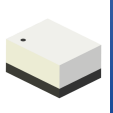


SMD 1583 MHz SAW FILTER



AFII-SW-0061

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

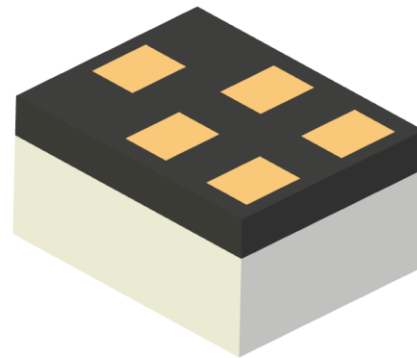
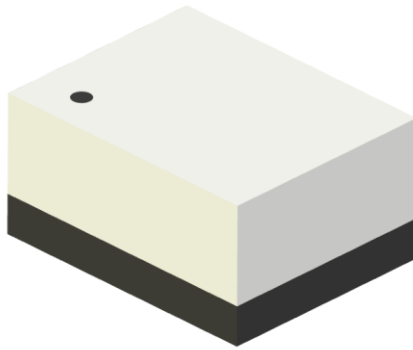
Features

- Supports GPS/Glonass/Galileo/Beidou L1 Band
- 1.4 x 1.1 x 0.7mm in Size
- Low Insertion Loss: 1.1 dB
- Out-of-Band Rejection: > 25 dB
- 50 Ohms Single-Ended Input & Output
- Maximum Input Power: +10 dBm

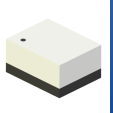
Applications

- GNSS 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



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

Electrical Specification

Parameters	Minimum	Typical	Maximum	Units	Notes
Center Frequency(fc)	-	1583	-	MHz	-
VSWR	-	1.8	2.3		1561 ~ 1606MHz
Insertion Loss ⁽¹⁾	-	1.1	1.3	dB	1561 ~ 1606MHz
Amplitude Ripple ⁽¹⁾	-	0.8	1.3		1561 ~ 1606MHz
Group Delay ⁽¹⁾		9	17	ns	1561 ~ 1606MHz
Group Delay Ripple ⁽¹⁾	-	0.14	0.55	ns	1561 ~ 1606MHz
Attenuation ⁽²⁾ (Reference level from 0 dB)	20	25	-	dB	DC ~925 MHz
	20	25	-		1427 ~1463 MHz
	22	27	-		1710 ~1785 MHz
	20	25	-		1850 ~1980 MHz
	20	25	-		2400 ~3000 MHz
Source Impedance ⁽³⁾ (single ended)	-	50	-	Ω	
Load Impedance ⁽³⁾ (single ended)	-	50	-	Ω	
RF Power Dissipation	-	10	-	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
Filter Dimension	1.4 x 1.1 x 0.7mm
Mounting Type	Surface Mount

Environmental Specification

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

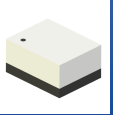


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SMD 1583 MHz SAW FILTER



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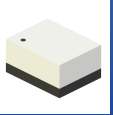
1.4 x 1.1 x 0.7mm
RoHS Compliant
MSL Level = 3

Ordering Information

Part Number	Description
AFII-SW-0061	SMD 1583 MHz SAW FILTER on Cut Tape
AFII-SW-0061-T	SMD 1583 MHz SAW FILTER on Tape & Reel
AFII-SW-0061-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



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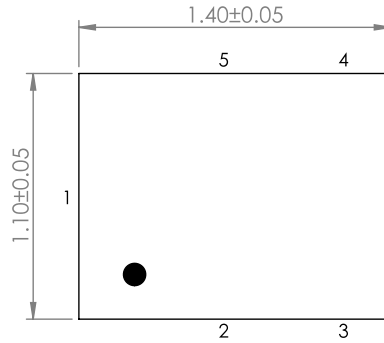


Check Inventory

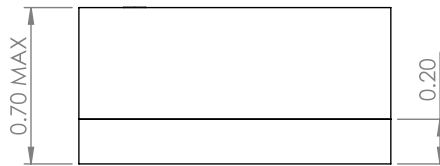


1.4 x 1.1 x 0.7mm
RoHS Compliant
MSL Level = 3

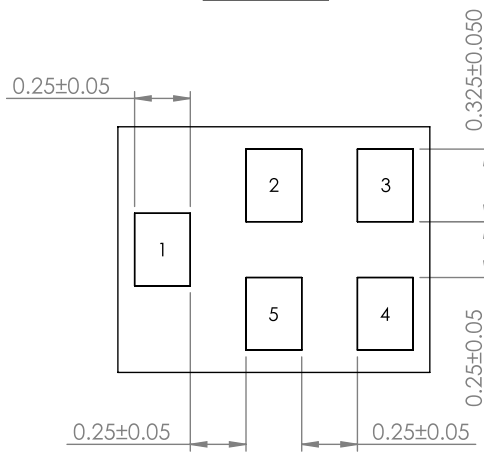
Product Dimensions



TOP VIEW



FRONT VIEW

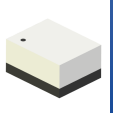


BOTTOM VIEW

Unit : mm

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

SMD 1583 MHz SAW FILTER



AFII-SW-0061

Request Samples

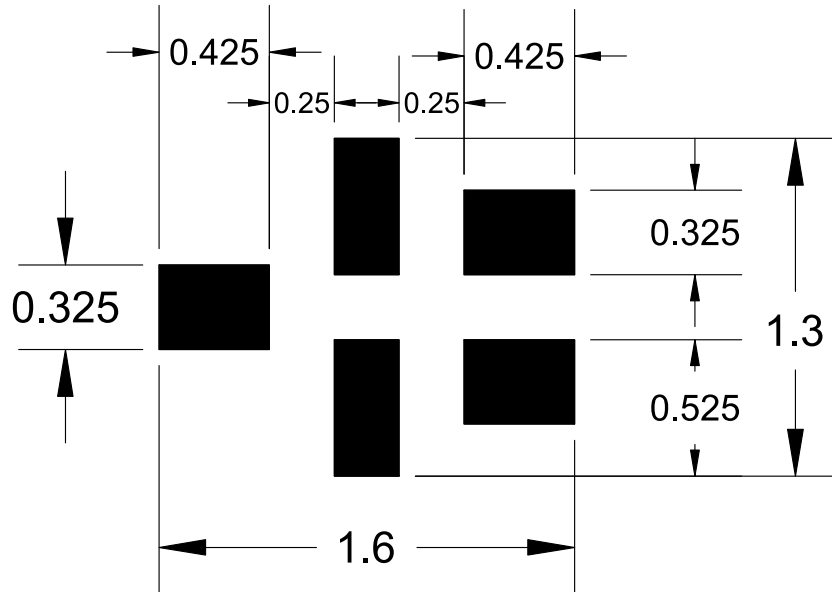


Check Inventory



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

Recommended Land Pattern

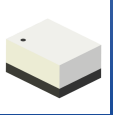


Land Pattern

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 1583 MHz SAW FILTER



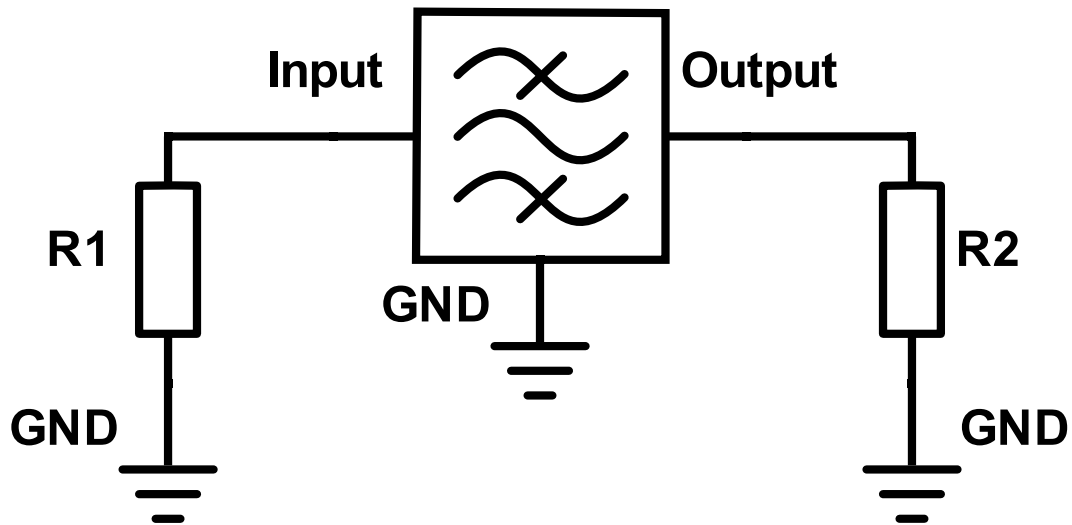
AFII-SW-0061

Request Samples

Check Inventory

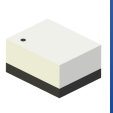
1.4 x 1.1 x 0.7mm
RoHS Compliant
MSL Level = 3

Measurement Circuit



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

SMD 1583 MHz SAW FILTER



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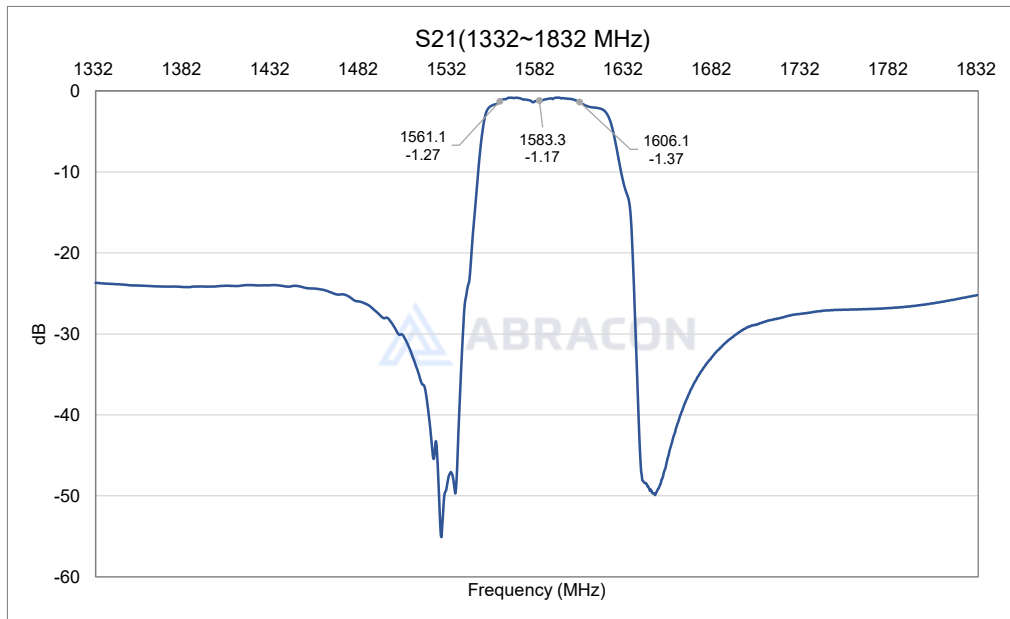
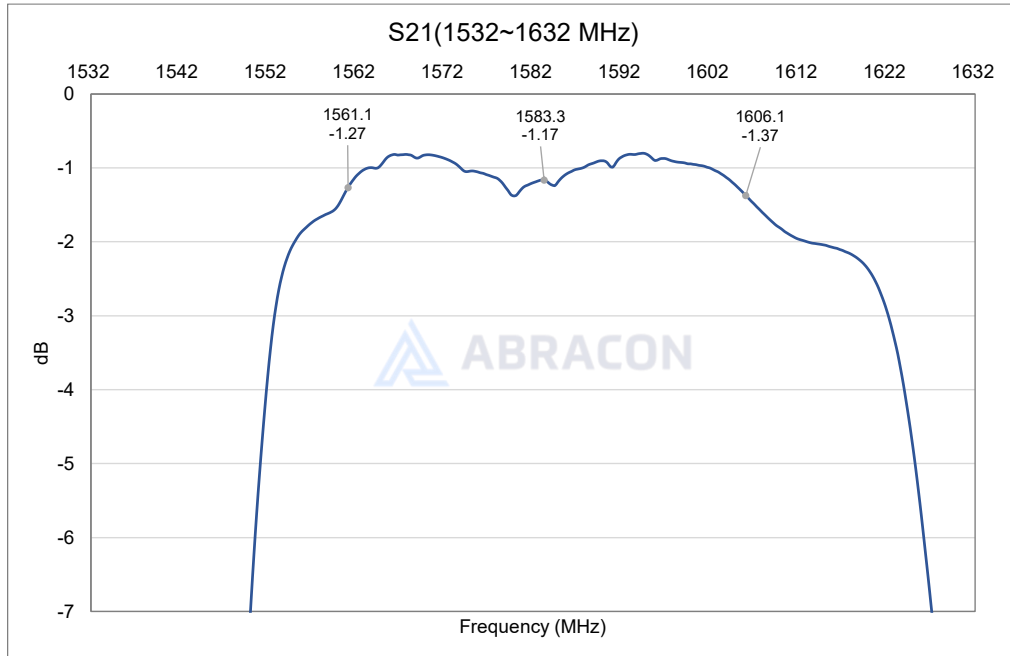
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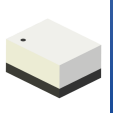
1.4 x 1.1 x 0.7mm
RoHS Compliant
MSL Level = 3

Frequency Characteristics

S21 narrow band



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Request Samples

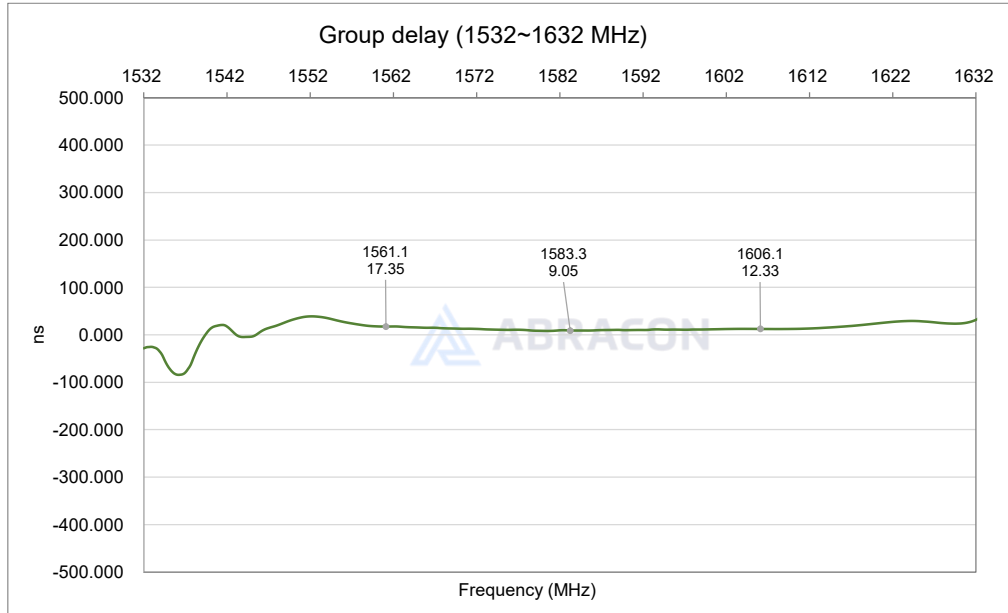


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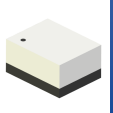


1.4 x 1.1 x 0.7mm
RoHS Compliant
MSL Level = 3

Group Delay



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Request Samples

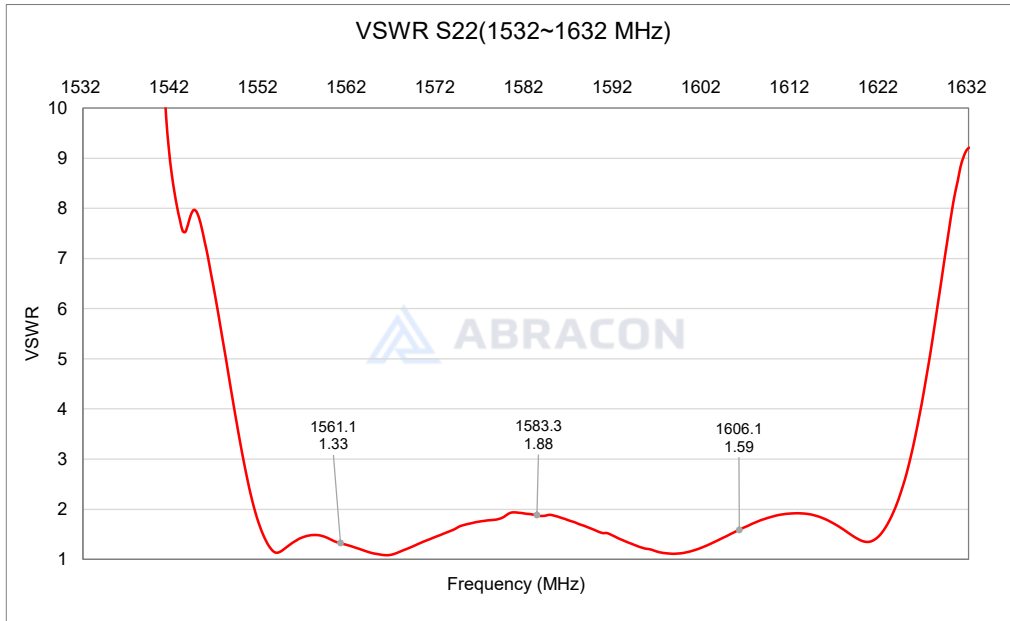
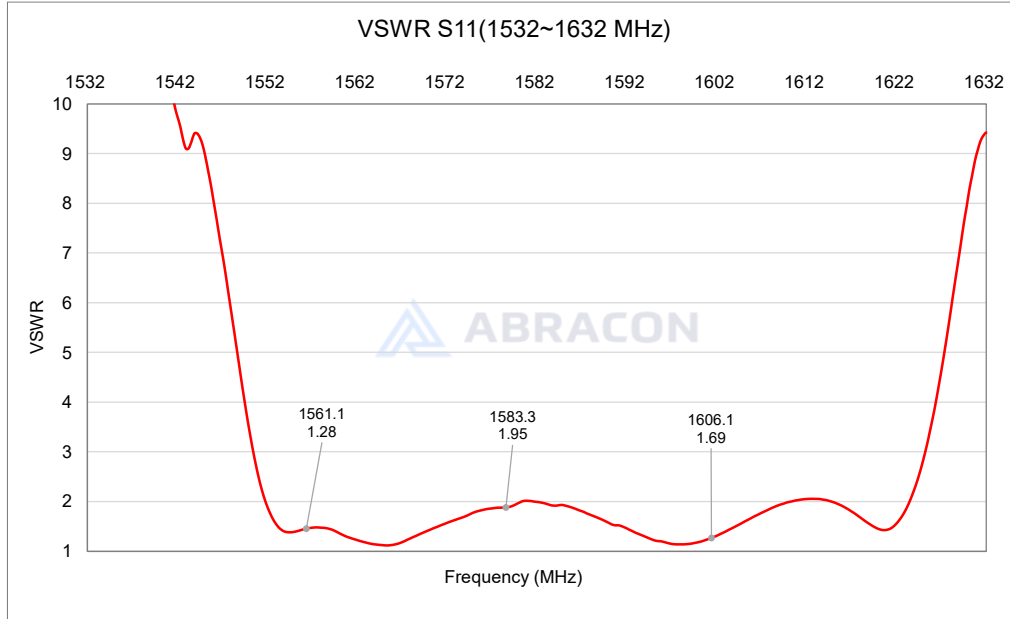


Check Inventory

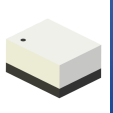


1.4 x 1.1 x 0.7mm
RoHS Compliant
MSL Level = 3

VSWR (S11 & S22)



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Request Samples



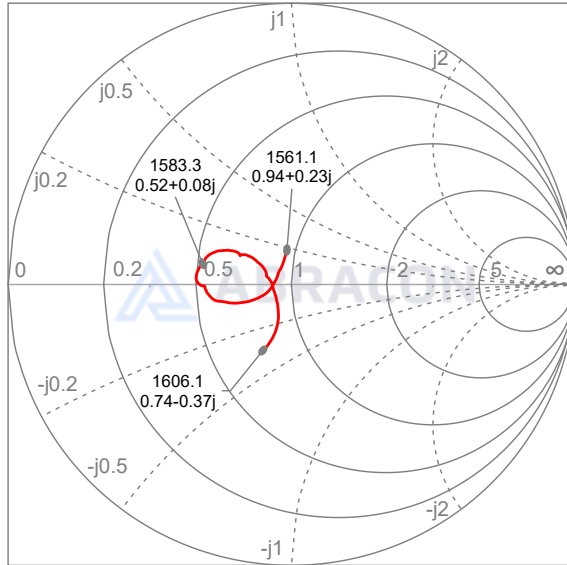
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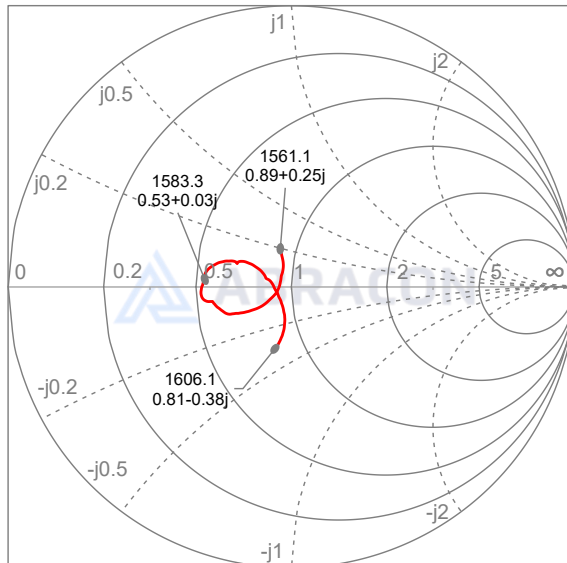
1.4 x 1.1 x 0.7mm
RoHS Compliant
MSL Level = 3

Smith Chart (S11 & S22)

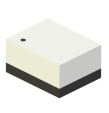
Smith chart S11 (1561~1606MHz)



Smith chart S22 (1561~1606MHz)



SMD 1583 MHz SAW FILTER



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Request Samples



Check Inventory



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

Reflow Profile [JEDEC J-STD-020]

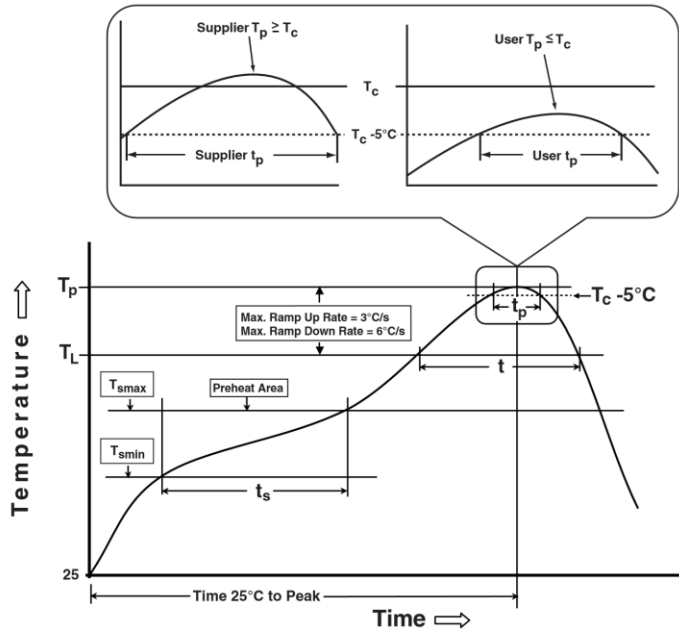


Table 1

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

Table 2

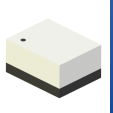
Pb-Free Process Classification Temperatures (T_c)			
Package Thickness	Volume mm^3 <350	Volume mm^3 350-2000	Volume mm^3 >2000
<1.6mm	260°C	260°C	260°C
1.6mm - 2.5mm	260°C	250°C	245°C
>2.5mm	250°C	245°C	245°C

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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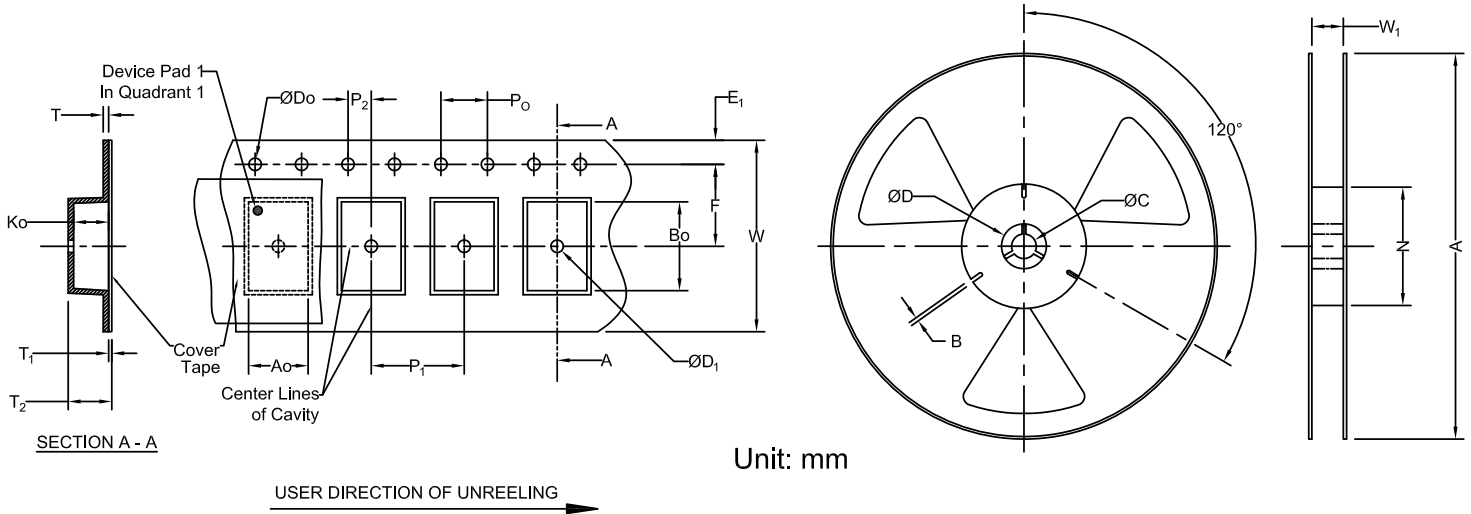
Check Inventory



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

Packaging

Tape & Reel Dimension



Carrier Tape Specifications (mm)

Do	D ₁	E ₁	P ₀	P ₂	F	P ₁	W	A ₀	B ₀	K ₀	Reel Qty
1.55 ± 0.05	0.60 ± 0.05	1.75 ± 0.1	4.0 ± 0.1	2.0 ± 0.05	3.5 ± 0.05	4.0 ± 0.1	8.0 ± 0.1	1.30 ± 0.05	1.60 ± 0.05	0.77 ± 0.05	5,000

Reel Specifications (mm)

A	W ₁	N	C
178.0 ± 1.0	8.48 ± 0.15	57.12 ± 0.15	13.12 ± 0.15

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