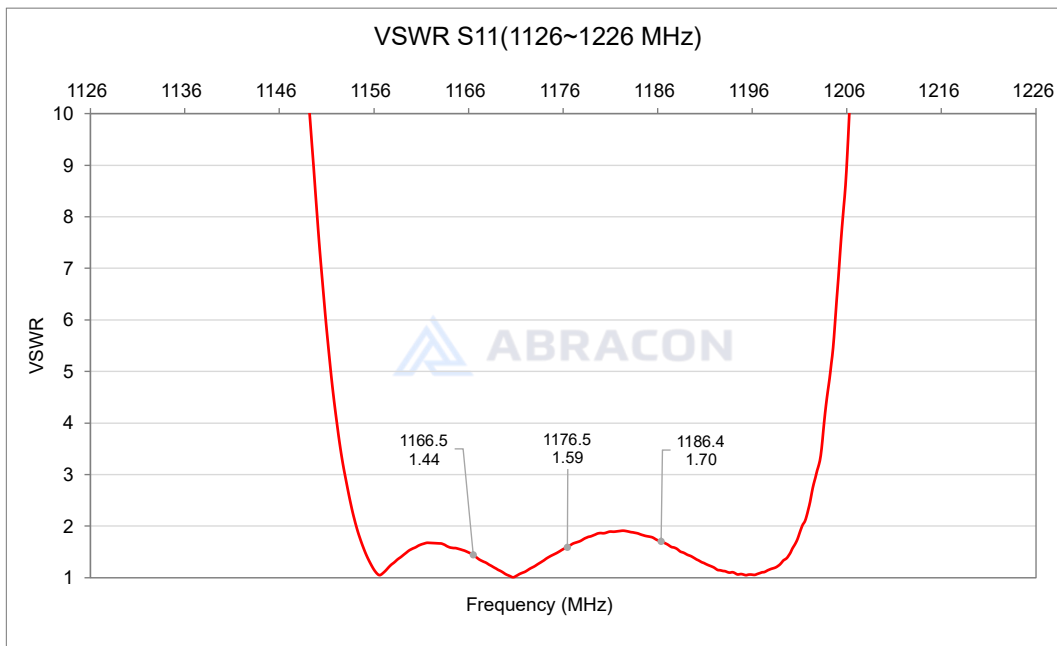


Check Inventory

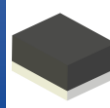


1.4 x 1.1 x 0.6 mm
RoHS Compliant
MSL Level = 1

VSWR (S11 & S22)



SMD 1176.45 MHZ SAW Filter



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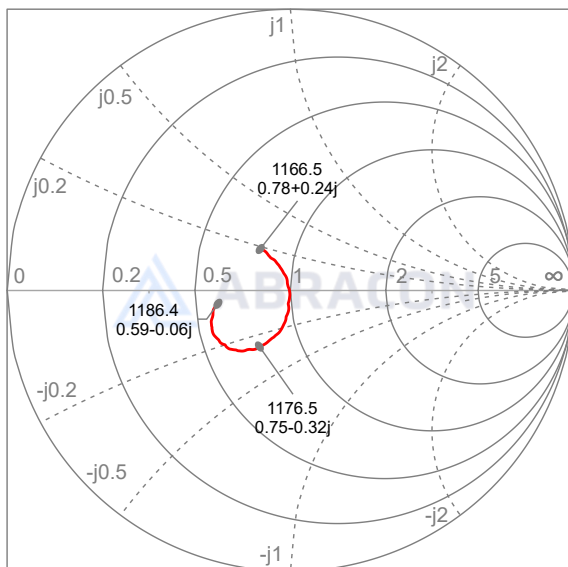
Check Inventory



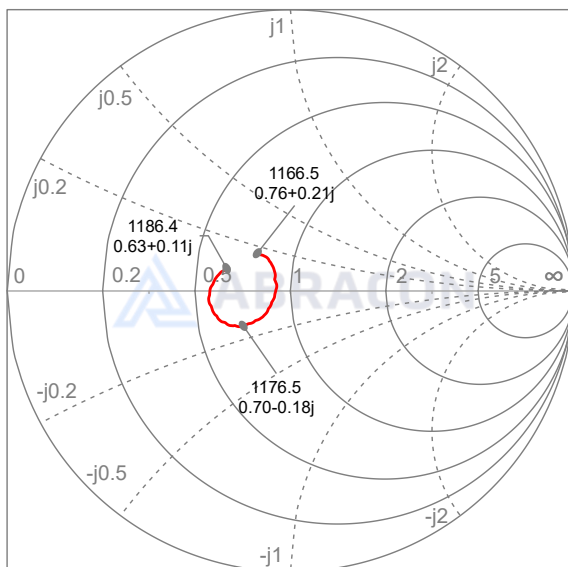
1.4 x 1.1 x 0.6 mm
RoHS Compliant
MSL Level = 1

Smith Chart (S11 & S22)

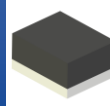
Smith chart S11 (1166~1186MHz)



Smith chart S22 (1166~1186MHz)



SMD 1176.45 MHZ SAW Filter



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Request Samples



Check Inventory



1.4 x 1.1 x 0.6 mm
RoHS Compliant
MSL Level = 1

Reflow Profile [JEDEC J-STD-020]

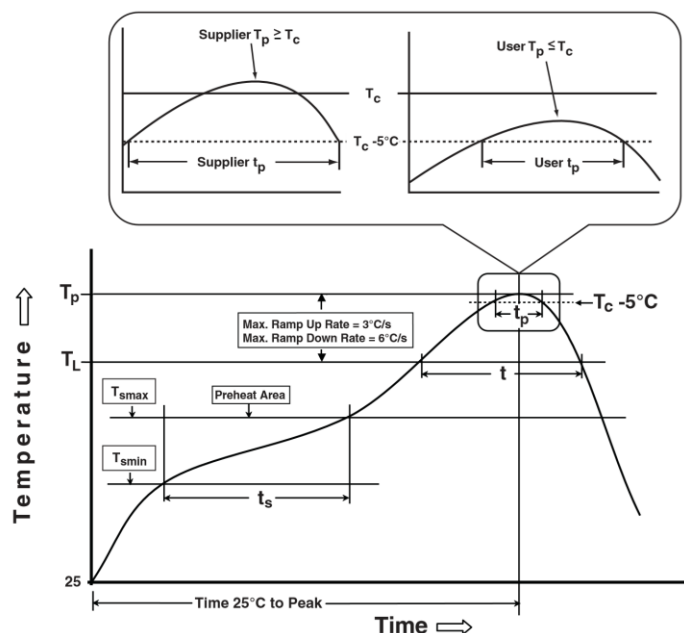


Table 1

SnPb Eutectic Process Classification Temperatures (T_c)

Package Thickness	Volume mm^3 <350	Volume mm^3 ≥ 350
<2.5mm	235°C	220°C
$\geq 2.5\text{mm}$	220°C	220°C

Table 2

Pb-Free Process Classification Temperatures (T_c)

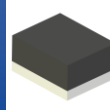
Package Thickness	Volume mm^3 <350	Volume mm^3 350-2000	Volume mm^3 >2000
<1.6mm	260°C	260°C	260°C
1.6mm - 2.5mm	260°C	250°C	245°C
>2.5mm	250°C	245°C	245°C

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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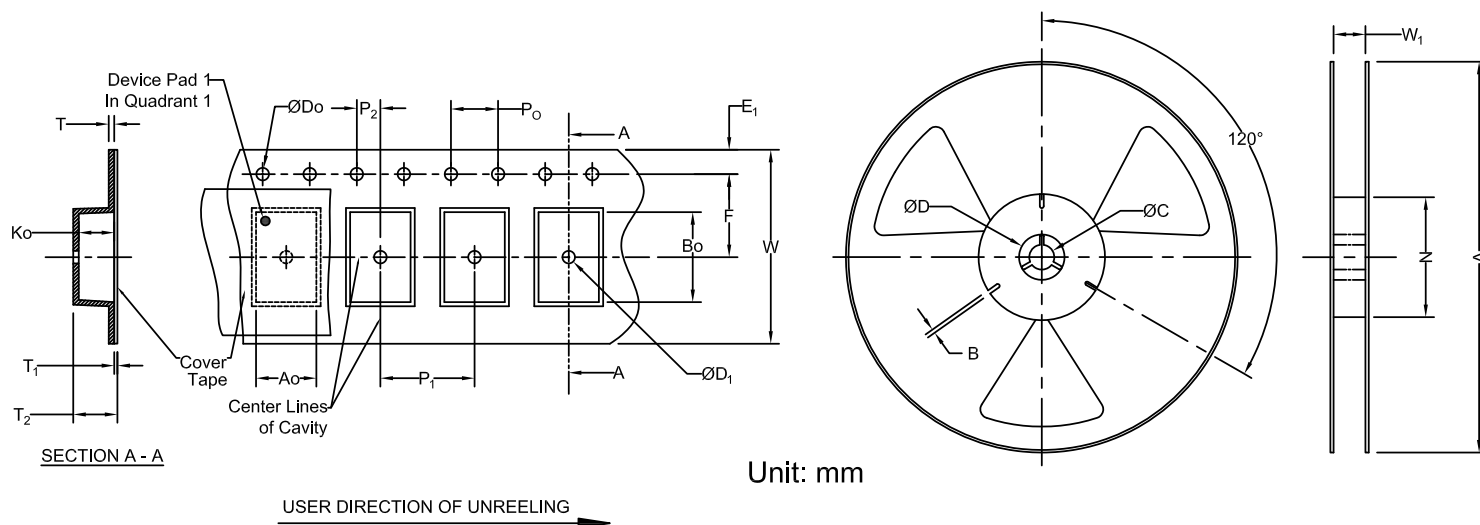


1.4 x 1.1 x 0.6 mm
RoHS Compliant
MSL Level = 1

Packaging

Tape & Reel

1. Tape & Reel Dimension



Unit: mm

Carrier Tape Specifications (mm)

Do	D1	E1	P0	P2	T	F	P1	W	A0	B0	K0	Reel Qty
1.55 ± 0.05	1.0 ± 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 ± 0.3	1.47 ± 0.1	1.73 ± 0.1	0.75 ± 0.1	3,000

Reel Specifications (mm)

A	W1	N	C	D	B
178.0 ± 1.0	8.4 ± 0.5	72.0 ± 1.0	13.0 ± 0.2	24.3 ± 0.5	2.5 ± 0.5

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