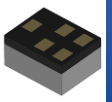


SMD 1575.42 MHz SAW Filter



AFS14A04-1575.42

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1.4 x 1.1 x 0.7 mm
RoHS Compliant
MSL Level = 3

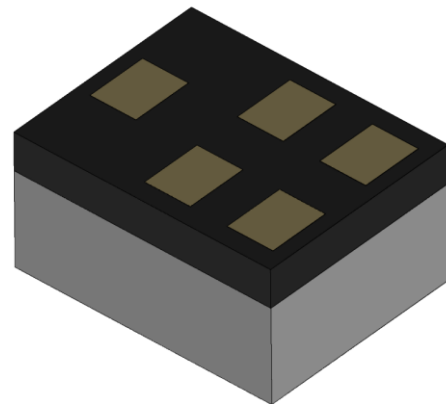
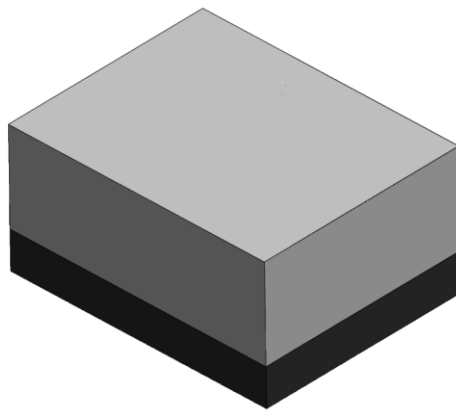
Features

- Supports GPS L1 Band
- 1.4 x 1.1 x 0.7mm in Size
- Low Insertion Loss: 0.9 dB
- Out-of-Band Rejection: > 22 dB
- 50 Ohms Single-Ended Input & Output
- Maximum Input Power: +15 dBm

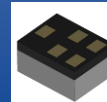
Applications

- Asset Tracking
- Fleet Management
- Micro-Mobility Solutions
- UAVs, Robotics & Autonomous Vehicles
- Precision GNSS Positioning
- Mission-Critical GNSS Timing
- Geofencing

Product Image



SMD 1575.42 MHz SAW Filter



AFS14A04-1575.42

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1.4 x 1.1 x 0.7 mm
RoHS Compliant
MSL Level = 3

Electrical Specification

Parameters	Minimum	Typical	Maximum	Units	Notes
Center Frequency (fc)	-	1575.42	-	MHz	
VSWR ⁽¹⁾	-	1.15	1.6	-	1575.42~1576.42 MHz
Insertion Loss ⁽¹⁾	-	0.9	1.5	dB	1575.42~1576.42 MHz
Amplitude Ripple ⁽¹⁾	-	0.1	0.75	dB	1575.42~1576.42 MHz
Group Delay ⁽¹⁾	-	27.81	29.48	ns	1575.42~1576.42 MHz
Group Delay Ripple ⁽¹⁾	-	0.10	0.11	ns	1575.42~1576.42 MHz
Attenuation (Refer to min. insertion loss) ⁽¹⁾	35	38	-	dB	DC~1450 MHz
	30	45	-		1450~1520 MHz
	45	48	-		1625~1640MHz
	38	40	-		1640 ~ 1805 MHz
	38	40	-		1805 ~ 1910 MHz
	38	43	-		1910 ~ 2000 MHz
	30	45	-		2000 ~ 4000 MHz
	20	22	-		4000 ~ 6000 MHz
DC Voltage	-	-	3	V	
Input Power	-	-	15	dBm	
Terminating Source Impedance	-	50	-	Ω	
Terminating Load Impedance	-	50	-	Ω	

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
Dimension	1.4 x 1.1 x 0.7 mm
Mounting Type	Surface Mount

Environmental Specification

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

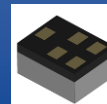


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SMD 1575.42 MHz SAW Filter



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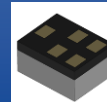
1.4 x 1.1 x 0.7 mm
RoHS Compliant
MSL Level = 3

Ordering Information

Part Number	Description
AFS14A04-1575.42	SMD 1575.42 MHz SAW Filter on Cut Tape
AFS14A04-1575.42-T3	SMD 1575.42 MHz SAW Filter on Tape & Reel

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

SMD 1575.42 MHz SAW Filter



AFS14A04-1575.42

Request Samples

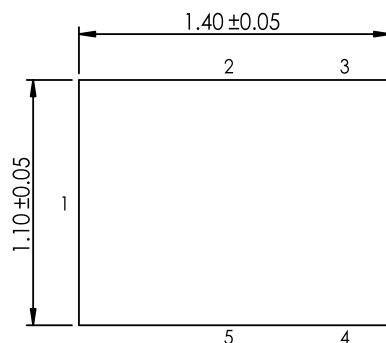


Check Inventory

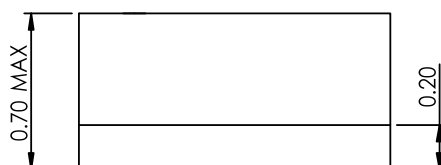


1.4 x 1.1 x 0.7 mm
RoHS Compliant
MSL Level = 3

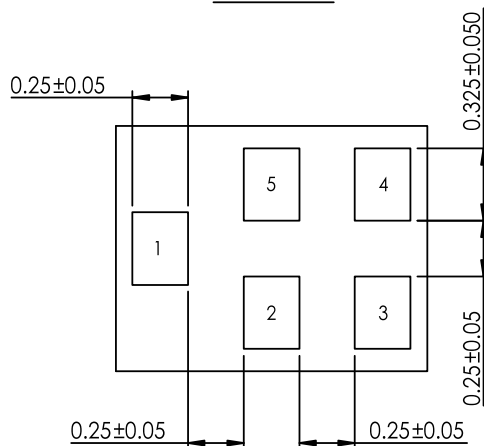
Product Dimensions



TOP VIEW



FRONT VIEW

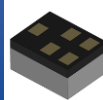


BOTTOM VIEW

Unit : mm

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

SMD 1575.42 MHz SAW Filter



AFS14A04-1575.42

Request Samples

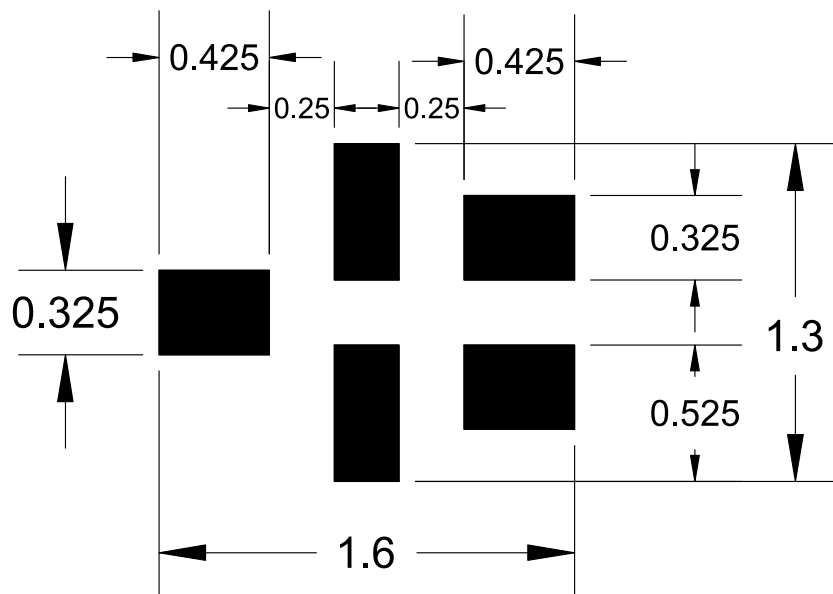


Check Inventory



1.4 x 1.1 x 0.7 mm
RoHS Compliant
MSL Level = 3

Recommended Land Pattern

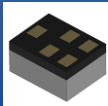


Land Pattern

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 1575.42 MHz SAW Filter



AFS14A04-1575.42

Request Samples

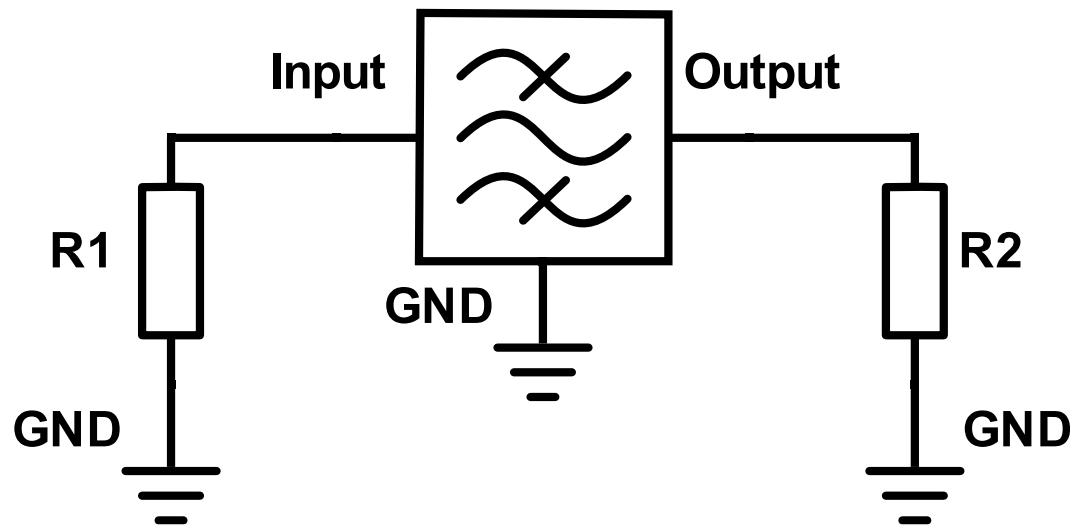


Check Inventory



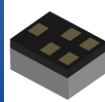
1.4 x 1.1 x 0.7 mm
RoHS Compliant
MSL Level = 3

Measurement Circuit



Port	Matching Component
Input (Pin 1)	R1: 50 Ω
Output (Pin 3)	R2: 50 Ω

SMD 1575.42 MHz SAW Filter



AFS14A04-1575.42

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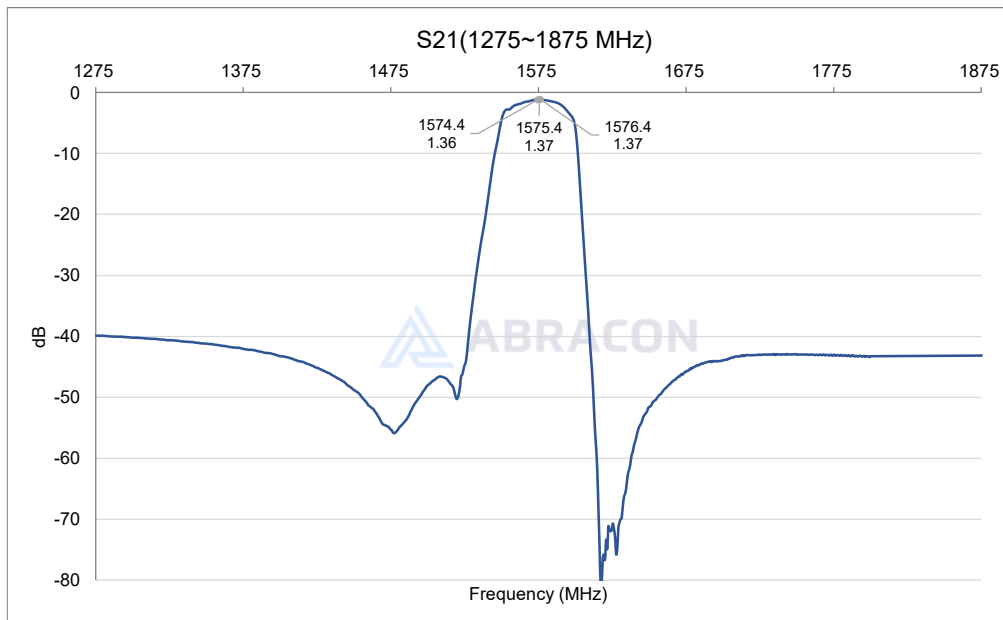
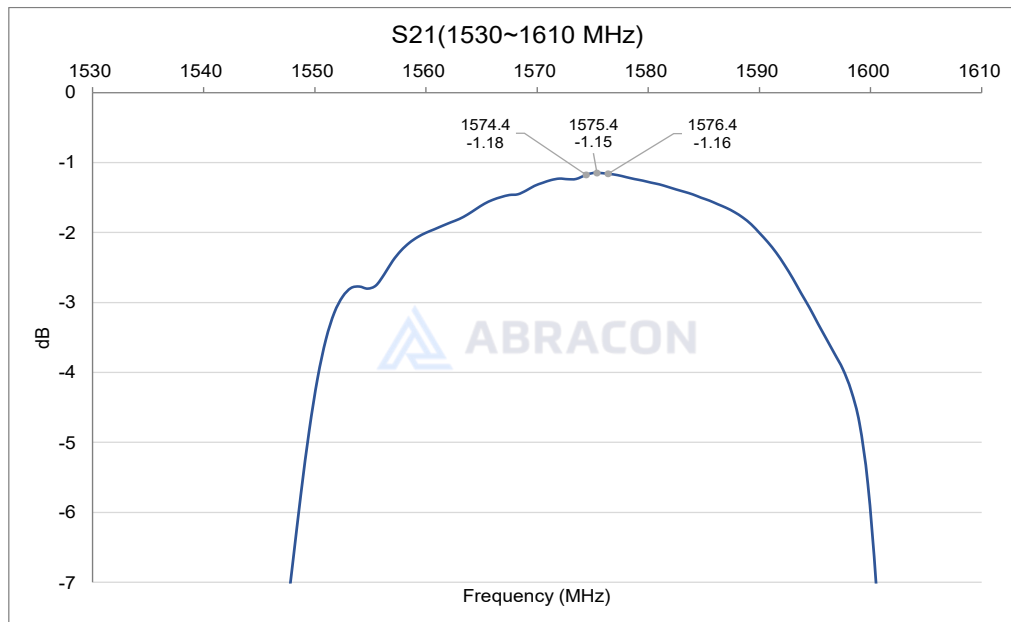
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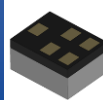
1.4 x 1.1 x 0.7 mm
RoHS Compliant
MSL Level = 3

Frequency Characteristics

S21 Narrow Band



SMD 1575.42 MHz SAW Filter



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Request Samples

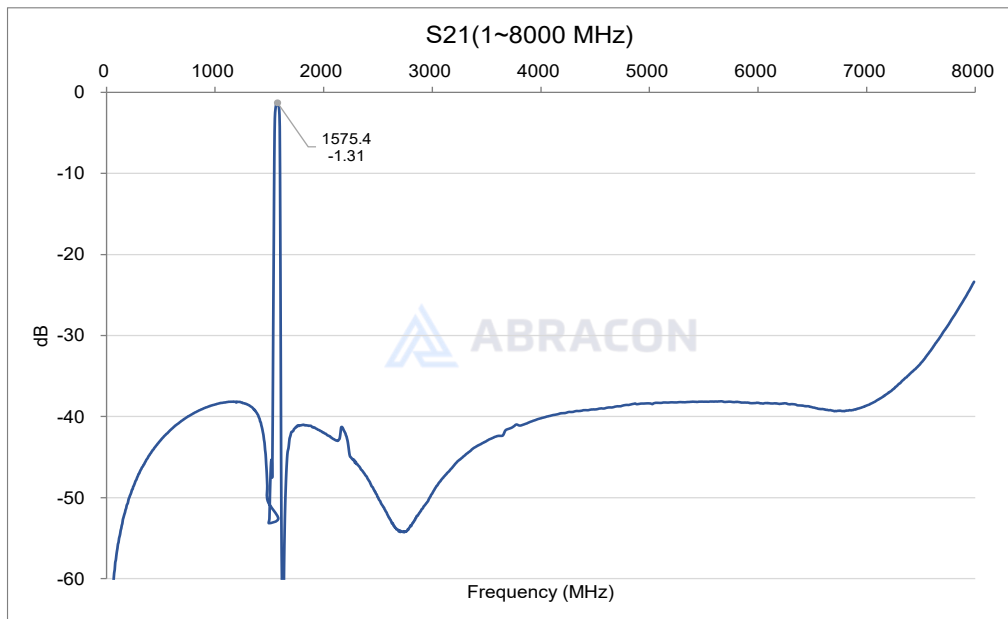


Check Inventory

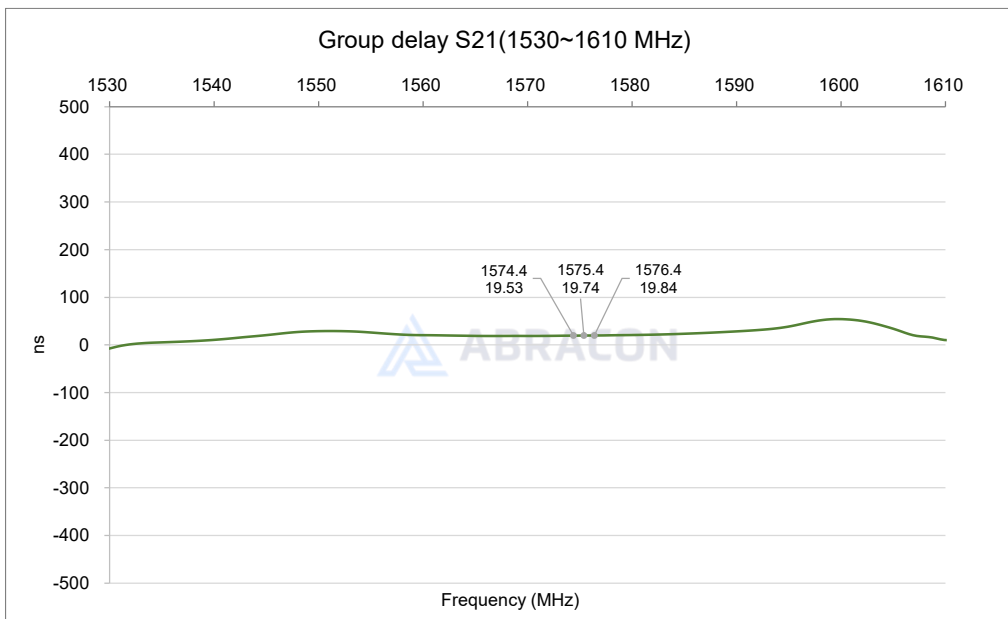


1.4 x 1.1 x 0.7 mm
RoHS Compliant
MSL Level = 3

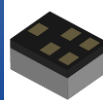
S21 Wide Band



Group Delay



SMD 1575.42 MHz SAW Filter



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Request Samples

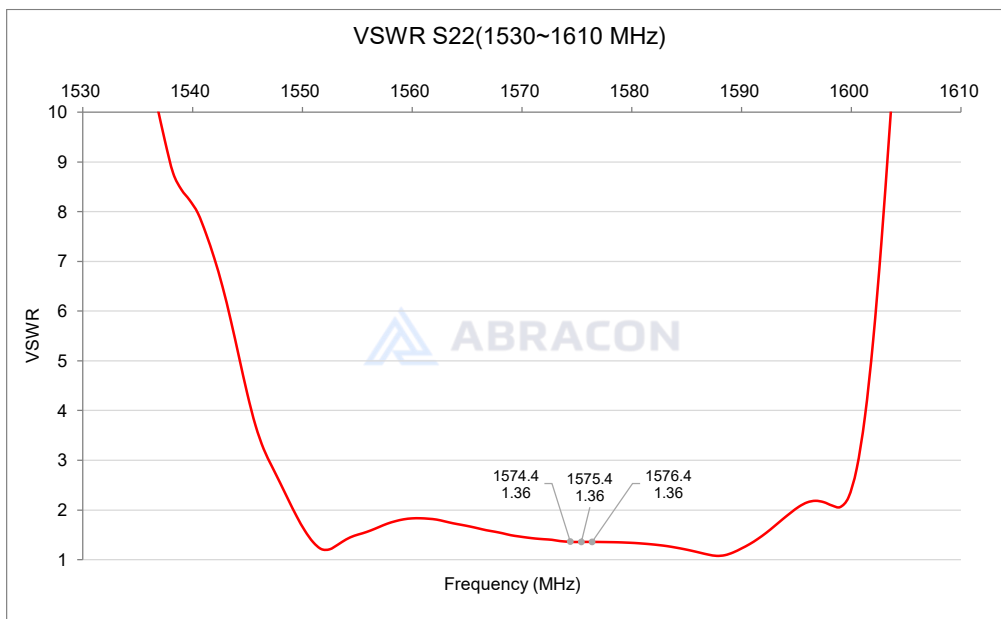
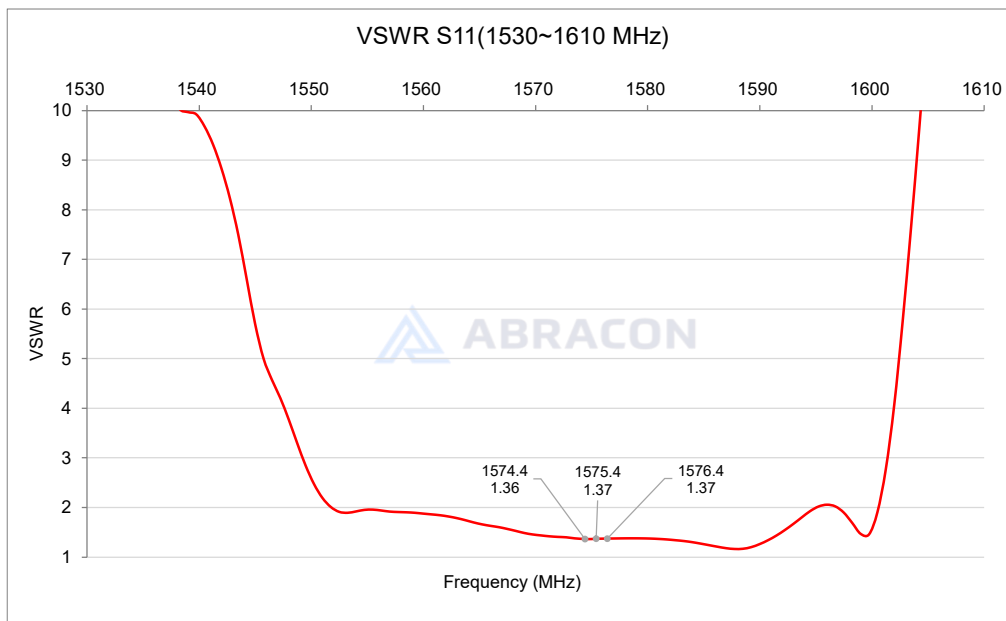


Check Inventory

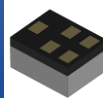


1.4 x 1.1 x 0.7 mm
RoHS Compliant
MSL Level = 3

VSWR (S11 & S22)



SMD 1575.42 MHz SAW Filter



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Request Samples



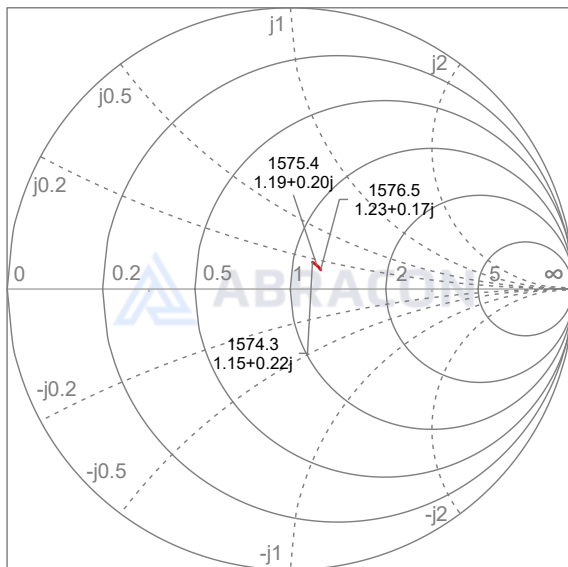
Check Inventory



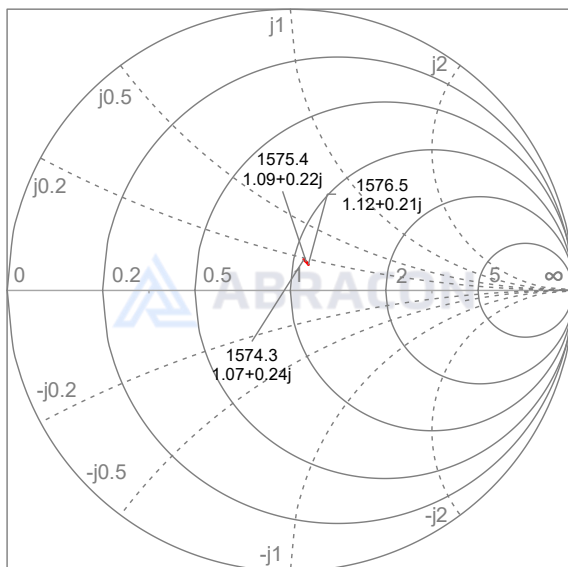
1.4 x 1.1 x 0.7 mm
RoHS Compliant
MSL Level = 3

Smith Chart (S11 & S22)

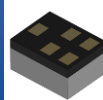
Smith chart S11 (1574.4~1576.5MHz)



Smith chart S22 (1574.4~1576.5MHz)



SMD 1575.42 MHz SAW Filter



AFS14A04-1575.42

Request Samples



Check Inventory



1.4 x 1.1 x 0.7 mm
RoHS Compliant
MSL Level = 3

Reflow Profile [JEDEC J-STD-020]

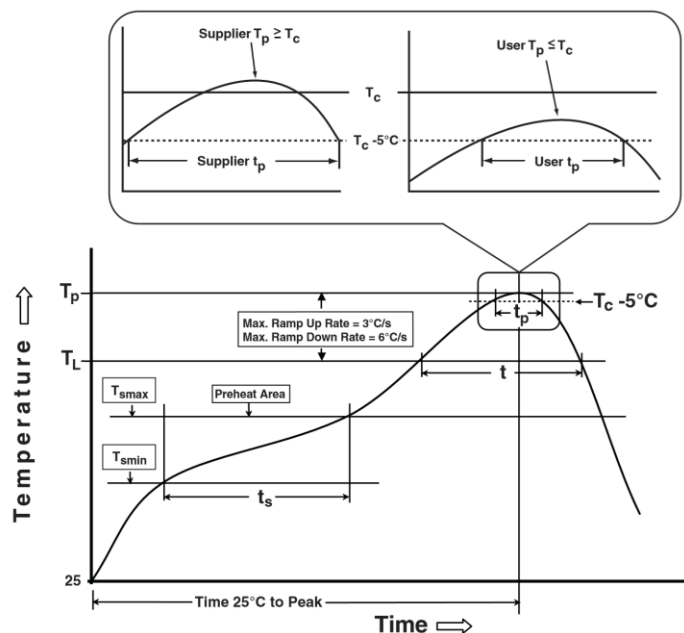


Table 1

SnPb Eutectic Process

Classification Temperatures (T_c)

Package Thickness	Volume mm 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)

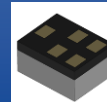
Package Thickness	Volume mm ³ <350	Volume mm ³ 350-2000	Volume mm ³ >2000
<1.6mm	260°C	260°C	260°C
1.6mm - 2.5mm	260°C	250°C	245°C
>2.5mm	250°C	245°C	245°C

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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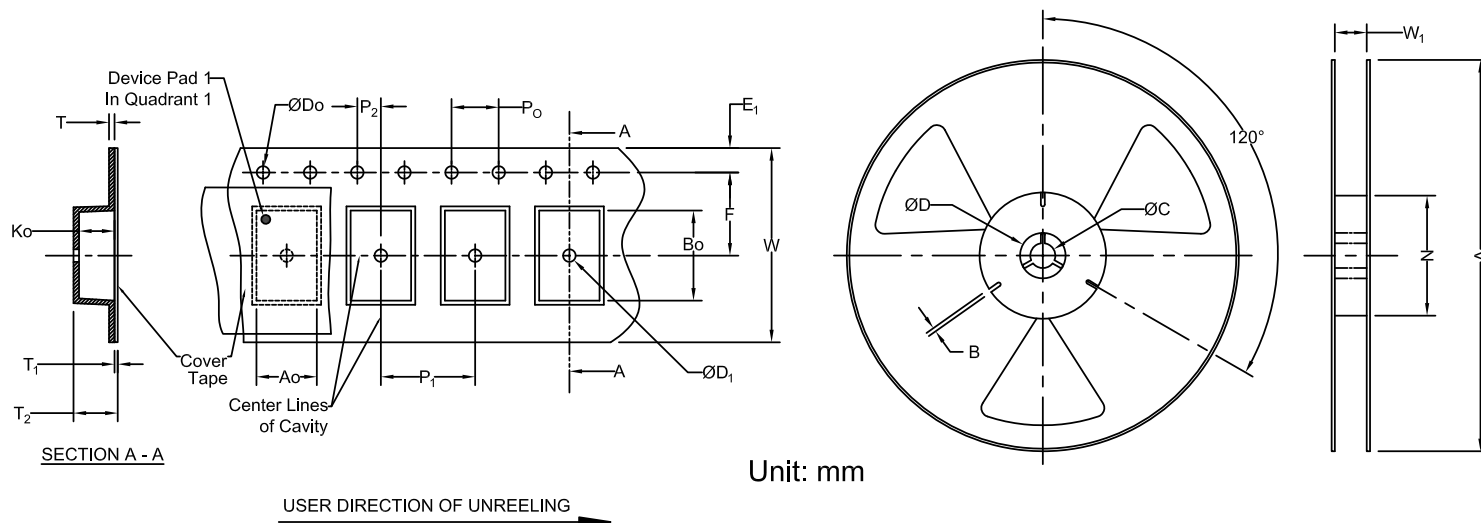


1.4 x 1.1 x 0.7 mm
RoHS Compliant
MSL Level = 3

Packaging

Tape & Reel

1. Tape & Reel Dimension



Carrier Tape Specifications (mm)

D0	D1	E1	P0	P2	T	F	P1	W	A0	B0	K0	Reel Qty
1.55 ± 0.05	1.0	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	B
178.0 ± 1.0	8.4	72.0 ± 1.0	13.0 ± 0.2	2.0

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