

GNSS L2/L5/L6 SMD SAW FILTER



AFII-SW-0065

Request Samples



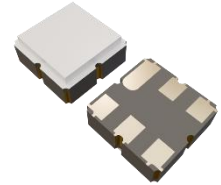
Check Inventory



3.0 x 3.0 x 1.25 mm
RoHS Compliant
MSL Level = 2

Description

This high-performance GNSS SAW filter is engineered for L2, L5 and L6 band reception, enabling centimeter-level positioning accuracy. Housed in a compact 3.0 x 3.0 x 1.25 mm SMD package, it delivers low insertion loss of 1.2 dB (L2) and 1.0 dB (L5) while providing exceptional out-of-band rejection exceeding 35 dB for robust interference mitigation. Rated for +18 dBm input power, this RoHS-compliant, MSL Level 2 component ensures reliable performance for demanding RTK systems, automotive telematics, UAV navigation, and precision agriculture applications where consistent multi-frequency signal integrity is essential.



Features

- GNSS L2/L5/L6 SAW Filter
- Compact Size: 3.0 x 3.0 x 1.25 mm
- Insertion Loss: 1.2 dB (L2) / 1.0 dB (L5) / 1.9 dB (L6)
- Out-of-Band Rejection: > 35 dB
- Maximum Input Power: +18 dBm
- [RoHS Compliant](#) | [MSL Level 2](#)

Applications

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

Ordering Information

Part Number	Description
AFII-SW-0065	GNSS L2/L5/L6 SMD SAW FILTER on Cut Tape
AFII-SW-0065-T	GNSS L2/L5/L6 SMD SAW FILTER on Tape & Reel
AFII-SW-0065 -EVB	GNSS L2/L5/L6 SMD SAW FILTER EVB

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



12117 Bee Caves Rd, Bldg-3, Suite 200 Bee
Cave, TX 78738
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-18-26

ABRACON IS
ISO9001-2015
CERTIFIED

GNSS L2/L5/L6 SMD SAW FILTER



AFII-SW-0065

Request Samples



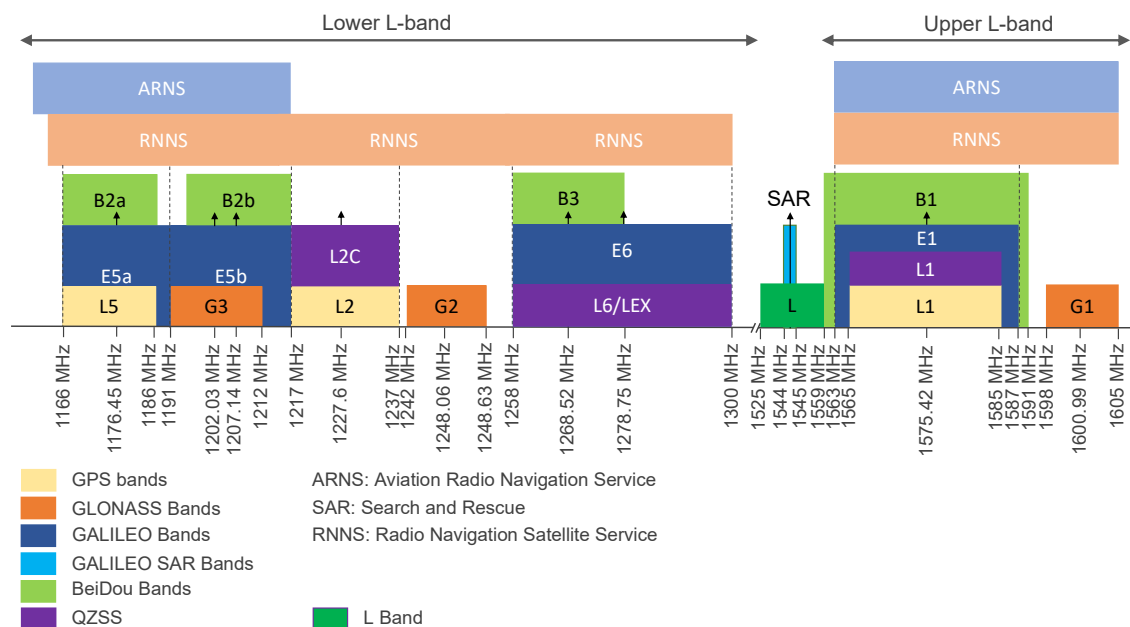
Check Inventory



3.0 x 3.0 x 1.25 mm
RoHS Compliant
MSL Level = 2

GNSS Frequency Bands Covered

GPS	L1 1575.42MHz	L2 1227.6MHz	L5 1176.45MHz	
	□	■	■	
GLONASS	G1 1598.06-1609.31MHz	G2 1242.93-1251.68MHz	G3 1202.025MHz	
	□	■	■	
Galileo	E1 1575.42MHz	E5a 1176.45MHz	E5b 1201.5MHz	E6 1278.75MHz
	□	■	■	■
BeiDou	B1 1561MHz	B2 1207.14MHz	B3 1268.52MHz	
	□	■	■	
QZSS	L1 1575.42MHz	L2 1227.6MHz	L5 1176.45MHz	L6 1278.75MHz
	□	■	■	■
IRNSS/NAVIC			L5 1176.45MHz	
			■	
SBAS	L1/E1/B1 1575.42MHz		L5/B2a/E5a 1176.45MHz	
	□		■	



Frequency allocation: GNSS systems, upper L bands and lower L bands



12117 Bee Caves Rd, Bldg-3, Suite 200 Bee
 Cave, TX 78738
 Phone: 512-371-6159 | Fax: 512-351-8858
 For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-18-26

ABRACON IS
 ISO9001-2015
 CERTIFIED

GNSS L2/L5/L6 SMD SAW FILTER



AFII-SW-0065

Request Samples



Check Inventory



3.0 x 3.0 x 1.25 mm
RoHS Compliant
MSL Level = 2

Electrical Specification

Parameters	Minimum	Typical	Maximum	Units	Notes
Center Frequency (fc)	-	1233.0	-	MHz	
VSWR	-	1.8	2.2	-	1166~1300MHz
Insertion Loss ⁽¹⁾	-	1.0	1.9	dB	1166~1300MHz @+25°C
Amplitude Ripple ⁽¹⁾	-	1.2	1.5	dB _{p-p}	1166~1300MHz
Group Delay ⁽¹⁾	-	5.1	8.2	ns	1166~1300MHz
Group Delay Ripple ⁽¹⁾	-	0.04	0.22	ns	1166~1300MHz
Attenuation ⁽²⁾	35	40	-	dB	1000 ~ 1090 MHz
	35	40	-		1400 ~ 1520 MHz
Source Impedance (single ended) ⁽³⁾	-	50	-	Ω	
Load Impedance (single ended) ⁽³⁾	-	50	-	Ω	
RF Power Dissipation	-	-	18	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	3.0 x 3.0 x 1.25 mm
Mounting Type	Surface Mount
Additional Resources	Download STEP File, Package Drawing, 3D PDF

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	2
RoHS Compliant	Yes



12117 Bee Caves Rd, Bldg-3, Suite 200 Bee
Cave, TX 78738
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-18-26

ABRACON IS
ISO9001-2015
CERTIFIED

GNSS L2/L5/L6 SMD SAW FILTER



AFII-SW-0065

Request Samples



Check Inventory

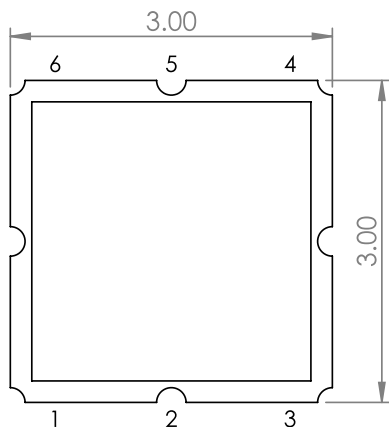


3.0 x 3.0 x 1.25 mm

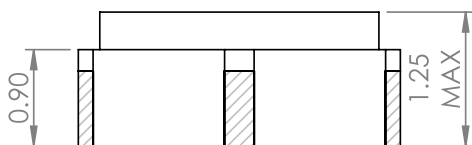
RoHS Compliant

MSL Level = 2

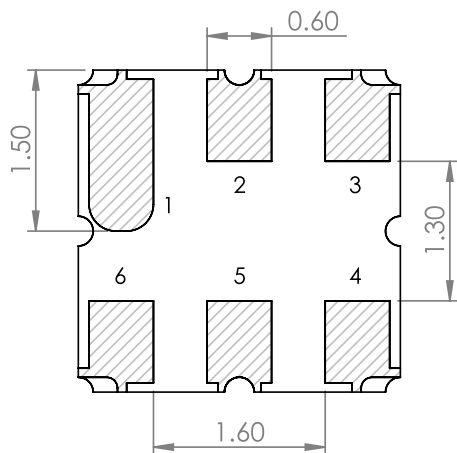
Product Dimensions



TOP VIEW

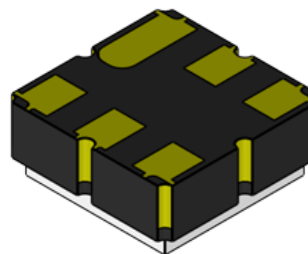
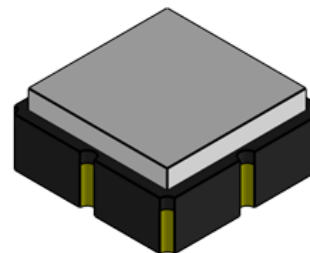


FRONT VIEW



BOTTOM VIEW

Pin #	Function
1,3,4,6	CASE GROUND
2	INPUT
5	OUTPUT



Unit: mm



12117 Bee Caves Rd, Bldg-3, Suite 200 Bee
Cave, TX 78738
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-18-26

ABRACON IS
ISO9001-2015
CERTIFIED

GNSS L2/L5/L6 SMD SAW FILTER



AFII-SW-0065

Request Samples

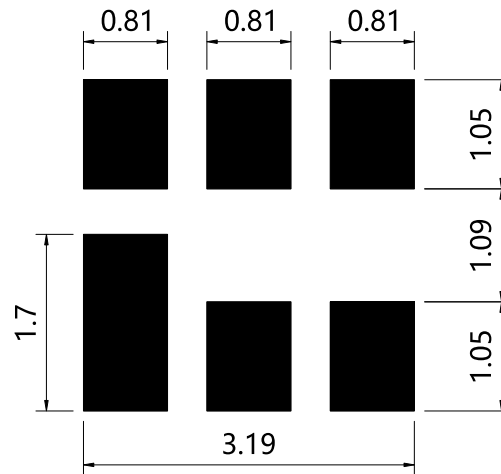


Check Inventory



3.0 x 3.0 x 1.25 mm
RoHS Compliant
MSL Level = 2

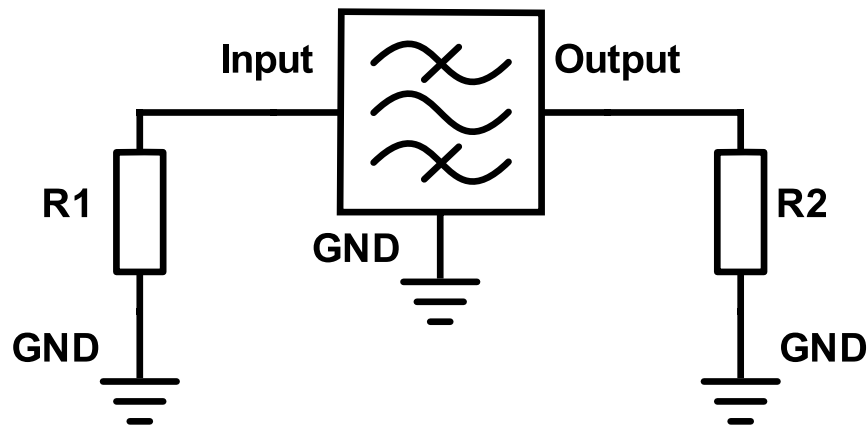
Recommended Land Pattern



Unit : mm

Please note: To ensure signal integrity, please design the PCB trace width for a 50-ohm characteristic impedance based on your specific board material and thickness. If you need technical assistance, please contact [Abracon online support](#) via our online support platform.

Measurement Circuit



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

GNSS L2/L5/L6 SMD SAW FILTER



AFII-SW-0065

Request Samples



Check Inventory



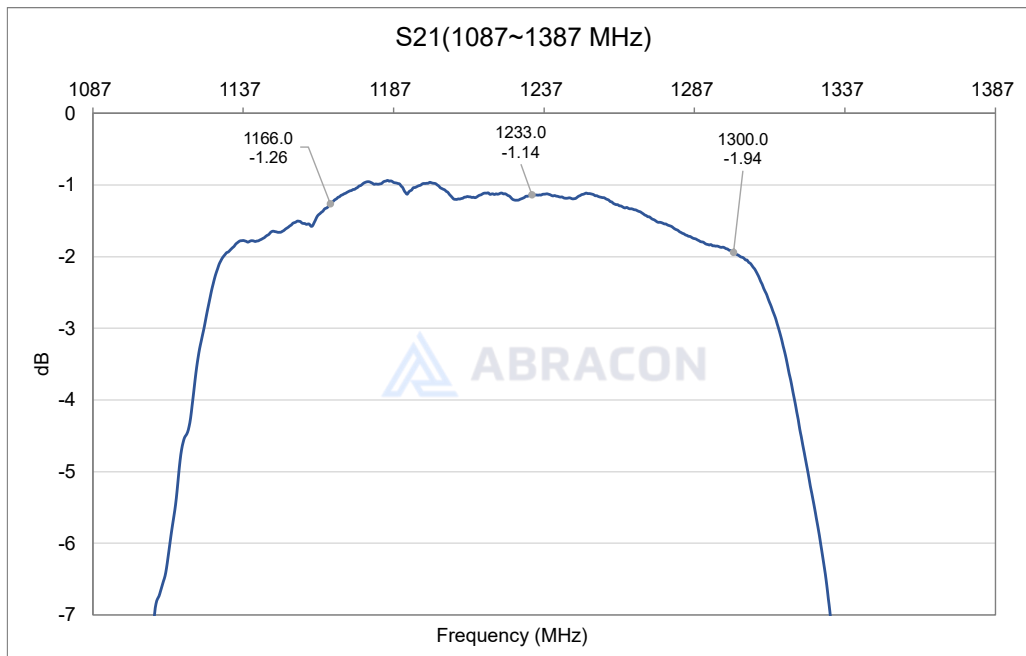
3.0 x 3.0 x 1.25 mm

RoHS Compliant

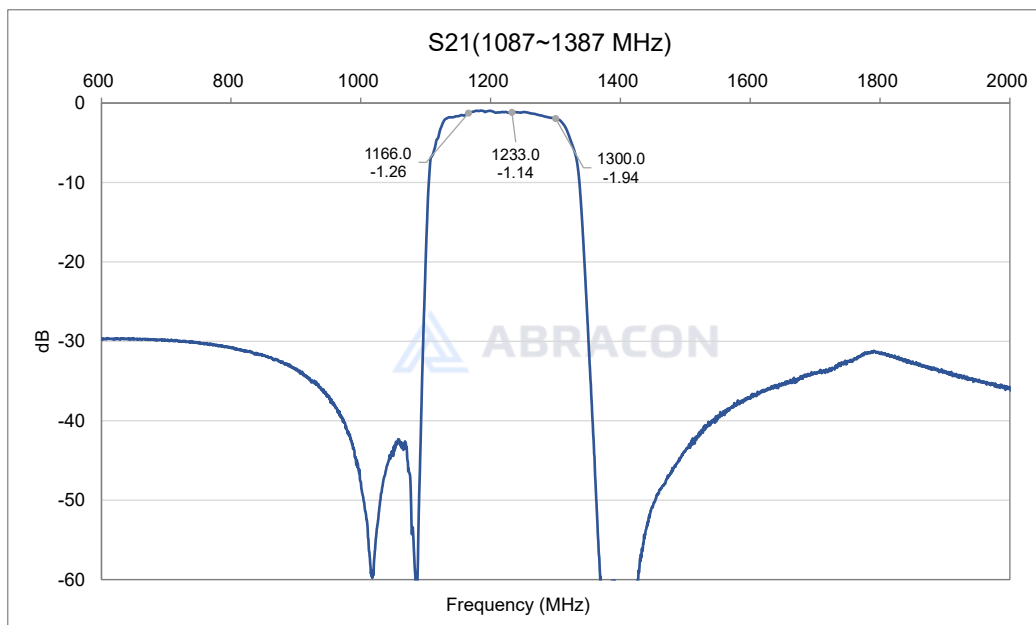
MSL Level = 2

Frequency Characteristics

S21 narrow band



S21 wide band



GNSS L2/L5/L6 SMD SAW FILTER



AFII-SW-0065

Request Samples

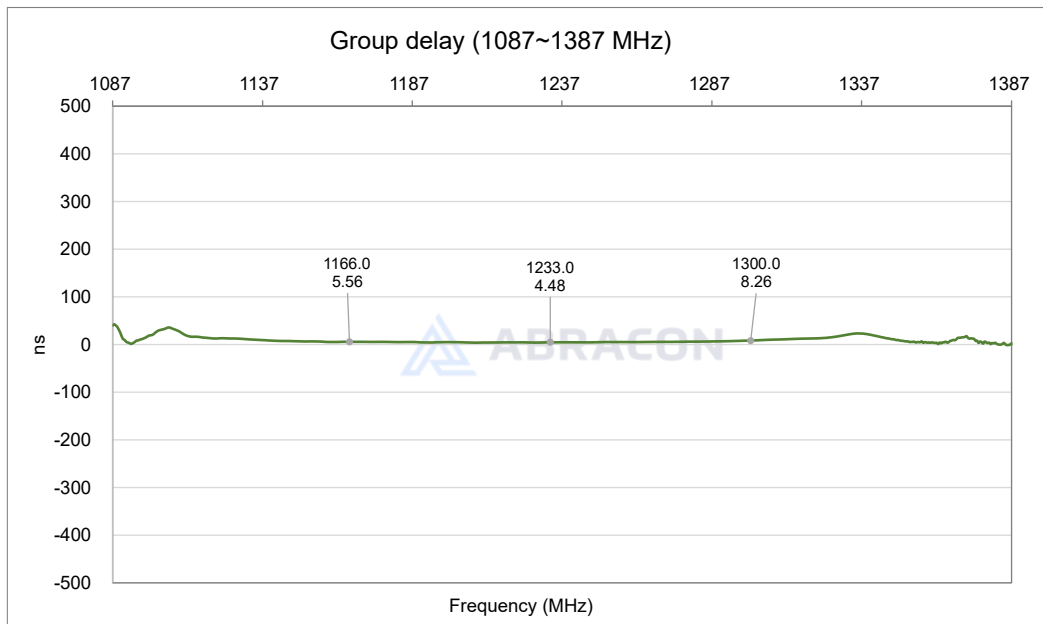


Check Inventory



3.0 x 3.0 x 1.25 mm
RoHS Compliant
MSL Level = 2

Group Delay



GNSS L2/L5/L6 SMD SAW FILTER



AFII-SW-0065

Request Samples

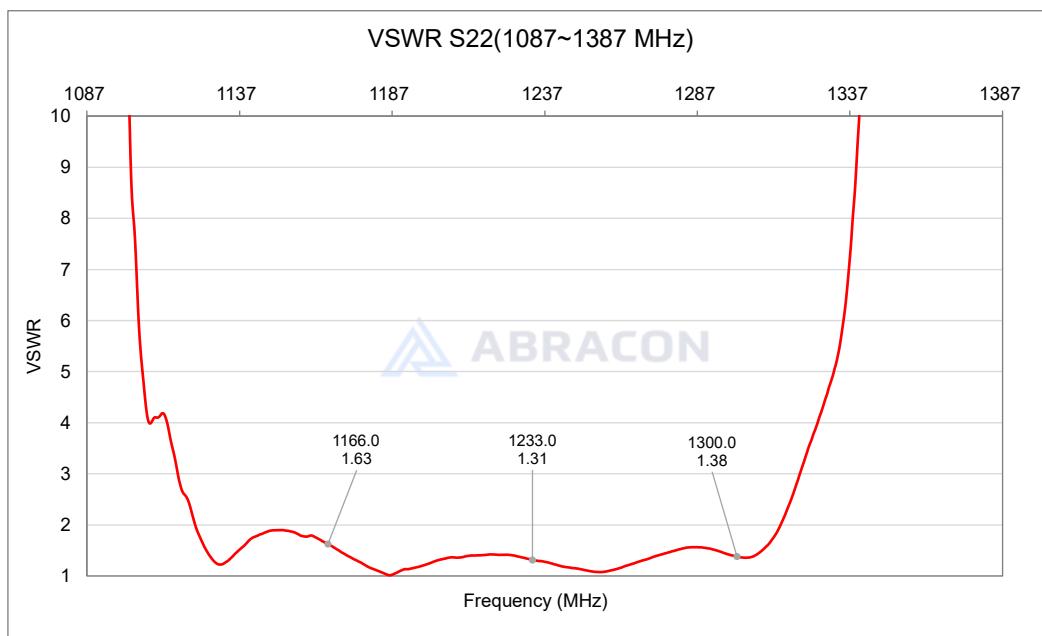
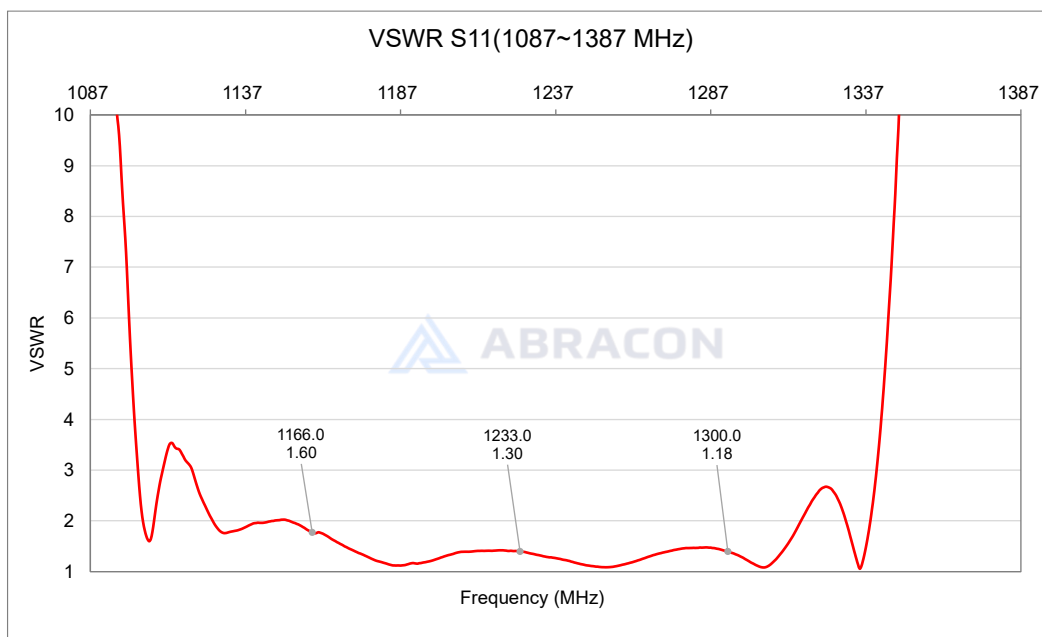


Check Inventory



3.0 x 3.0 x 1.25 mm
RoHS Compliant
MSL Level = 2

VSWR (S11 & S22)



12117 Bee Caves Rd, Bldg-3, Suite 200 Bee
Cave, TX 78738
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-18-26

ABRACON IS
ISO9001-2015
CERTIFIED

GNSS L2/L5/L6 SMD SAW FILTER



AFII-SW-0065

Request Samples



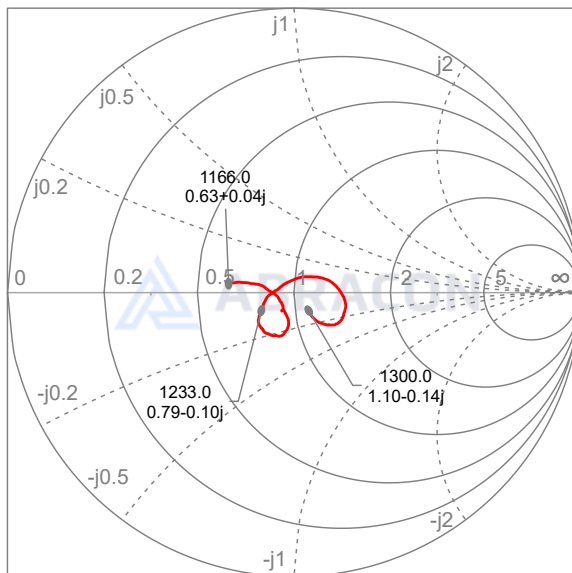
Check Inventory



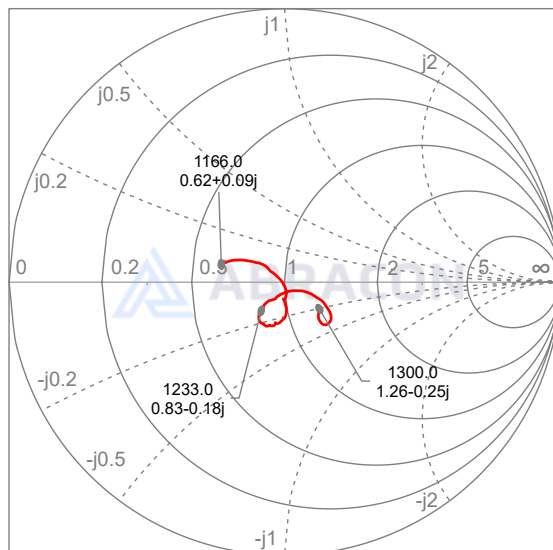
3.0 x 3.0 x 1.25 mm
RoHS Compliant
MSL Level = 2

Smith Chart (S11 & S22)

Smith chart S11 (1166~1300MHz)



Smith chart S22 (1166~1300MHz)



GNSS L2/L5/L6 SMD SAW FILTER



AFII-SW-0065

Request Samples



Check Inventory



3.0 x 3.0 x 1.25 mm
RoHS Compliant
MSL Level = 2

Reflow Profile [JEDEC J-STD-020]

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

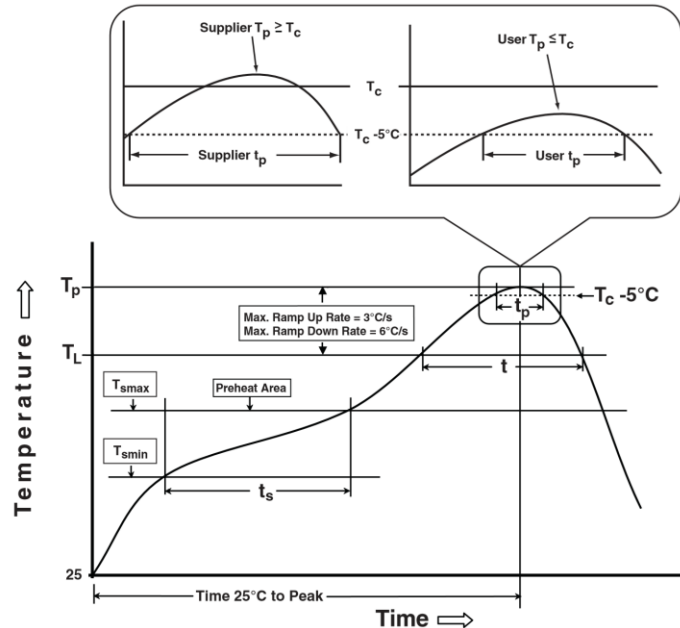


Table 1

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.

GNSS L2/L5/L6 SMD SAW FILTER



AFII-SW-0065

Request Samples



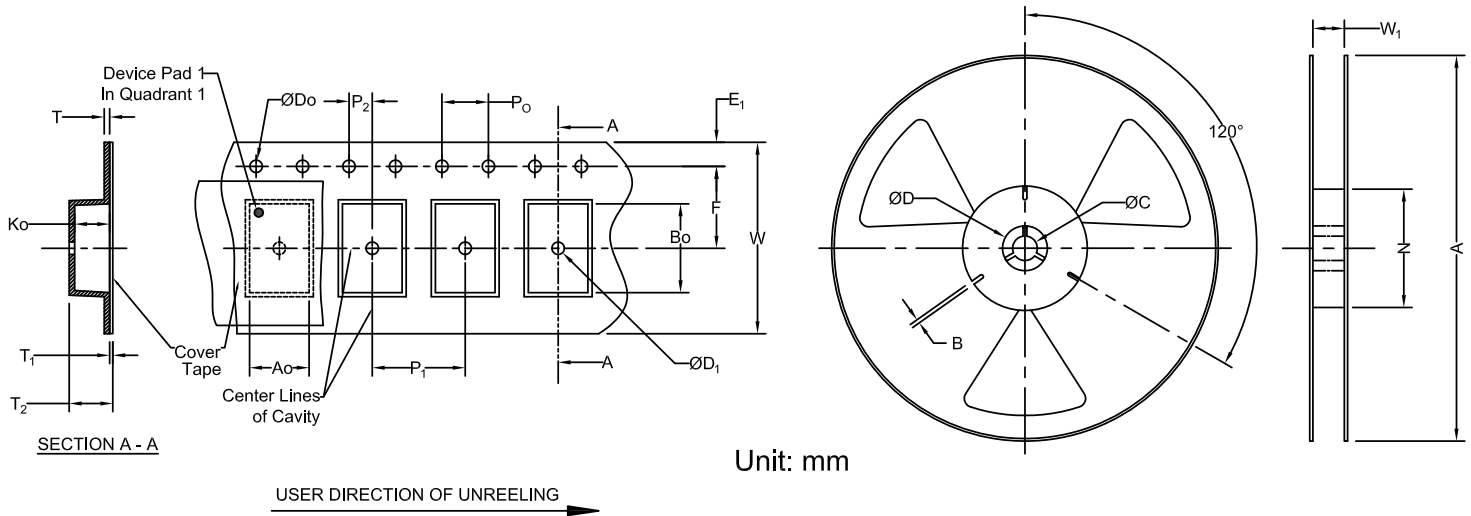
Check Inventory



3.0 x 3.0 x 1.25 mm
RoHS Compliant
MSL Level = 2

Packaging

Tape & Reel Dimension



Carrier Tape Specifications (mm)

Do	T ₂	E ₁	P ₀	P ₂	T	F	P ₁	W	A ₀	B ₀	Reel Qty
1.50 ± 0.1	1.60 ± 0.05	1.75 ± 0.1	4.0 ± 0.1	2.0 ± 0.10	0.3 ± 0.05	5.5 ± 0.10	4.0 ± 0.1	12.0 ± 0.10	3.2 ± 0.05	3.2 ± 0.05	3,000

Reel Specifications (mm)

A	W ₁	N	C	B
178.0	12.4 ± 0.1	60.00	13.00 ± 0.50	2.0 ± 0.50

ATTENTION: Abracon LLC's products are Commercial-Off-The-Shelf ("COTS"), which are designed, intended, and validated for use in commercial, industrial, and automotive applications. The customer is responsible for testing and verifying the performance of an Abracon solution to meet their system-level requirements.



12117 Bee Caves Rd, Bldg-3, Suite 200 Bee
 Cave, TX 78738
 Phone: 512-371-6159 | Fax: 512-351-8858
 For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-18-26

ABRACON IS
 ISO9001-2015
 CERTIFIED