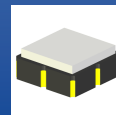


916 MHz SMD SAW Filter



AFII-SW-0040

Request Samples



Check Inventory



3.0 x 3.0 x 1.25 mm

RoHS Compliant

MSL Level = 3

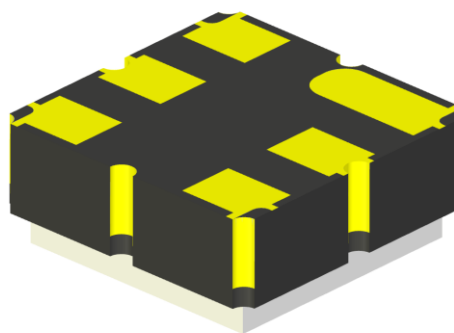
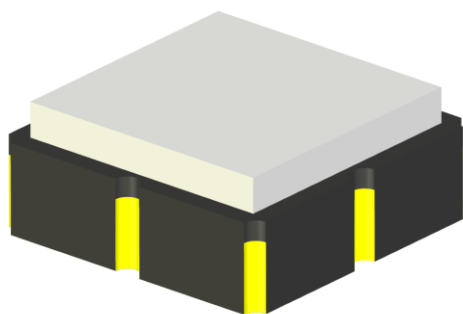
Features

- 3.0 x 3.0 x 1.25 mm in Size
- Low Insertion Loss: 2.9 dB
- Out-of-Band Rejection: > 40 dB
- 50 Ohms Single-Ended Input & Output
- Maximum Input Power: +20dBm

Applications

- Sub-GHz/LoRa/Sigfox
- Smart Lighting
- Utility & Smart Metering
- Amazon Sidewalk
- Traffic Control and Monitoring
- Energy Generation and Storage System

Product Image



916 MHz SMD SAW Filter



AFII-SW-0040

Request Samples



Check Inventory



3.0 x 3.0 x 1.25 mm
RoHS Compliant
MSL Level = 3

Electrical Specification

Parameters	Minimum	Typical	Maximum	Units	Notes
Center Frequency (fc)	-	916.0	-	MHz	
VSWR	-	1.5	2.0	-	914.0~918.0MHz
Insertion Loss ⁽¹⁾	-	2.9	3.1	dB	914.0~918.0MHz
Amplitude Ripple ⁽¹⁾	-	0.7	1.0	dB _{p-p}	914.0~918.0MHz
Group Delay ⁽¹⁾	-	112	130	ns	914.0~918.0MHz
Group Delay Ripple ⁽¹⁾	-	0.7	1.94	ns	914.0~918.0MHz
Attenuation ⁽²⁾	50	55	-	dB	DC - 886.0MHz
	45	50	-		897.0-903.0MHz
	45	50	-		930.0 -937.0MHz
	50	55	-		937.0 -1500.0MHz
	35	40	-		1500.0 -2000.0MHz
Source Impedance (single ended) ⁽³⁾	-	50	-	Ω	
Load Impedance (single ended) ⁽³⁾	-	50	-	Ω	
RF Power Dissipation	-	-	20	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

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

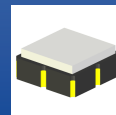


5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 07-25-24

ABRACON IS
ISO9001-2015
CERTIFIED

916 MHz SMD SAW Filter



AFII-SW-0040

Request Samples



Check Inventory



3.0 x 3.0 x 1.25 mm

RoHS Compliant

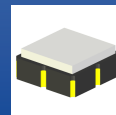
MSL Level = 3

Ordering Information

Part Number	Description
AFII-SW-0040	916 MHz SMD SAW Filter on Cut Tape
AFII-SW-0040-T	916 MHz SMD SAW Filter on Tape & Reel
AFII-SW-0040-EVB	916 MHz SMD SAW Filter Evaluation Board

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

916 MHz SMD SAW Filter



AFII-SW-0040

Request Samples

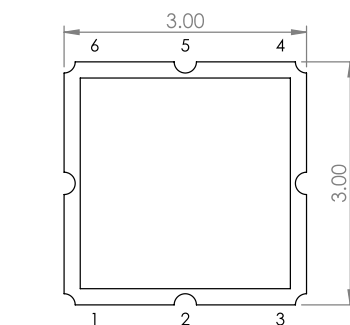


Check Inventory

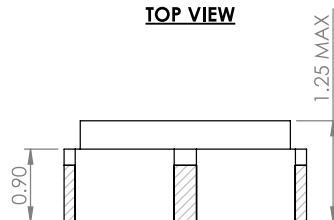


3.0 x 3.0 x 1.25 mm
RoHS Compliant
MSL Level = 3

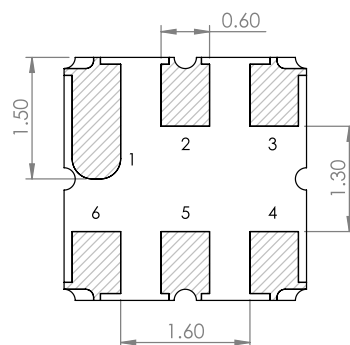
Product Dimensions



TOP VIEW



FRONT VIEW

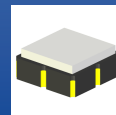


BOTTOM VIEW

Unit: mm

Pin No.	Description
2	Input
5	Output
1,3,4,6	Ground

916 MHz SMD SAW Filter



AFII-SW-0040

Request Samples



Check Inventory

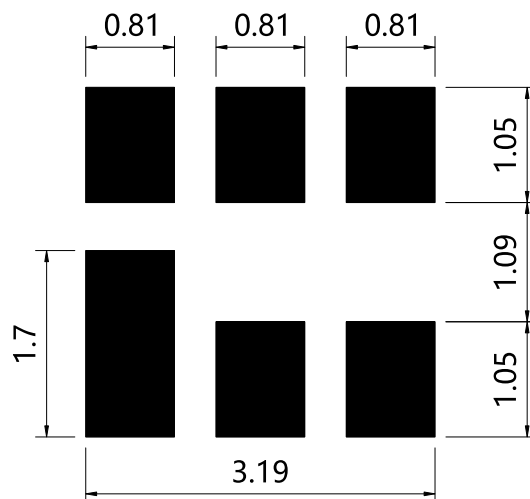


3.0 x 3.0 x 1.25 mm

RoHS Compliant

MSL Level = 3

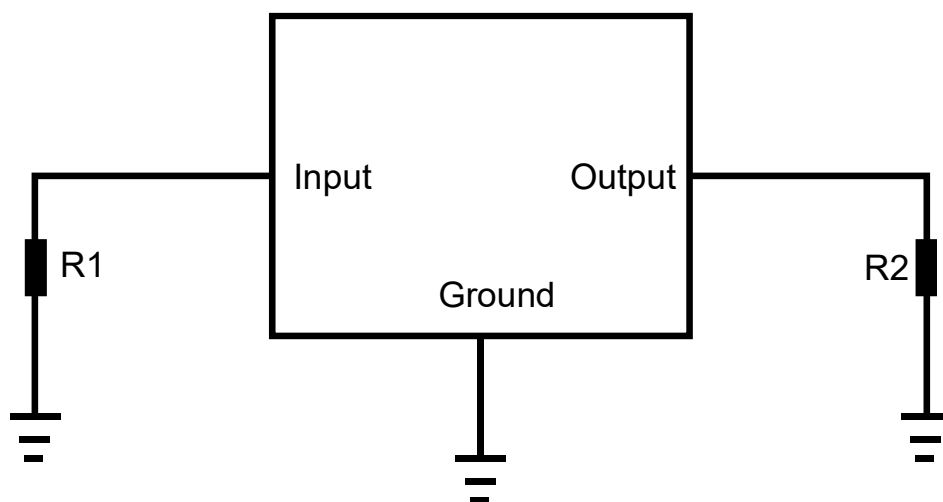
Recommended Land Pattern



Unit : mm

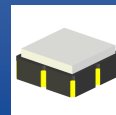
Please note: The line width should be designed to achieve a 50-ohm characteristic impedance, depending on the PCB material and thickness. For technical assistance, please contact [Abracon online support](#) through our online support platform.

Measurement Circuit



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

916 MHz SMD SAW Filter



AFII-SW-0040

Request Samples



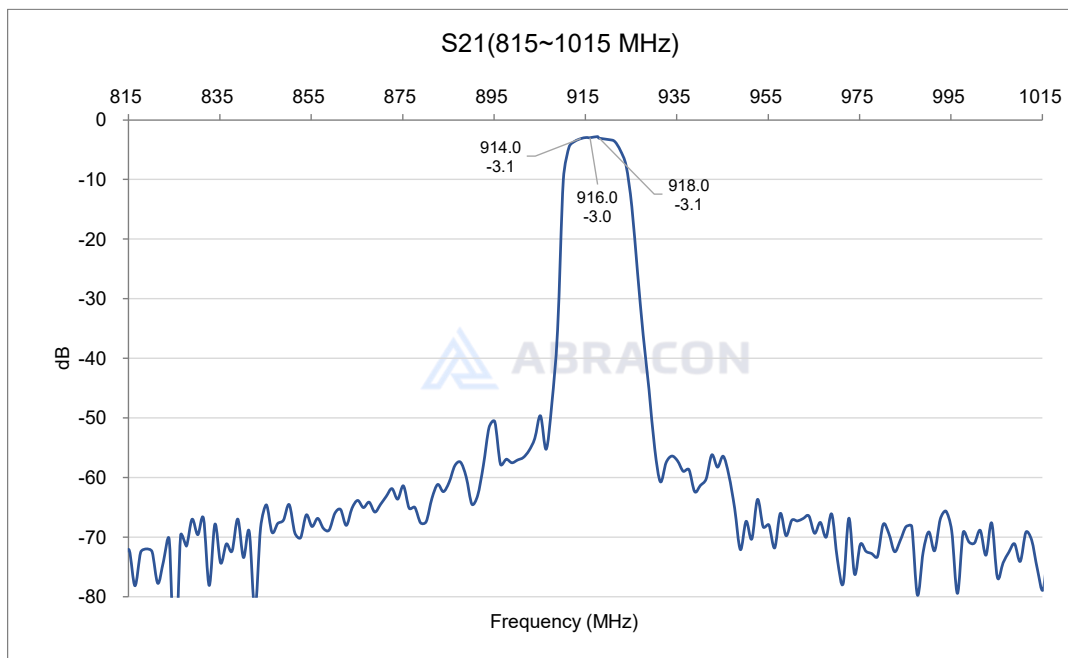
Check Inventory



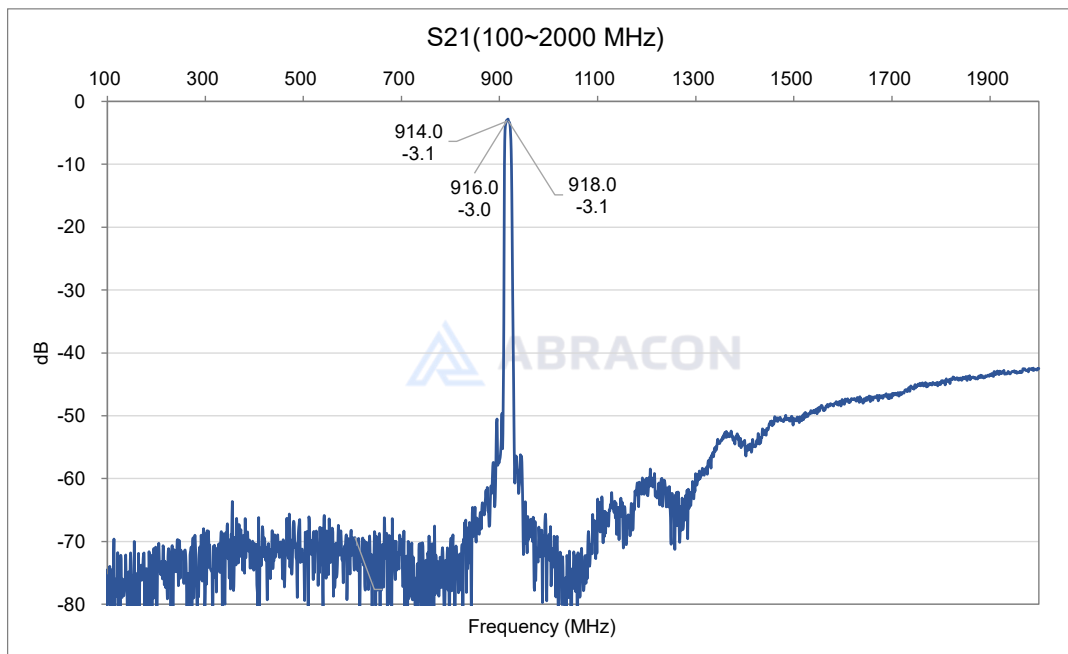
3.0 x 3.0 x 1.25 mm
RoHS Compliant
MSL Level = 3

Frequency Characteristics

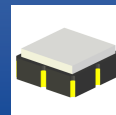
S21 narrow band



S21 wide band



916 MHz SMD SAW Filter



AFII-SW-0040

Request Samples



Check Inventory

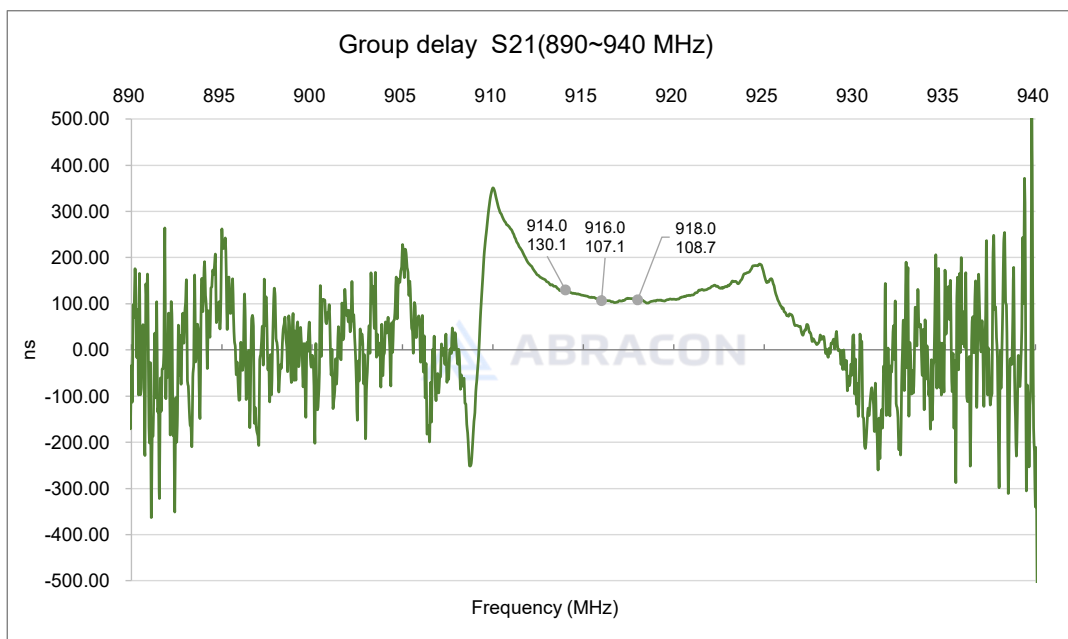


3.0 x 3.0 x 1.25 mm

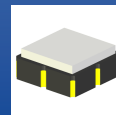
RoHS Compliant

MSL Level = 3

Group Delay



916 MHz SMD SAW Filter



AFII-SW-0040

Request Samples

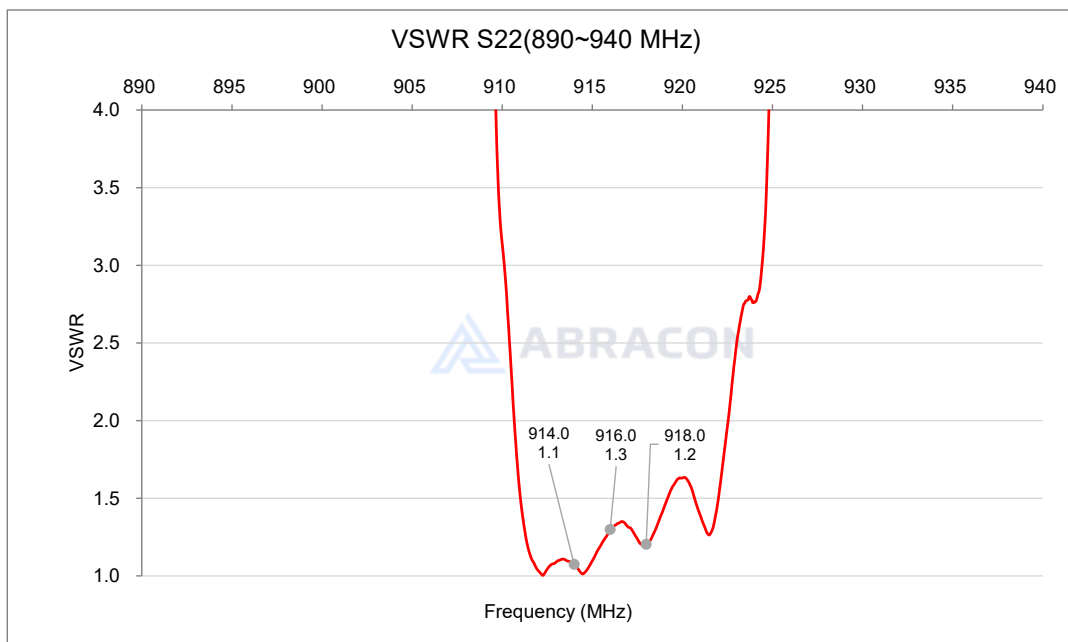
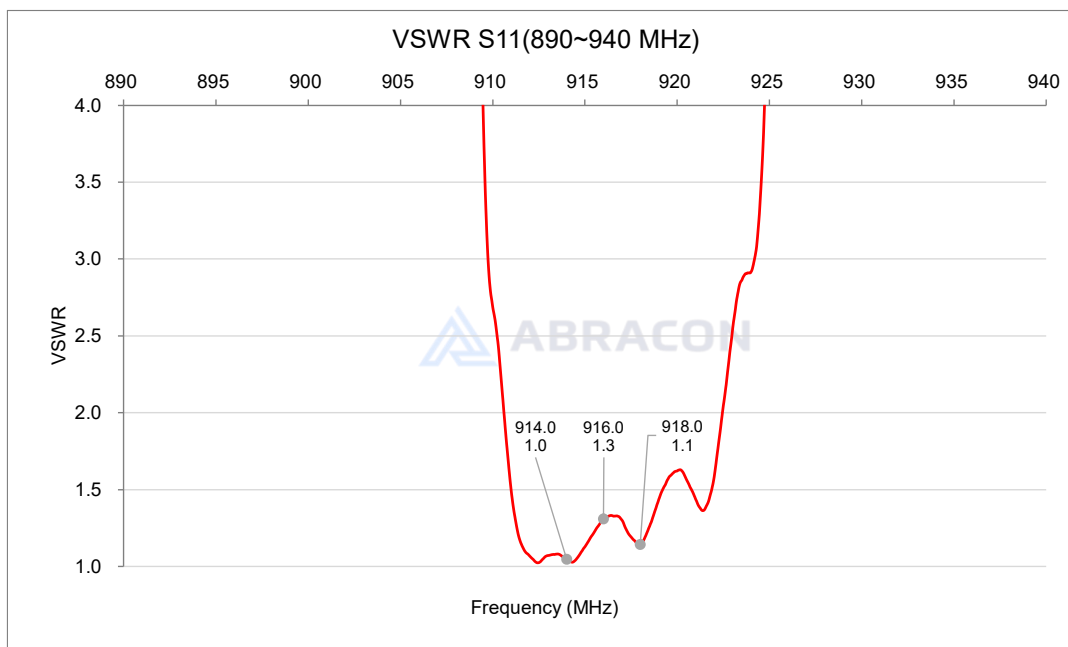


Check Inventory

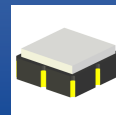


3.0 x 3.0 x 1.25 mm
RoHS Compliant
MSL Level = 3

VSWR (S11 & S22)



916 MHz SMD SAW Filter



AFII-SW-0040

Request Samples



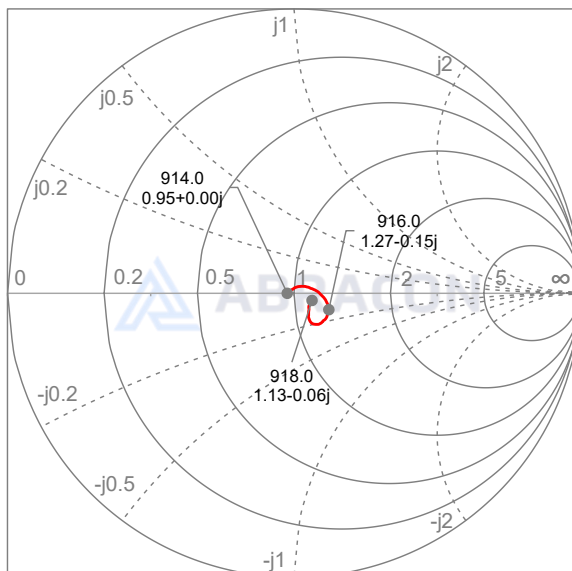
Check Inventory



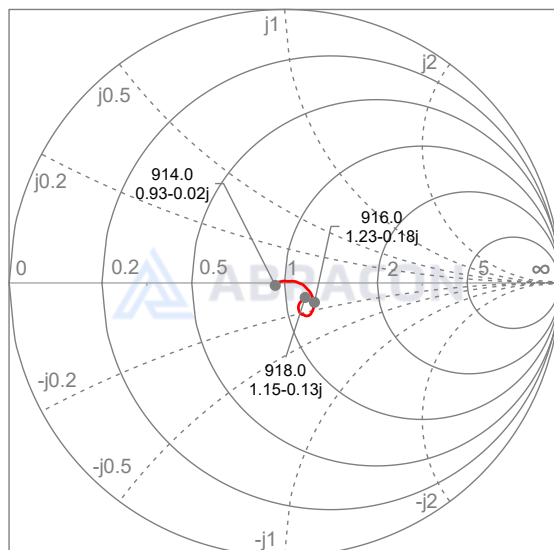
3.0 x 3.0 x 1.25 mm
RoHS Compliant
MSL Level = 3

Smith Chart (S11 & S22)

Smith chart S11 (914~918MHz)



Smith chart S22 (914~918MHz)





AFII-SW-0040

Request Samples



Check Inventory



3.0 x 3.0 x 1.25 mm
RoHS Compliant
MSL Level = 3

Reflow Profile [JEDEC J-STD-020]

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

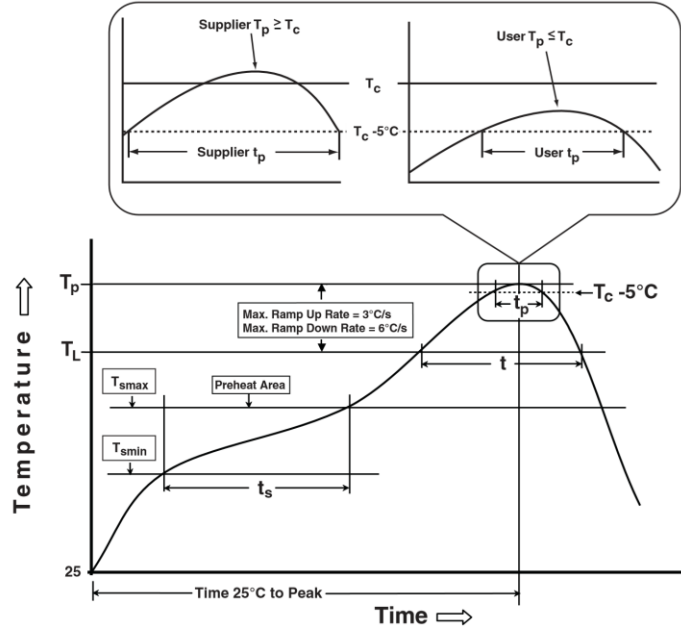


Table 1

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)

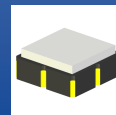
Package Thickness	Volume mm ³ <350	Volume mm ³ 350-2000	Volume mm ³ >2000
<1.6mm	260°C	260°C	260°C
1.6mm - 2.5mm	260°C	250°C	245°C
>2.5mm	240°C	240°C	240°C

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.

916 MHz SMD SAW Filter



AFII-SW-0040

Request Samples



Check Inventory



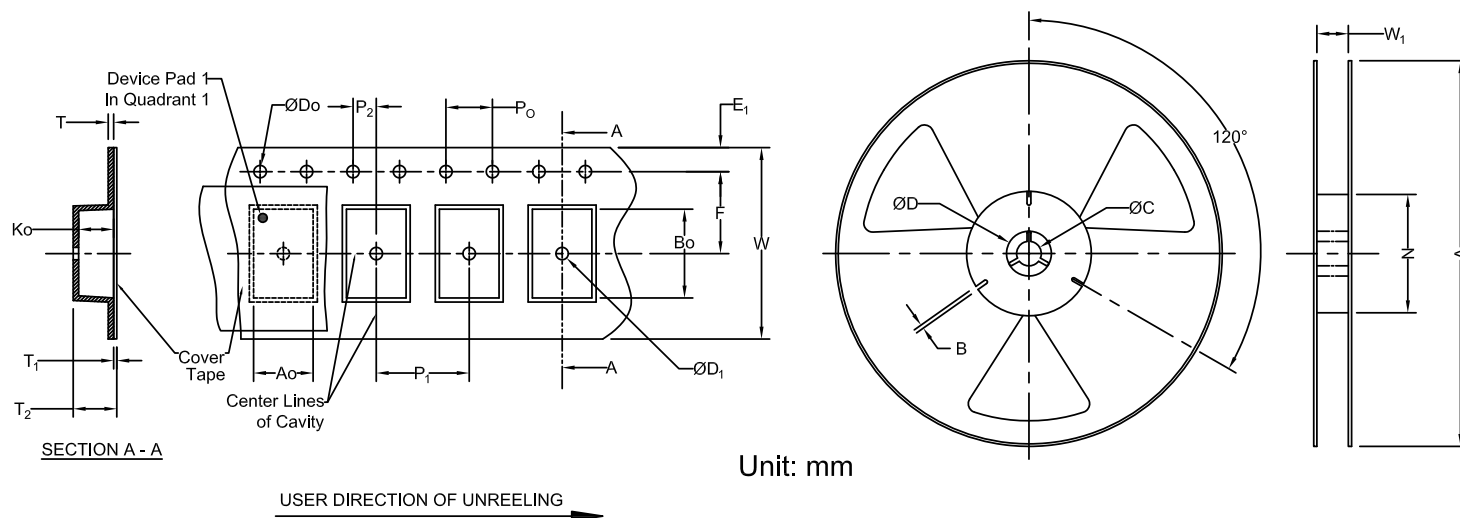
3.0 x 3.0 x 1.25 mm

RoHS Compliant

MSL Level = 3

Packaging

Tape & Reel Dimension



Carrier Tape Specifications (mm)

D0	T2	E1	P0	P2	T	F	P1	W	A0	B0	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	1,000

Reel Specifications (mm)

A	W1	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.



5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 07-25-24

ABRACON IS
ISO9001-2015
CERTIFIED