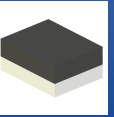


SMD 1583 MHz SAW Filter



AFII-SW-0072-Q

Request Samples



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1.4 x 1.1 x 0.55 mm
RoHS Compliant
MSL Level = 1

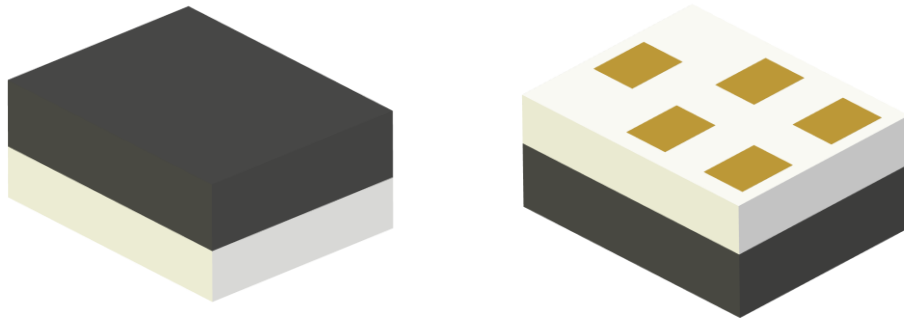
Features

- AEC-Q200 Qualified
- GPS/GLONASS/BEIDOU/GALILEO Support
- Bandwidth 46.79 MHz
- Small Form Factor 1.4 x 1.1 x 0.55 mm
- Low Insertion Loss: 1.6 dB
- Maximum Input Power: 15 dBm
- RoHS Compliant

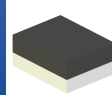
Applications

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

Product Image



SMD 1583 MHz SAW Filter



AFII-SW-0072-Q

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1.4 x 1.1 x 0.55 mm

RoHS Compliant

MSL Level = 1

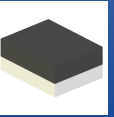
Electrical Specification

Parameters	Minimum	Typical	Maximum	Units	Notes
Center Frequency (fc)	-	1583	-	MHz	-
VSWR ⁽¹⁾	-	1.8	2.4	-	1559.1 - 1605.89 MHz
Insertion Loss ⁽¹⁾	-	1.8	2.3	dB	1559.1 – 1563.1 MHz
	-	1.4	1.6		1573.42 – 1577.42 MHz
	-	1.9	2.6		1597.55 - 1605.89 MHz
Amplitude Ripple ⁽¹⁾	-	0.3	1.0	dB	1559.1 - 1605.89 MHz
Attenuation ⁽¹⁾ (Reference level from 0 dB)	45	50	-	dB	10 - 824 MHz
	45	50	-		824- 925 MHz
	38	43	-		1427 - 1463 MHz
	35	40	-		1710 - 1785 MHz
	33	38	-		1850 - 1980 MHz
	35	40	-		2400 - 2570 MHz
	30	35	-		2570 - 3000 MHz
Group Delay ⁽¹⁾ (+25 °C)	-	17	19	ns	1573.42 – 1605.89 MHz
Group Delay Ripple ⁽¹⁾ (+25 °C)	-	4	8	ns	1559 - 1605 MHz
Source Impedance ⁽²⁾ (single ended)	-	50	-	Ω	-
Load Impedance ⁽²⁾ (single ended)	-	50	-	Ω	-
Input Power Level	-	-	15	dBm	-
DC Voltage (V)	-	-	5	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)

SMD 1583 MHz SAW Filter



AFII-SW-0072-Q

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1.4 x 1.1 x 0.55 mm

RoHS Compliant

MSL Level = 1

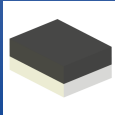
Mechanical Specification

Parameters	Specifications
Filter Dimension	1.4 x 1.1 x 0.55 mm
Mounting Type	Surface Mount

Environmental Specification

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

SMD 1583 MHz SAW Filter



AFII-SW-0072-Q

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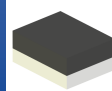
1.4 x 1.1 x 0.55 mm
RoHS Compliant
MSL Level = 1

Ordering Information

Part Number	Description
AFII-SW-0072-Q	SMD 1583 MHz SAW Filter on Cut Tape
AFII-SW-0072-Q-T	SMD 1583 MHz SAW Filter on Tape & Reel
AFII-SW-0072-Q-EVB	SMD 1583 MHz SAW Filter Evaluation Board

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

SMD 1583 MHz SAW Filter



AFII-SW-0072-Q

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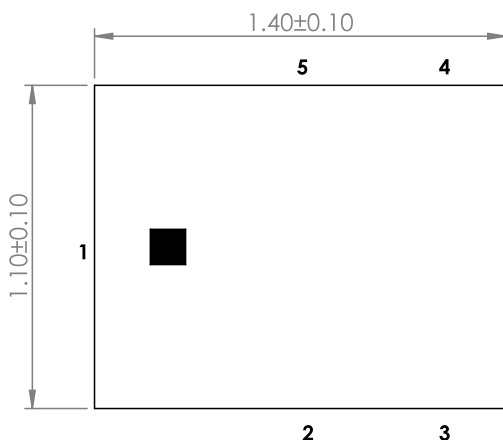


1.4 x 1.1 x 0.55 mm

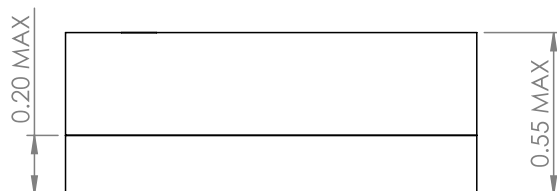
RoHS Compliant

MSL Level = 1

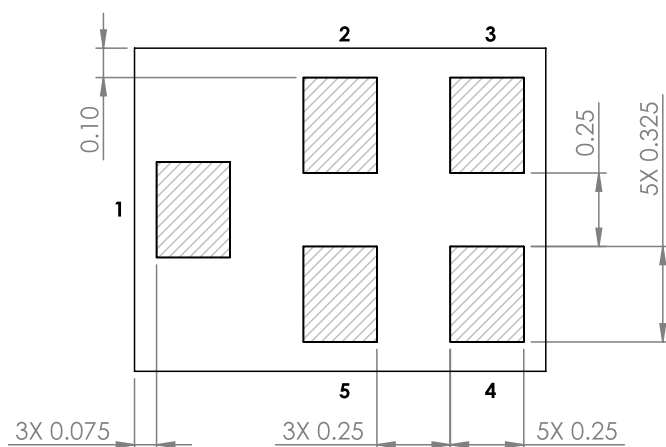
Package Dimensions



TOP VIEW

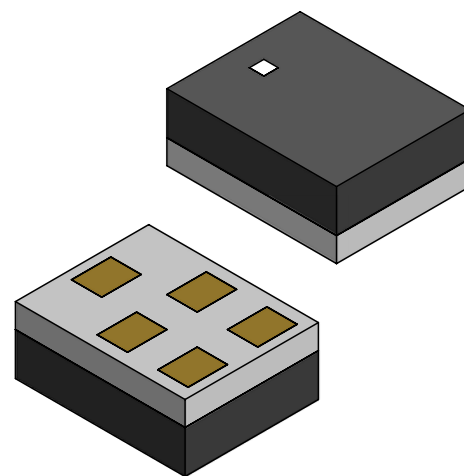


FRONT VIEW



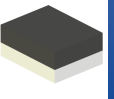
BOTTOM VIEW

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



Unit: mm

SMD 1583 MHz SAW Filter



AFII-SW-0072-Q

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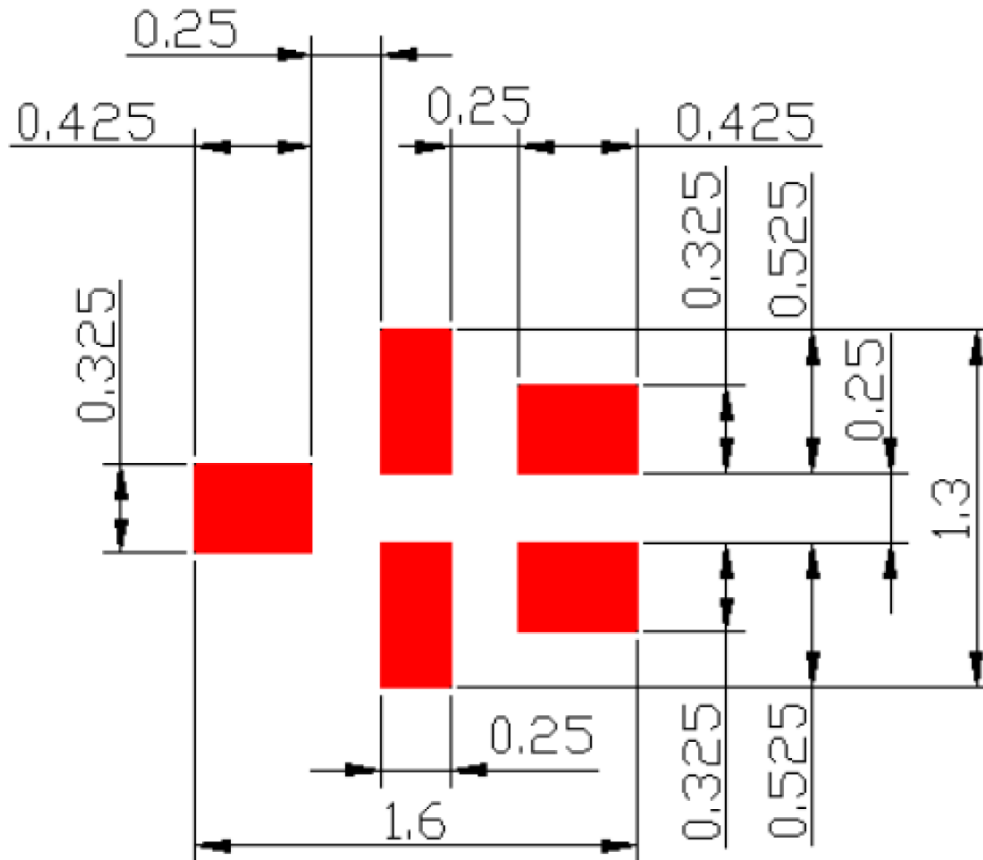


1.4 x 1.1 x 0.55 mm

RoHS Compliant

MSL Level = 1

Recommended Land Pattern

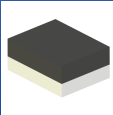


 : Land Pattern

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 1583 MHz SAW Filter



AFII-SW-0072-Q

Request Samples

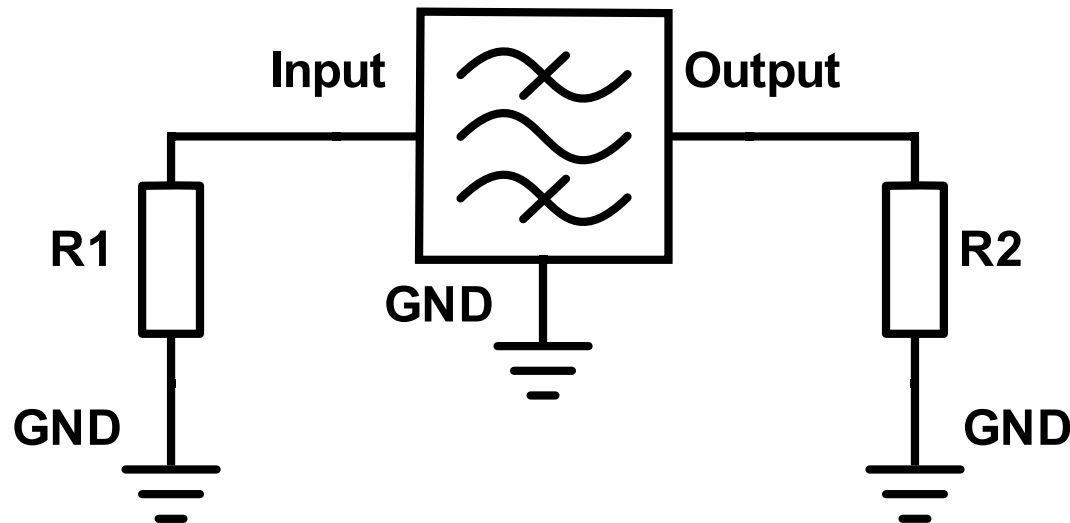


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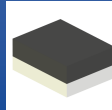
1.4 x 1.1 x 0.55 mm
RoHS Compliant
MSL Level = 1

Measurement Circuit



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

SMD 1583 MHz SAW Filter



AFII-SW-0072-Q

Request Samples



Check Inventory



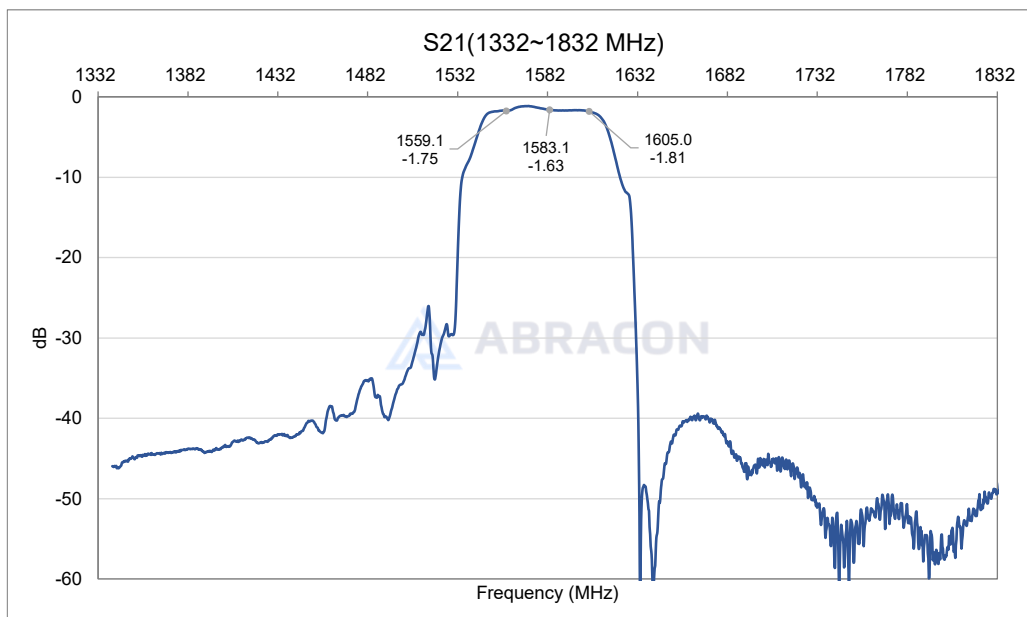
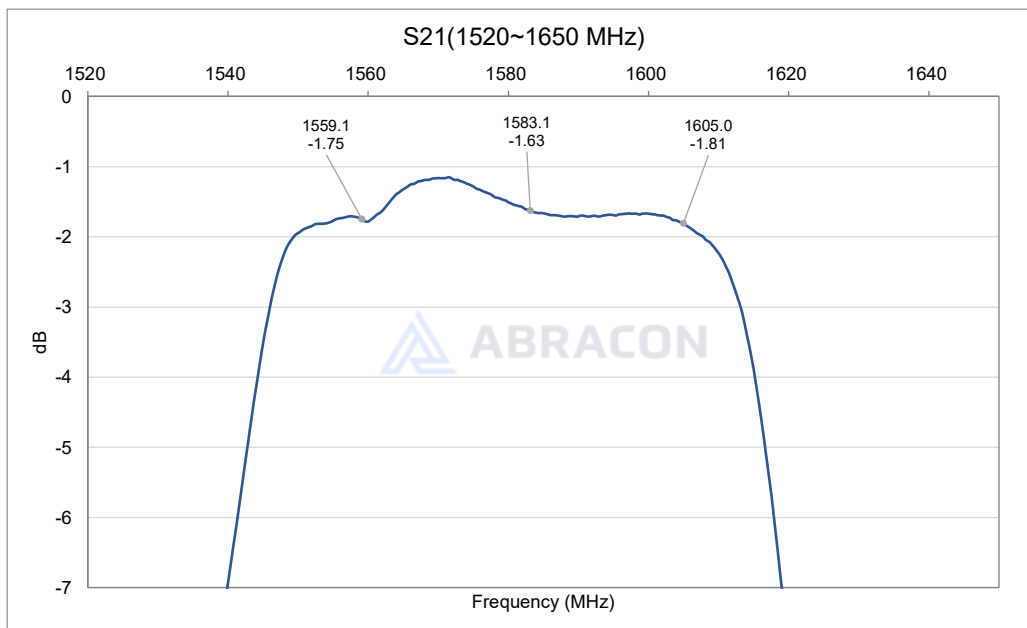
1.4 x 1.1 x 0.55 mm

RoHS Compliant

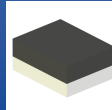
MSL Level = 1

Frequency Characteristics

S21 narrow band



SMD 1583 MHz SAW Filter



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Request Samples



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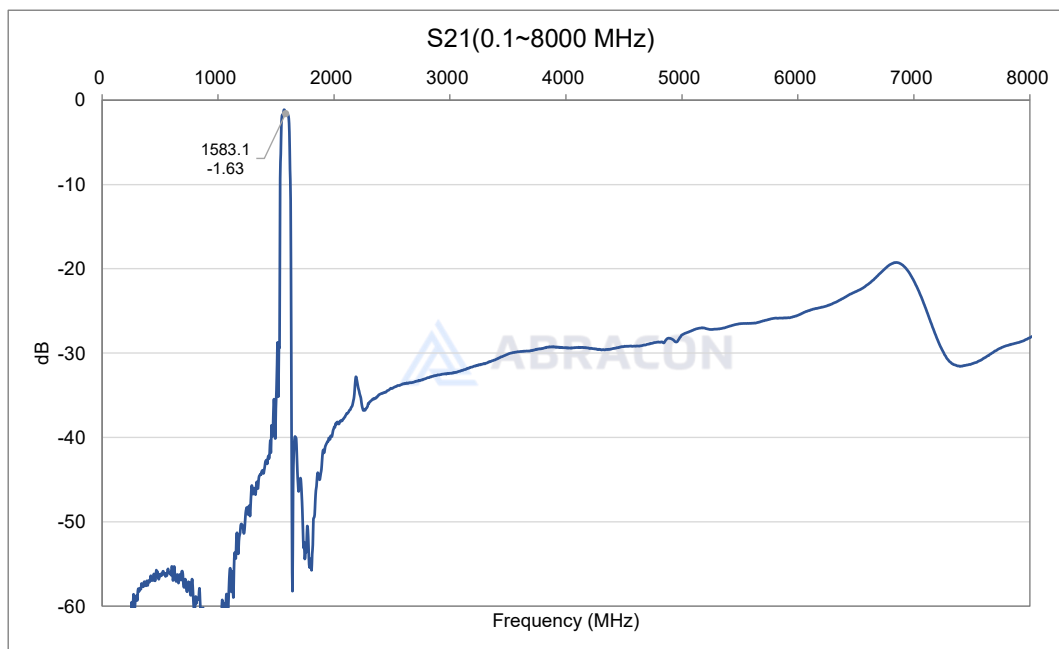


1.4 x 1.1 x 0.55 mm

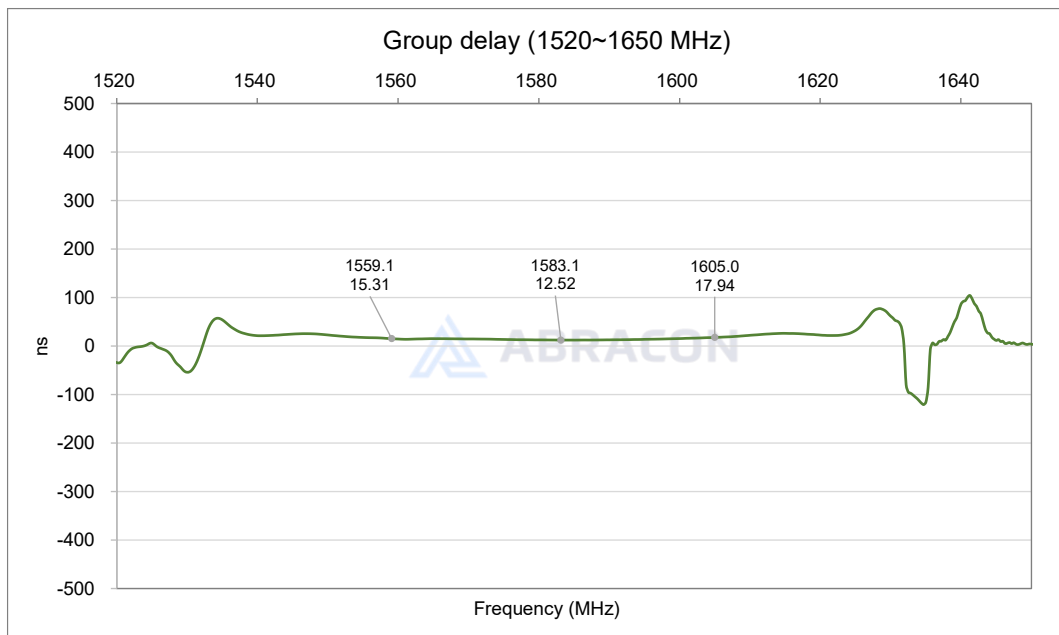
RoHS Compliant

MSL Level = 1

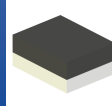
S21 wide band



Group Delay



SMD 1583 MHz SAW Filter



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Request Samples

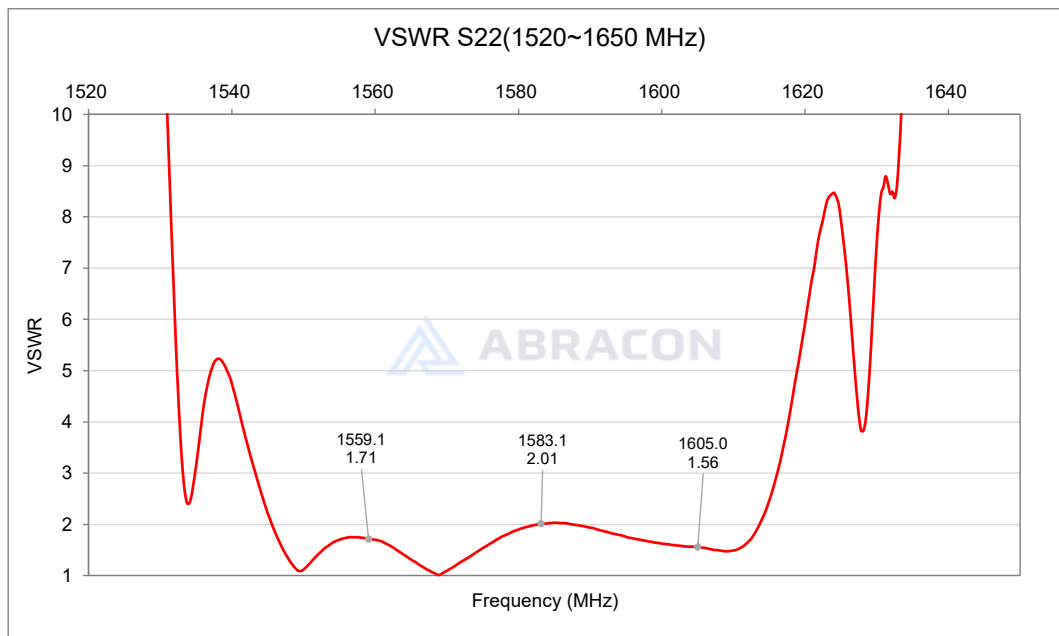
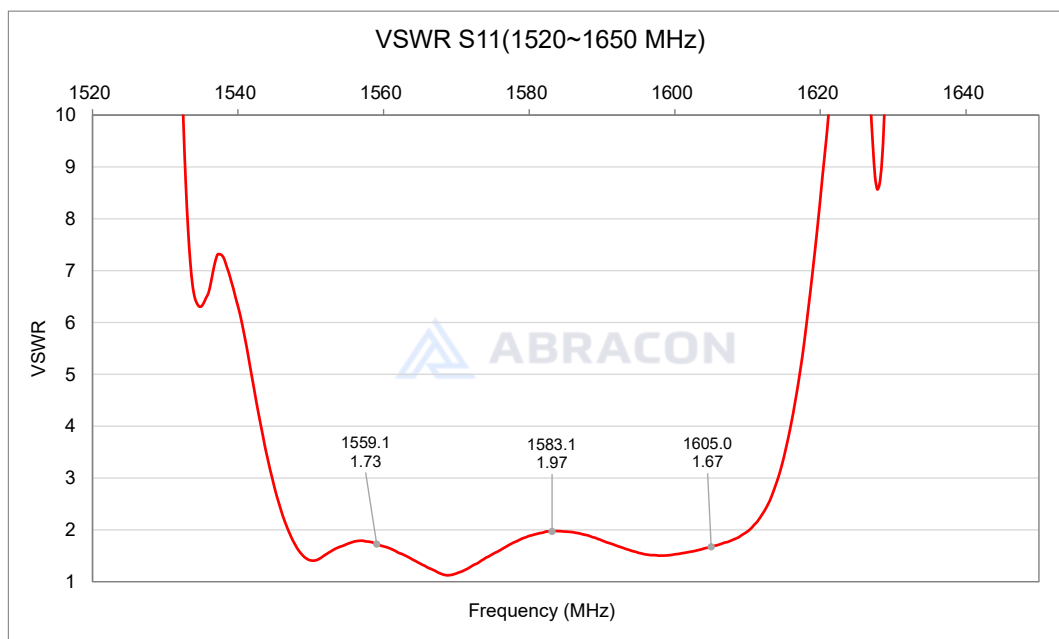


Check Inventory

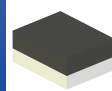


1.4 x 1.1 x 0.55 mm
RoHS Compliant
MSL Level = 1

VSWR (S11 & S22)



SMD 1583 MHz SAW Filter



AFII-SW-0072-Q

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Check Inventory

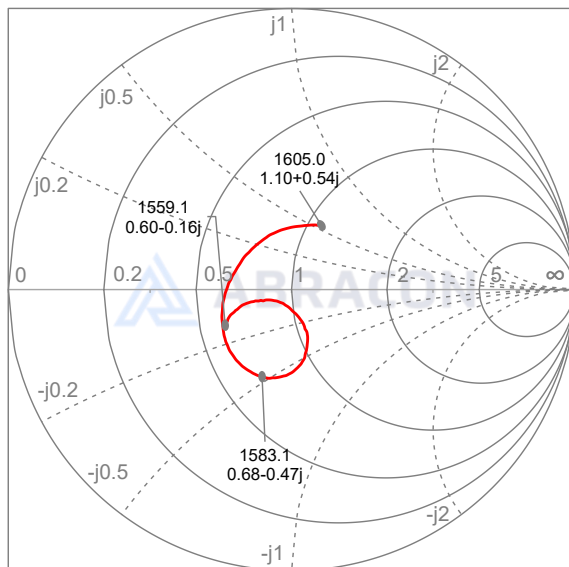


1.4 x 1.1 x 0.55 mm

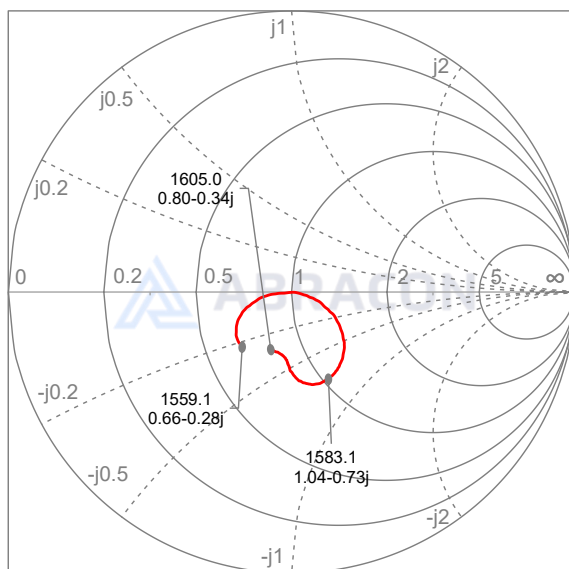
RoHS Compliant

MSL Level = 1

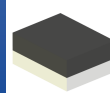
Smith chart S11 (1559~1605MHz)



Smith chart S22 (1559~1605MHz)



SMD 1583 MHz SAW Filter



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Request Samples



Check Inventory



1.4 x 1.1 x 0.55 mm
RoHS Compliant
MSL Level = 1

Reflow Profile [JEDEC J-STD-020]

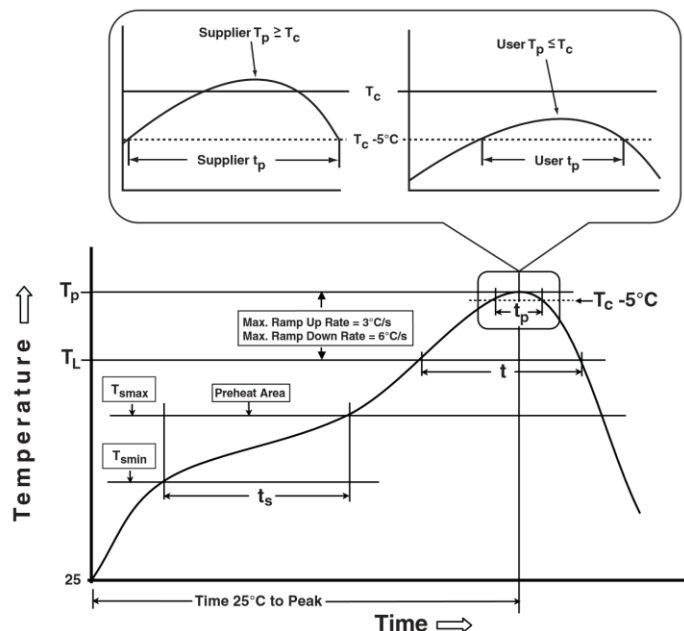


Table 1

SnPb Eutectic Process Classification Temperatures (T_c)

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