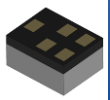


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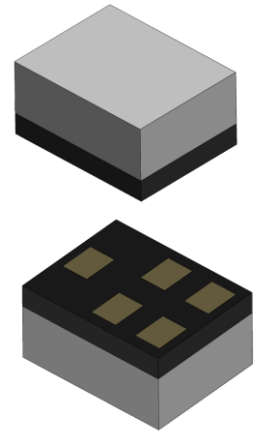
Check Inventory



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

Description

This ultra-compact RF filter, measuring just 1.4 x 1.1 x 0.7 mm, is designed for space-constrained consumer and IoT devices. It offers a balanced performance profile with a low insertion loss of 2.0 dB and effective out-of-band rejection greater than 27 dB, ensuring clear signal transmission. Its robust +13 dBm power handling makes it highly durable. Ideally suited for asset tracking tags, remote controls, and cellular phones, this RoHS-compliant component (MSL Level 3) helps enhance connectivity and reliability in compact electronic designs.



Features

- 1.4 x 1.1 x 0.7 mm in Size
- Low Insertion Loss: 2.0 dB
- Out-of-Band Rejection: > 27 dB
- Maximum Input Power: +13 dBm
- [RoHS Compliant](#) | [MSL Level 3](#)

Applications

- Asset Tracking
- Remote Control
- Cellular Phones

Ordering Information

Part Number	Description
AFS14A40-1900.00	Surface Mount 1900.00MHz SAW Filter on Cut Tape
AFS14A40-1900.00-T3	Surface Mount 1900.00MHz SAW Filter on Tape & Reel
AFS14A40-1900.00-EVB	Surface Mount 1900.00MHz SAW Filter Evaluation Board

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

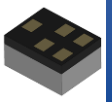


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1.4 x 1.1 x 0.7 mm
RoHS Compliant
MSL Level = 3

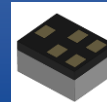
Electrical Specification

Parameters	Minimum	Typical	Maximum	Units	Notes
Center Frequency (f_c)		1900.00		MHz	
Effective Bandwidth		40		MHz	
Worst-Case Input / Output Return Loss		11.7	9.5	dB	
Insertion Loss ⁽¹⁾		2.0	2.7	dB	1880 ~ 1920MHz
Amplitude Ripple		0.5	1.2	dB	1880 ~ 1920MHz
Group Delay ⁽¹⁾		11.1	12.2	ns	1880 ~ 1920MHz
Group Delay Ripple ⁽¹⁾		0.36	1.12	ns	1880 ~ 1920MHz
Stop-band Attenuation (Referenced to 0.0 dB)	40	45	-	dB	D.C~1395 MHz
	40	48	-		1395~1435 MHz
	33	36	-		1435~1805 MHz
	25	33	-		1805~1840 MHz
	25	27	-		2000~2135 MHz
	31	34	-		2135~2175 MHz
	30	36	-		2175~3500 MHz
	22	29	-		3500~6000 MHz
Source Impedance ⁽²⁾ (single ended)	-	50	-	Ω	-
Load Impedance ⁽²⁾ (single ended)	-	50	-	Ω	-
Input Power Level	-	-	13	dBm	-
DC Voltage (V)	-	-	3	V	-

Notes: (1) Averaged values of linear S-Parameters at +25°C

(2) A matching network is unnecessary (refer to the Measurement Circuits section).

Surface Mount 1900.00MHz SAW Filter



AFS14A40-1900.00

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

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	-30°C ~ +85°C
Storage Temperature Range	-40°C ~ +85°C
MSL level	3
RoHS Compliant	Yes

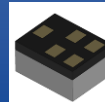


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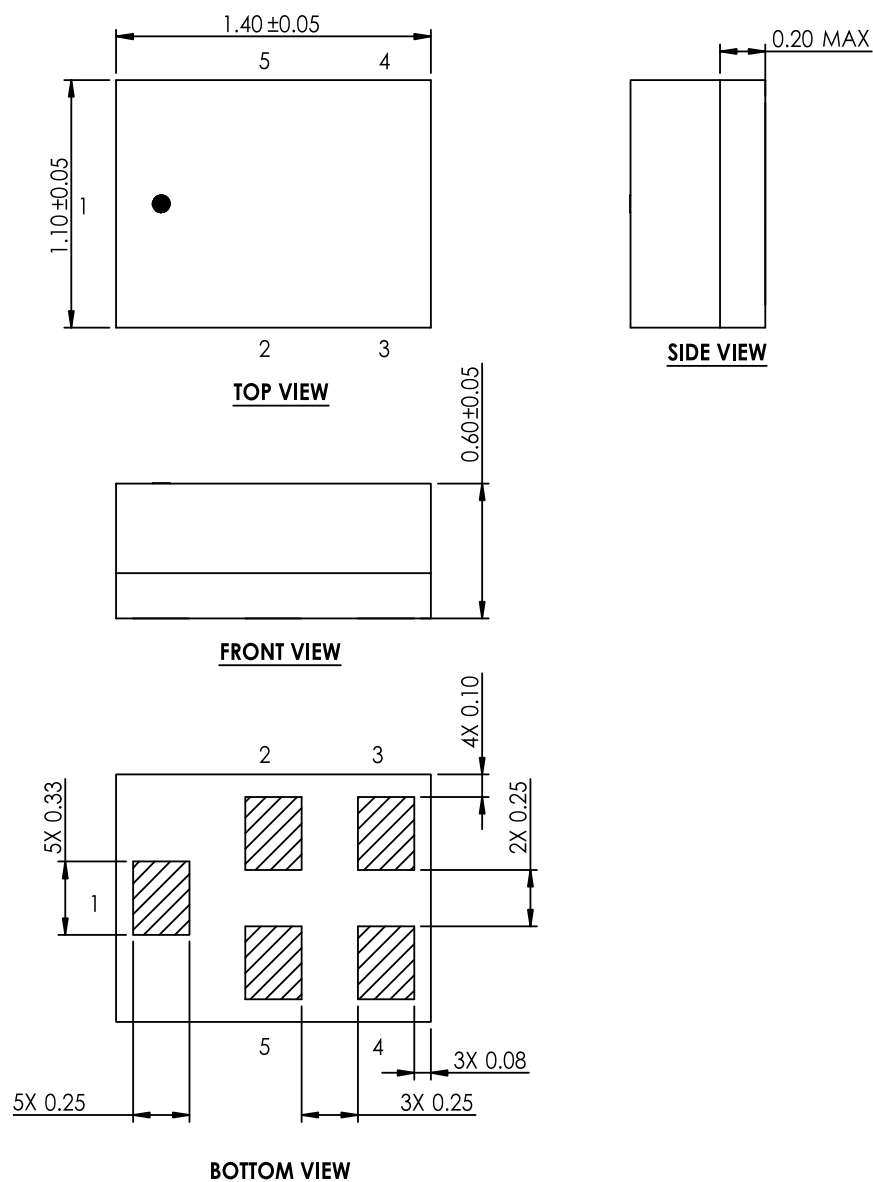


Check Inventory



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

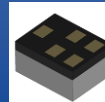
Product Dimensions



Unit : mm

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

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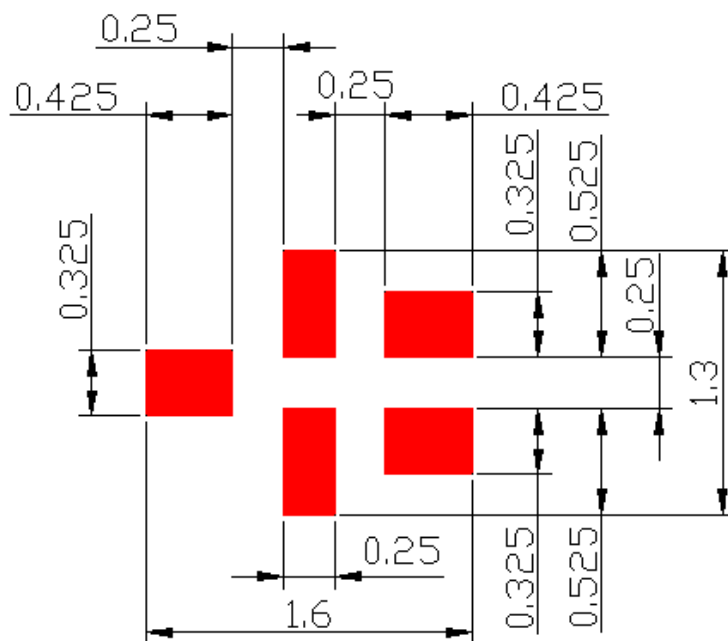


Check Inventory



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

Recommended Land Pattern

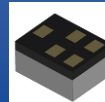


 : Land Pattern

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.

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Request Samples



Check Inventory

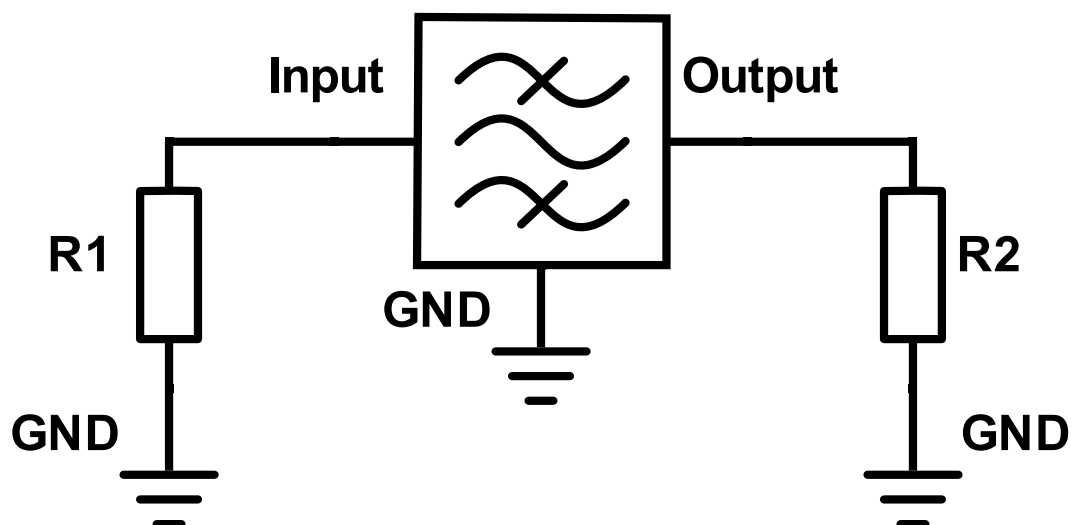


1.4 x 1.1 x 0.7 mm

RoHS Compliant

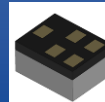
MSL Level = 3

Measurement Circuit



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

Surface Mount 1900.00MHz SAW Filter



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Request Samples



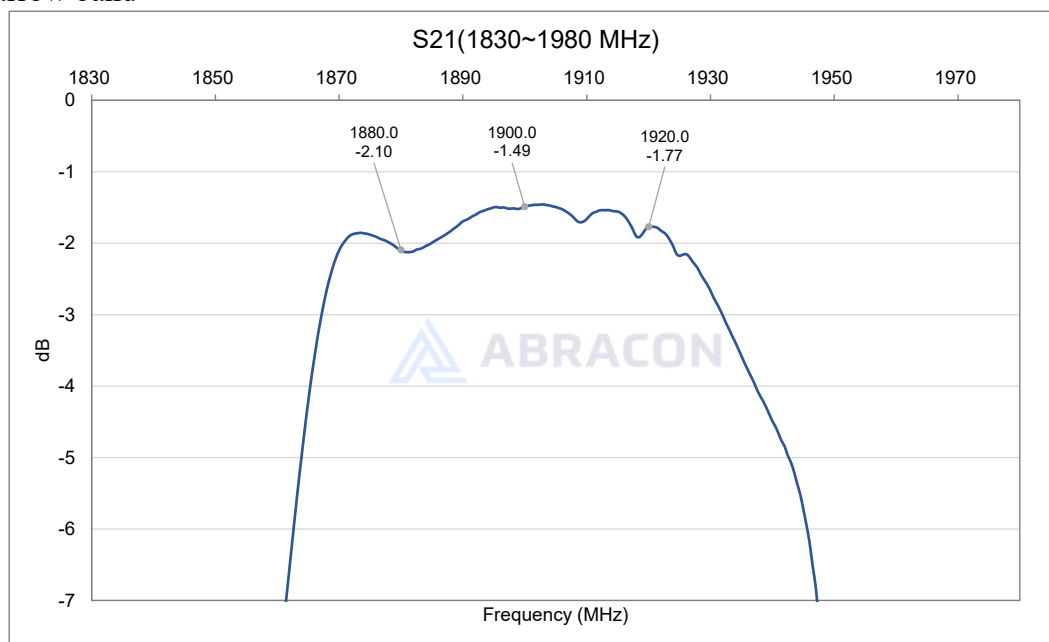
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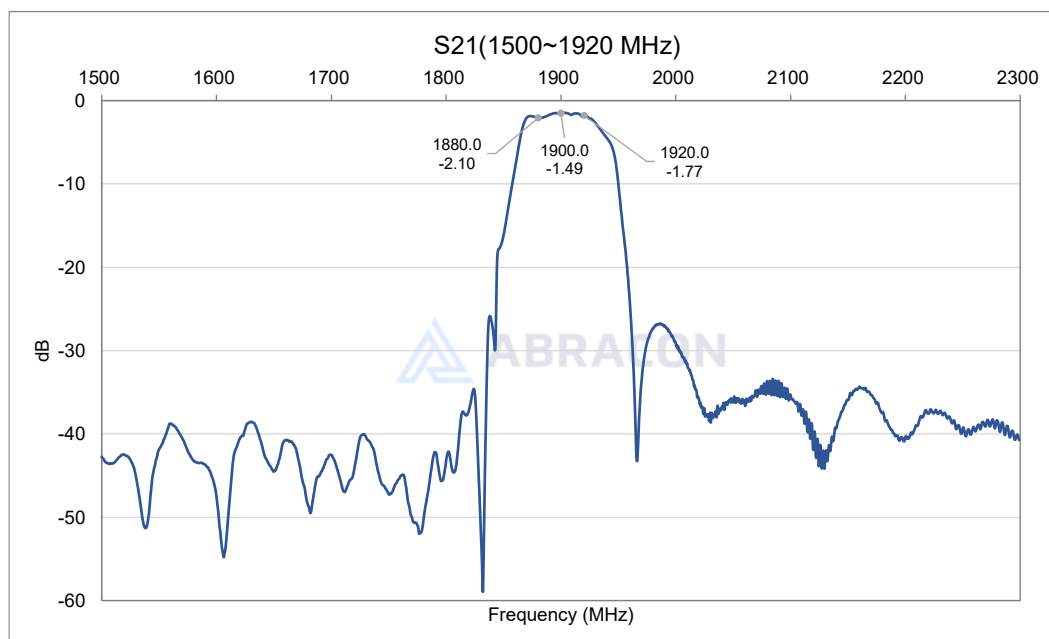
1.4 x 1.1 x 0.7 mm
RoHS Compliant
MSL Level = 3

Frequency Characteristics

S21 narrow band



S21 wide band

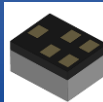


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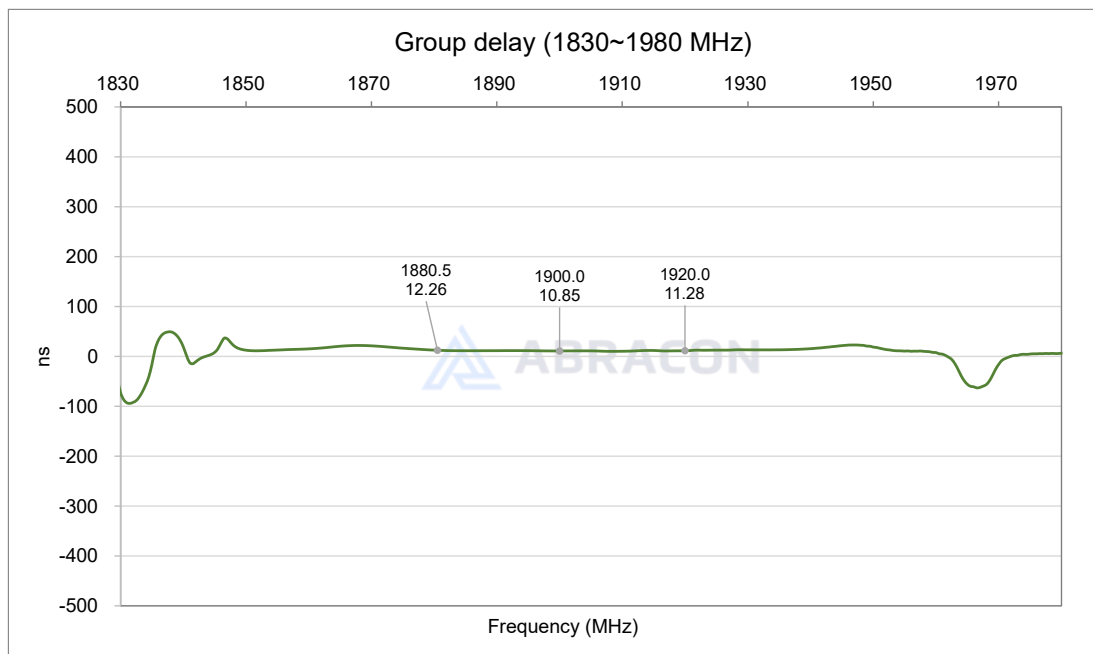


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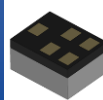


1.4 x 1.1 x 0.7 mm
RoHS Compliant
MSL Level = 3

Group Delay



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Request Samples

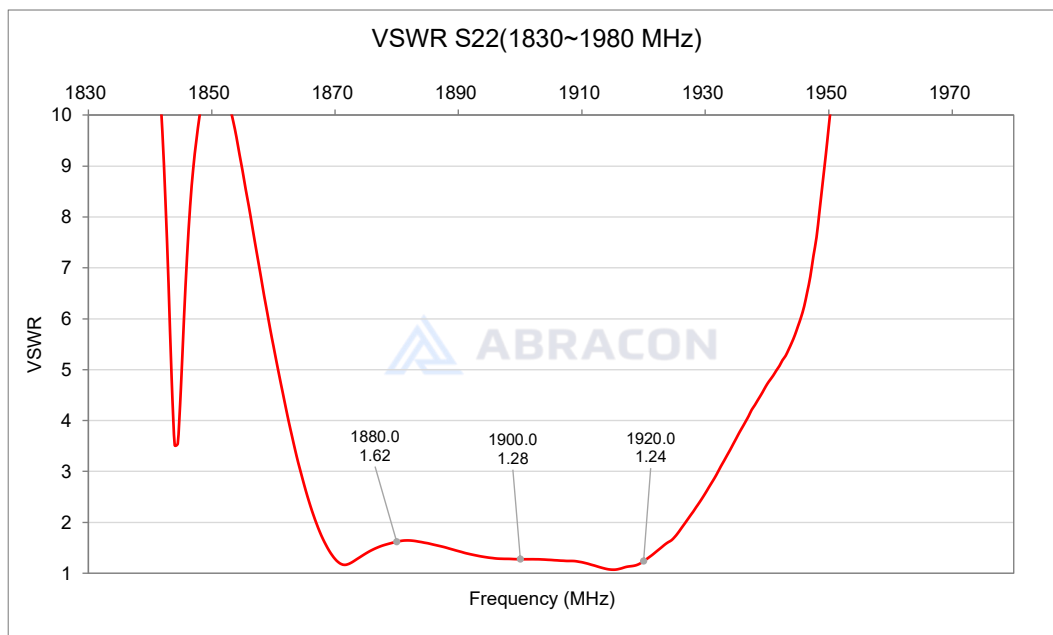
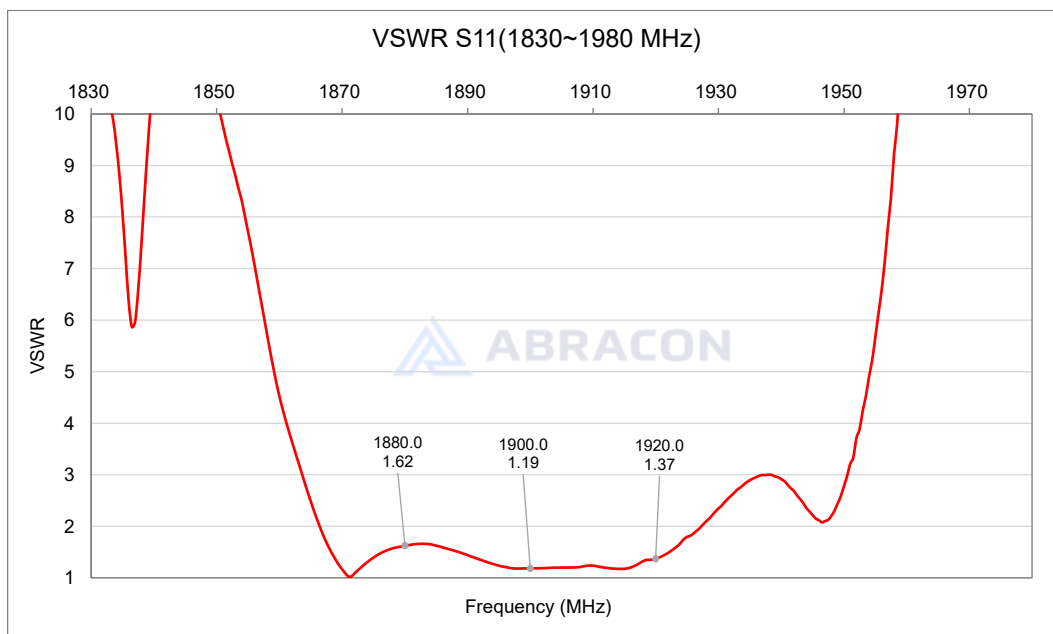


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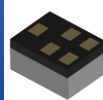


1.4 x 1.1 x 0.7 mm
RoHS Compliant
MSL Level = 3

VSWR (S11 & S22)



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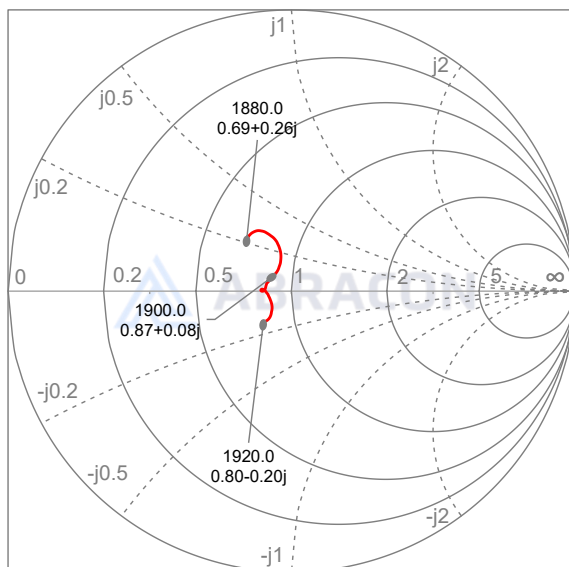
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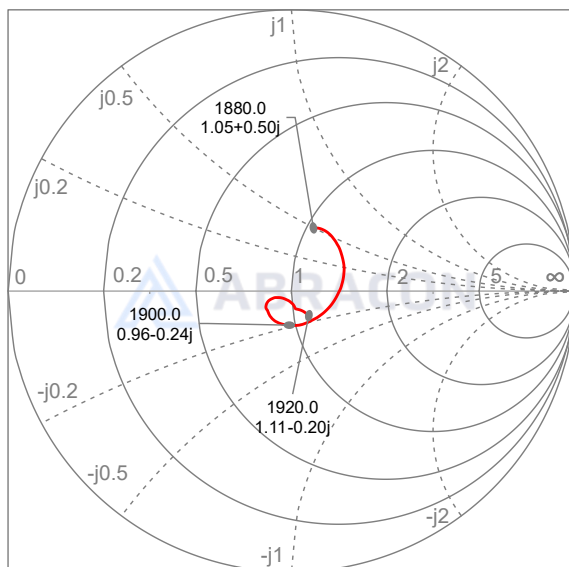
1.4 x 1.1 x 0.7 mm
RoHS Compliant
MSL Level = 3

Smith Chart (S11 & S22)

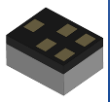
Smith chart S11 (1880~1920MHz)



Smith chart S22 (1880~1920MHz)



Surface Mount 1900.00MHz SAW Filter



AFS14A40-1900.00

Request Samples



Check Inventory



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

Reflow Profile [JEDEC J-STD-020]

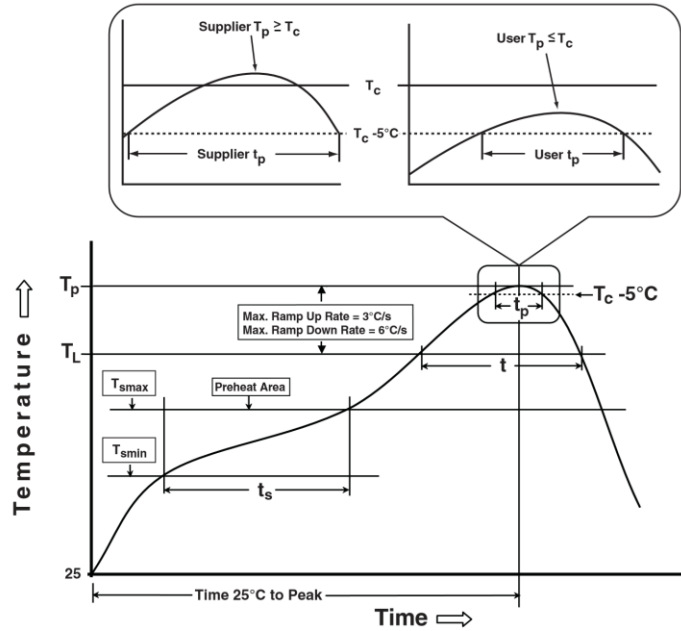


Table 1

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)

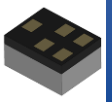
Package Thickness	Volume mm ³ <350	Volume mm ³ 350-2000	Volume mm ³ >2000
<1.6mm	260°C	260°C	260°C
1.6mm - 2.5mm	260°C	250°C	245°C
>2.5mm	250°C	245°C	245°C

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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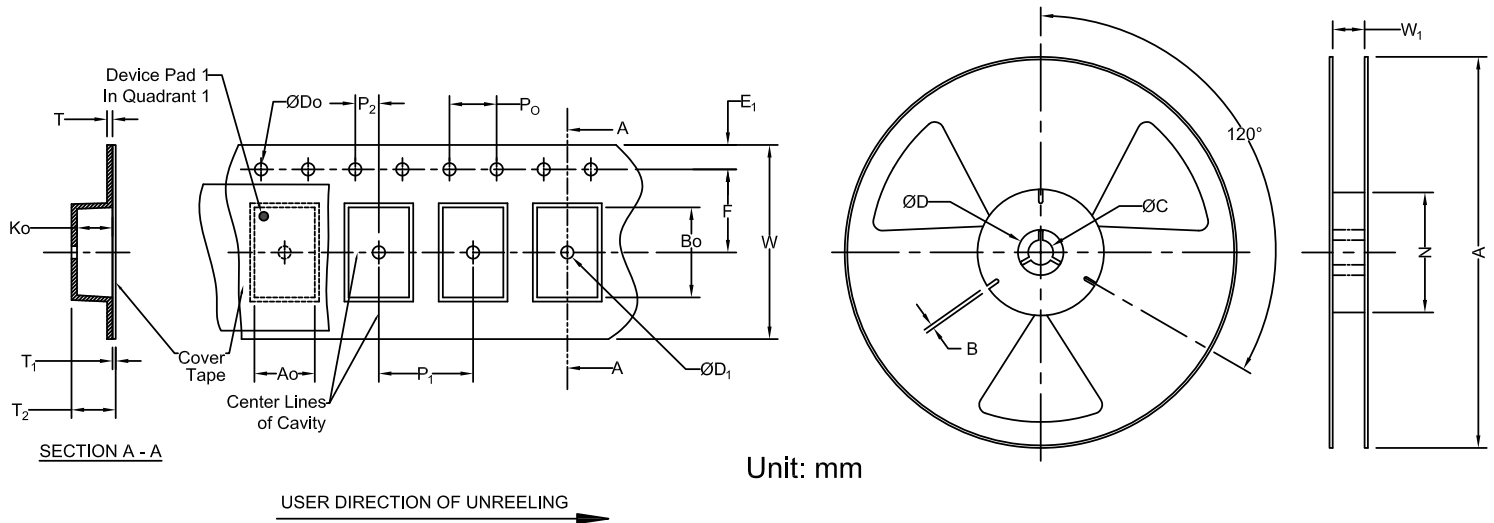
Check Inventory



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

Packaging

Tape & Reel Dimension



Carrier Tape Specifications (mm)

Do	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	2.5

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