

ECN/PCN No.: R0393

For Manufacturer

Product Description: SMD 2442 MHZ SAW FILTER	Abrakon Part Number / Part Series: AFS2442.0S4	☐ Documentation only ☒ ECN ☐ EOL	☐ Series ☒ Part Number
Affected Revision: B	New Revision: C	Application:	☐ Safety ☒ Non-Safety

Prior to Change:

After Change:

Update the Ordering table

Cause/Reason for Change:

Update the Ordering table and add -T(AFS2442.0S4-T) for Tape & Reel

Change Plan

Effective Date: 08/04/2025	Additional Remarks:
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Change Declaration:

Issued Date: 08/04/2025	Issued By: Urmila Madhipatla	Issued Department: Engineering
Approval: Saravanan Subramanian Engineering Manager	Approval: Reuben Quintanilla Quality Director	Approval: Ying Huang Purchasing Director

For Abracon EOL only

Last Time Buy (if applicable):	Alternate Part Number / Part Series:
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Additional Approval:	Additional Approval:	Additional Approval:
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Customer Approval (If Applicable)

Qualification Status:

☐ Approved ☐ Not accepted

Note: It is considered approved if there is no feedback from the customer 1 month after ECN/PCN is released.

Customer Part Number:	Customer Project:
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Company Name:	Company Representative:	Representative Signature:
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Customer Remarks:

Brand	Affected PN	Discontinued/EOL PN	Added PN	Series	ECO#	Datasheet Link	ECN Notification Link
Abracon	AFS2442.0S4				R0393	https://abracon.com/Filters/saw-filters/AFS2442.0S4.pdf	https://abracon.com/downloads/ECN-PCN/ECN-PCN-Notification-ECOR0393-AFS2442.0S4.pdf

SMD 2442 MHZ SAW FILTER



AFS2442.0S4

Request Samples



Check Inventory



3.0 x 3.0 x 1.4mm
RoHS Compliant
MSL Level = 1

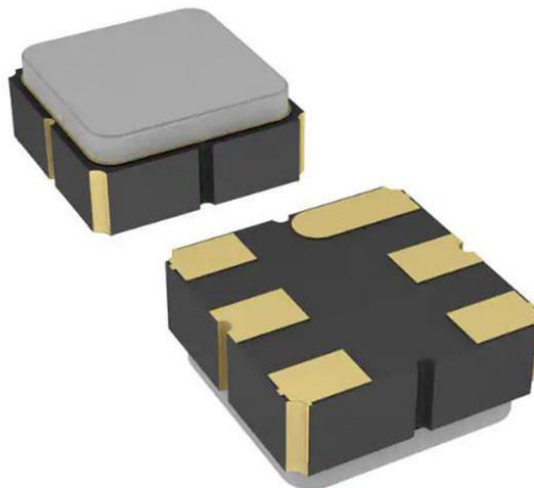
Features

- 3.0 x 3.0 x 1.4 mm in Size
- Low Insertion Loss: 2.0 dB
- Out-of-Band Rejection: > 31 dB
- 50 Ohms Single-Ended Input & Output
- Maximum Input Power: +10 dBm

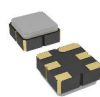
Applications

- Wi-Fi/WLAN Coverage
 - Wi-Fi 4/5 (802.11b/g/n/ac)
- Bluetooth® / ZigBee® / Thread/ Matter
- Router and Networking
- Home Automation and Remote Sensing

Product Image



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MSL Level = 1

Electrical Specification

Parameters	Minimum	Typical	Maximum	Units	Notes
Center Frequency (fc)	2437	2442	2447	MHz	
Bandwidth	55	78	-	MHz	
Insertion Loss	-	2.0	2.7	dB	2437~2447 MHz
Amplitude Ripple	-	0.6	0.7	dB	2437~2447 MHz
Group Delay	-	9.6	11.4	ns	
Attenuation (Refer to min. insertion loss)	37	41	-	dB	698~894 MHz
	20	31	-	dB	DC ~ 2300 MHz
	40	44	-		2300 ~ 2367 MHz
	25	31	-		2517 ~ 2650 MHz
VSWR	-	1.2	1.3	-	2437~2447 MHz
DC Voltage	-	-	0	V	
Input Power Level	-	-	10	dBm	
Terminating Source Impedance	-	50	-	Ω	
Terminating Load Impedance	-	50	-	Ω	

Mechanical Specification

Parameters	Specifications
Filter Dimension	3.0 x 3.0 x 1.4 mm
Mounting Type	Surface Mount

Environmental Specification

Parameters	Specifications
Operating Temperature Range	-20°C ~ +70°C
Storage Temperature Range	-40°C ~ +85°C
MSL level	1

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3.0 x 3.0 x 1.4mm

RoHS Compliant

MSL Level = 1

Ordering Information

Part Number	Description
AFS2442.0S4	SMD 2442 MHZ SAW FILTER on Cut Tape
AFS2442.0S4-T	SMD 2442 MHZ SAW FILTER on Tape & Reel

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



SMD 2442 MHZ SAW FILTER

AFS2442.0S4

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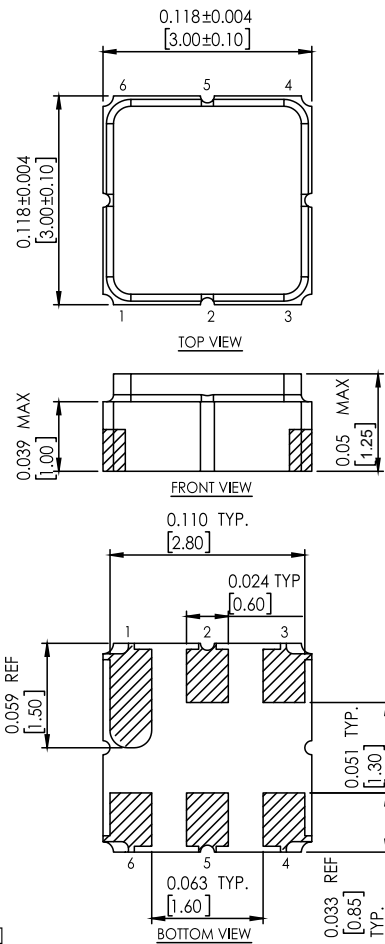


Check Inventory



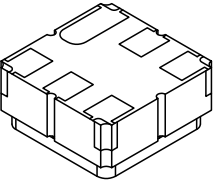
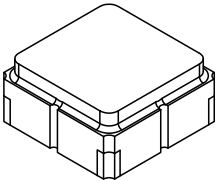
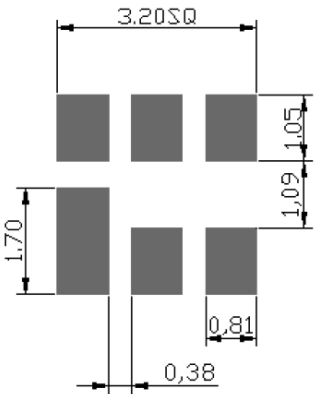
3.0 x 3.0 x 1.4mm
RoHS Compliant
MSL Level = 1

Product Dimensions



DIMENSIONS: INCHES[MM]

2 : INPUT
5 : OUTPUT
1,3,4,6 : GROUND



Unit : inches[mm]

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

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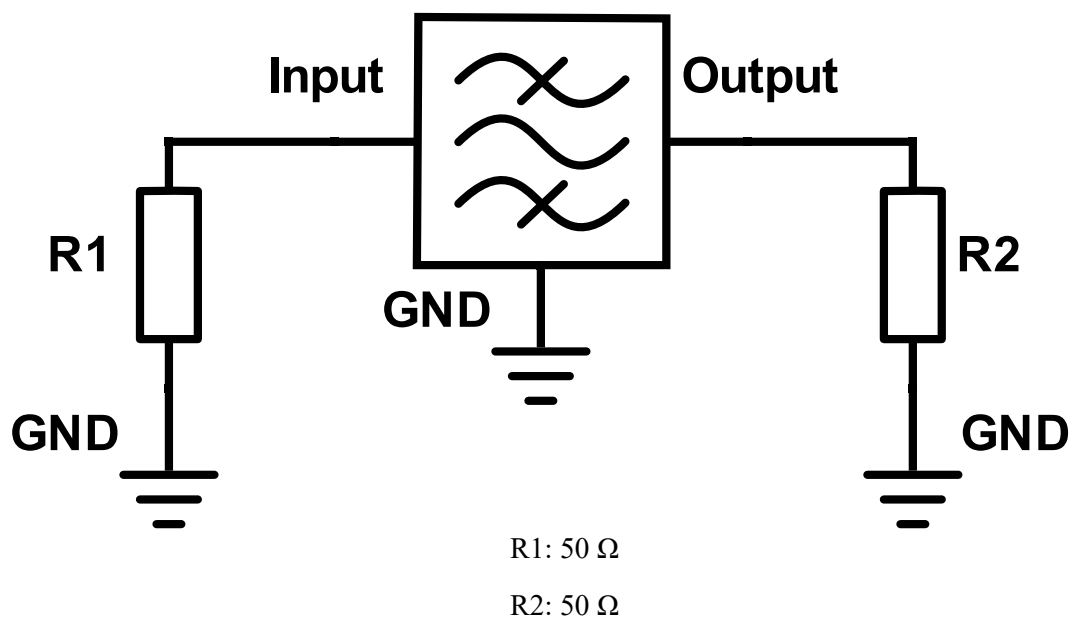


3.0 x 3.0 x 1.4mm

RoHS Compliant

MSL Level = 1

Measurement Circuit



SMD 2442 MHZ SAW FILTER



AFS2442.0S4

Request Samples



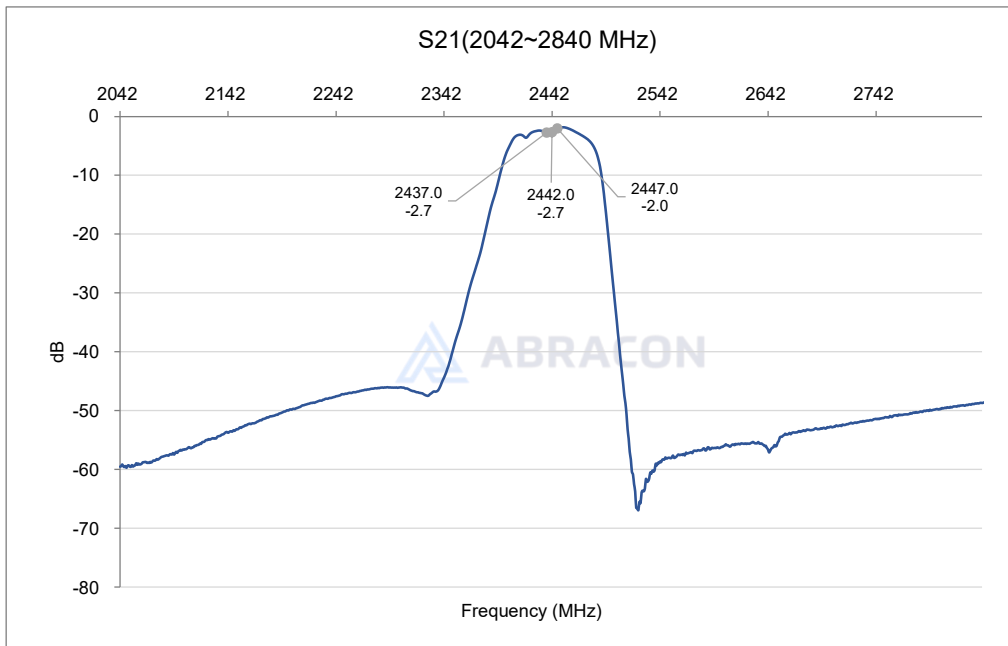
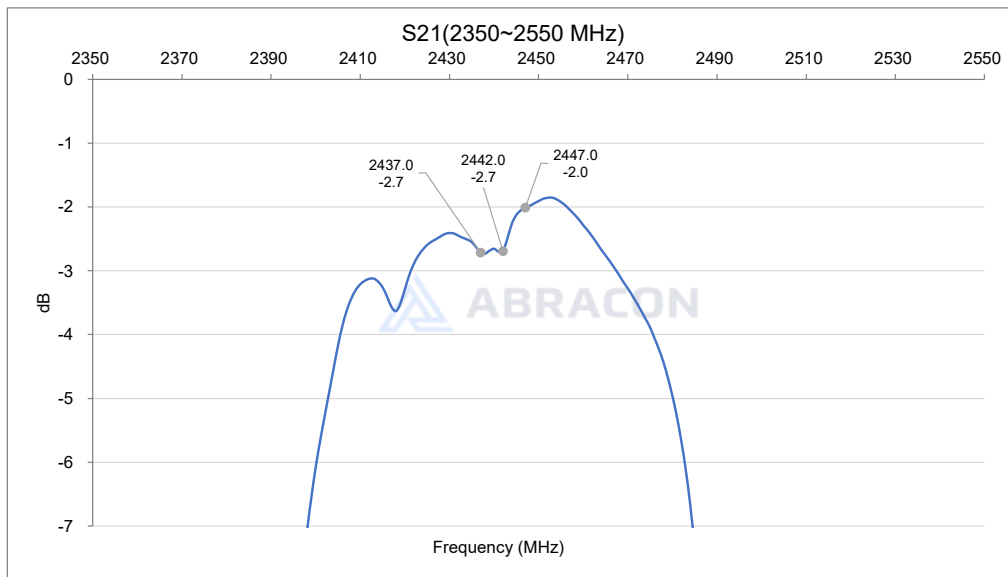
Check Inventory



3.0 x 3.0 x 1.4mm
RoHS Compliant
MSL Level = 1

Frequency Characteristics

S21 narrow band



SMD 2442 MHZ SAW FILTER



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Request Samples

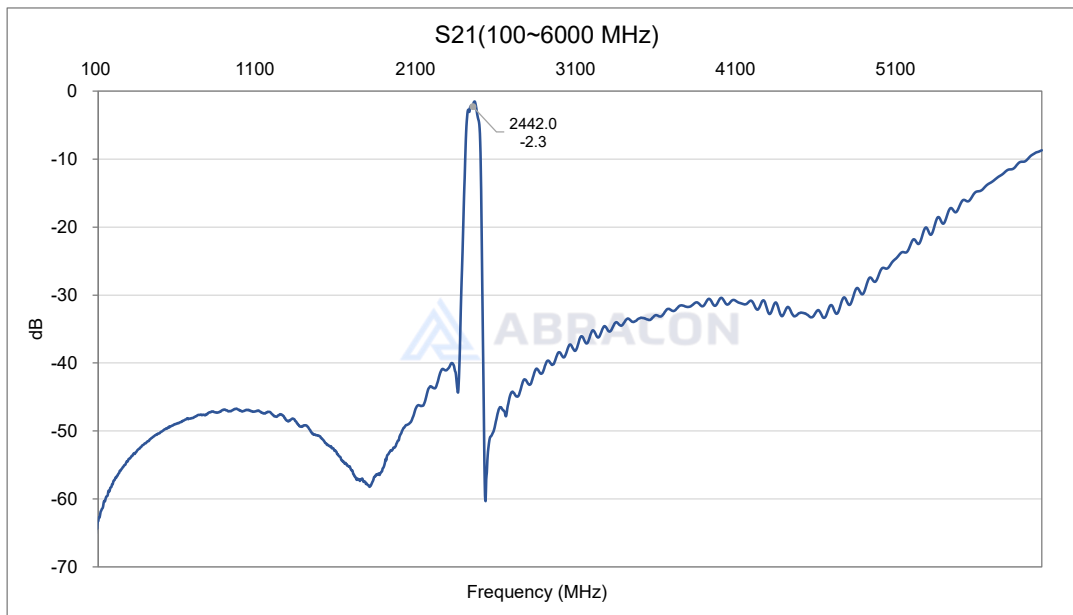


Check Inventory

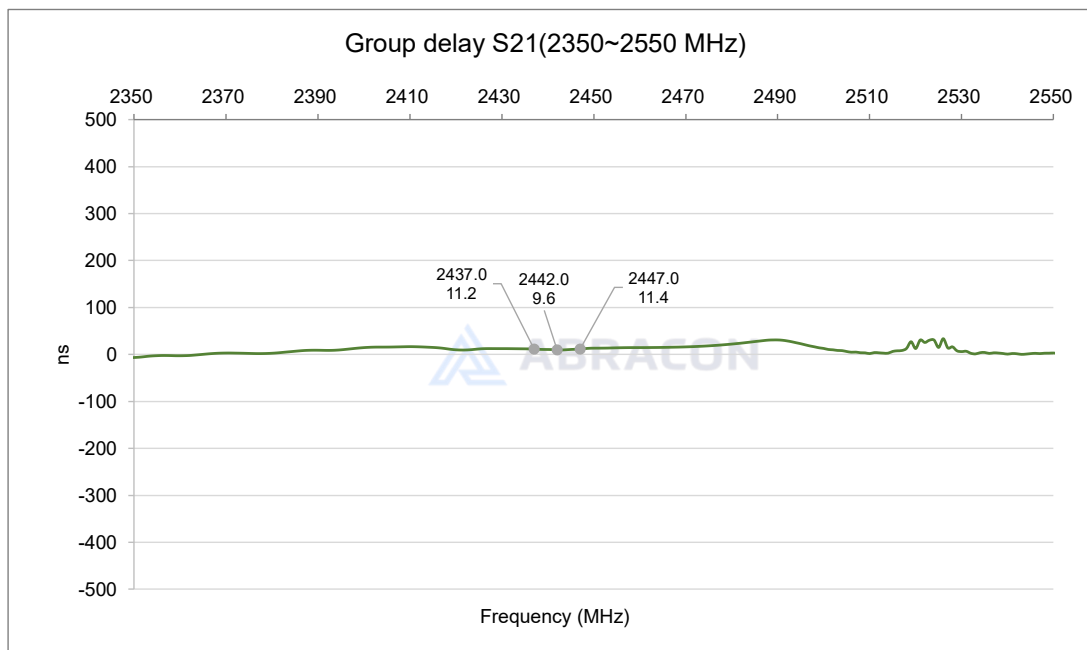


3.0 x 3.0 x 1.4mm
RoHS Compliant
MSL Level = 1

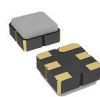
S21 Wide Band



Group Delay Ripple



SMD 2442 MHZ SAW FILTER



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Request Samples

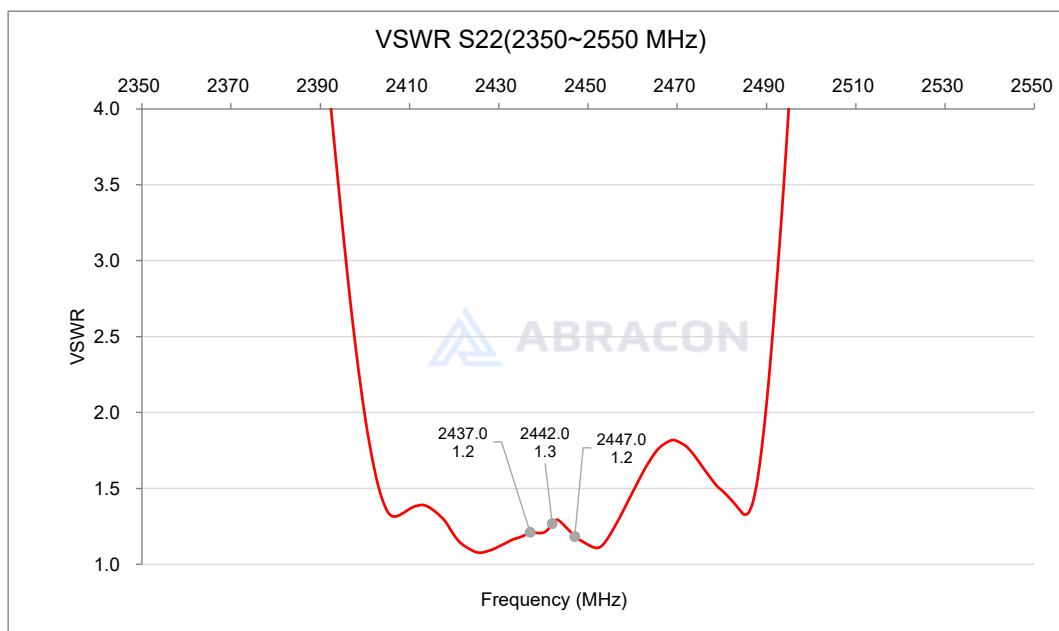
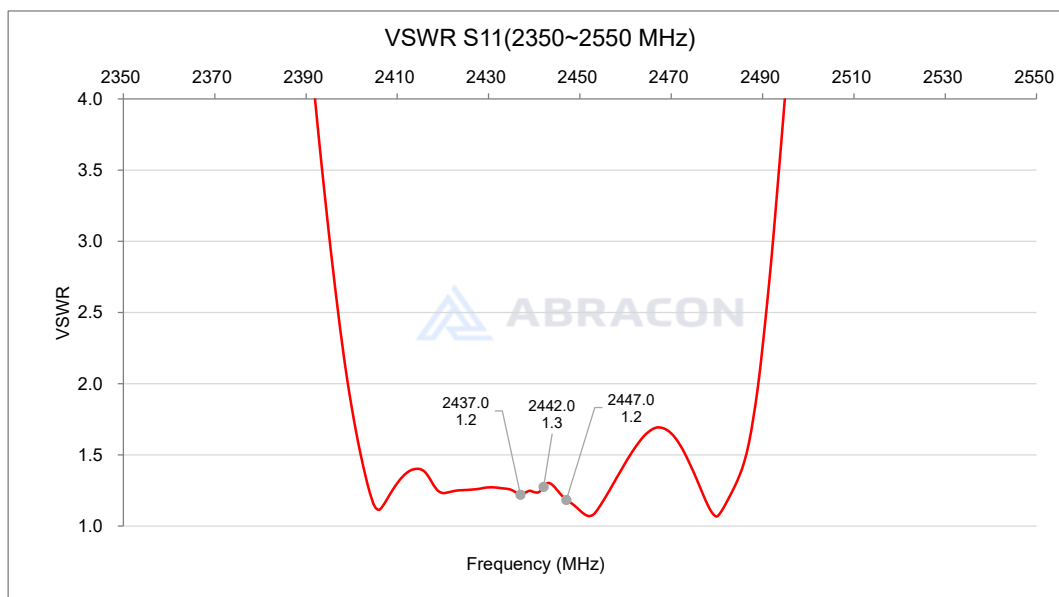


Check Inventory



3.0 x 3.0 x 1.4mm
RoHS Compliant
MSL Level = 1

VSWR (S11 & S22)



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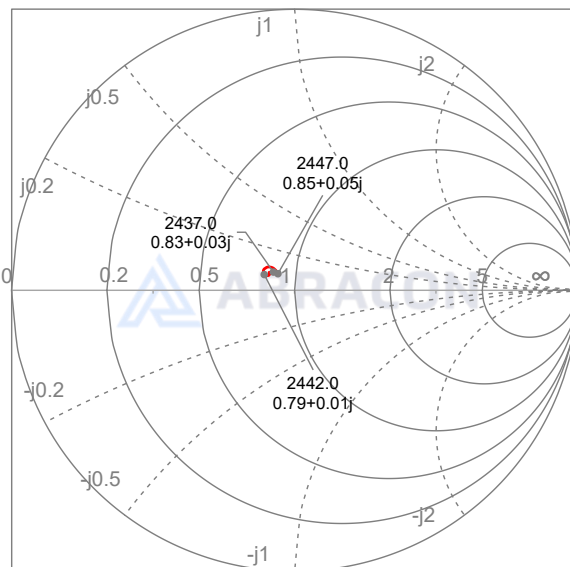
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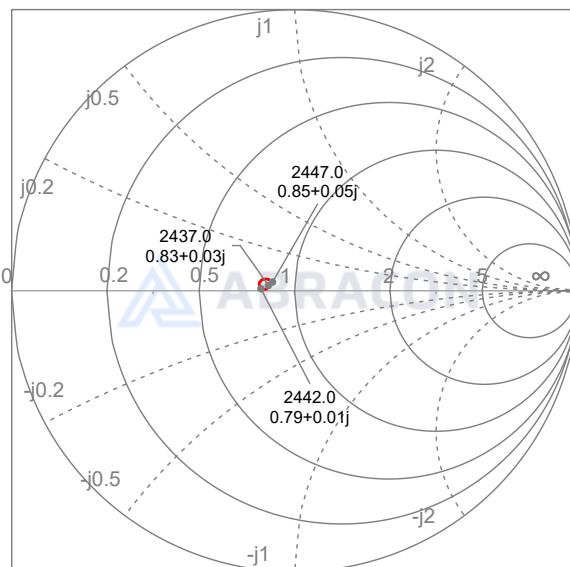
3.0 x 3.0 x 1.4mm
RoHS Compliant
MSL Level = 1

Smith Chart (S11 & S22)

Smith chart S11 (2437~2447 MHz)



Smith chart S22 (2437~2447 MHz)



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3.0 x 3.0 x 1.4mm
RoHS Compliant
MSL Level = 1

Reflow Profile [JEDEC J-STD-020]

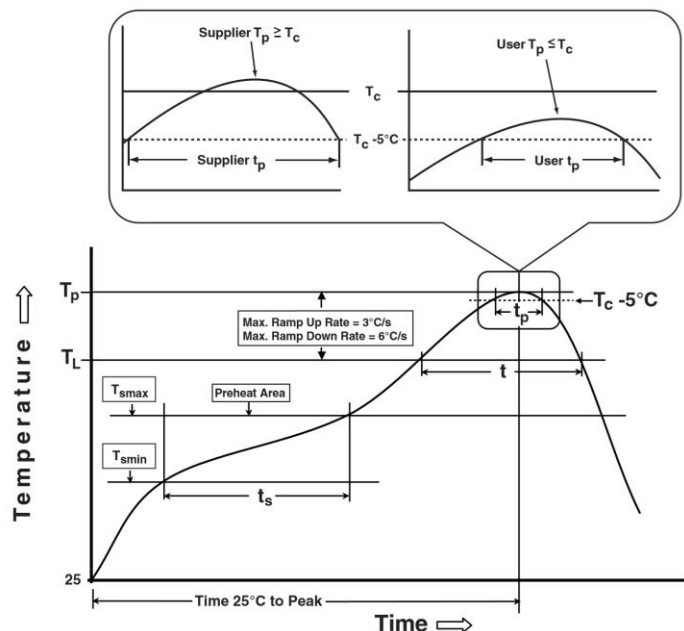


Table 1

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 _{smmin})	100°C	150°C
Temperature maximum (T _{smmax})	150°C	180°C
Time (T _{smmin} to T _{smmax}) (t _s)	60 – 120 sec.	60 – 90 sec.
Average ramp-up rate (T _{smmax} 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 _{smmax})	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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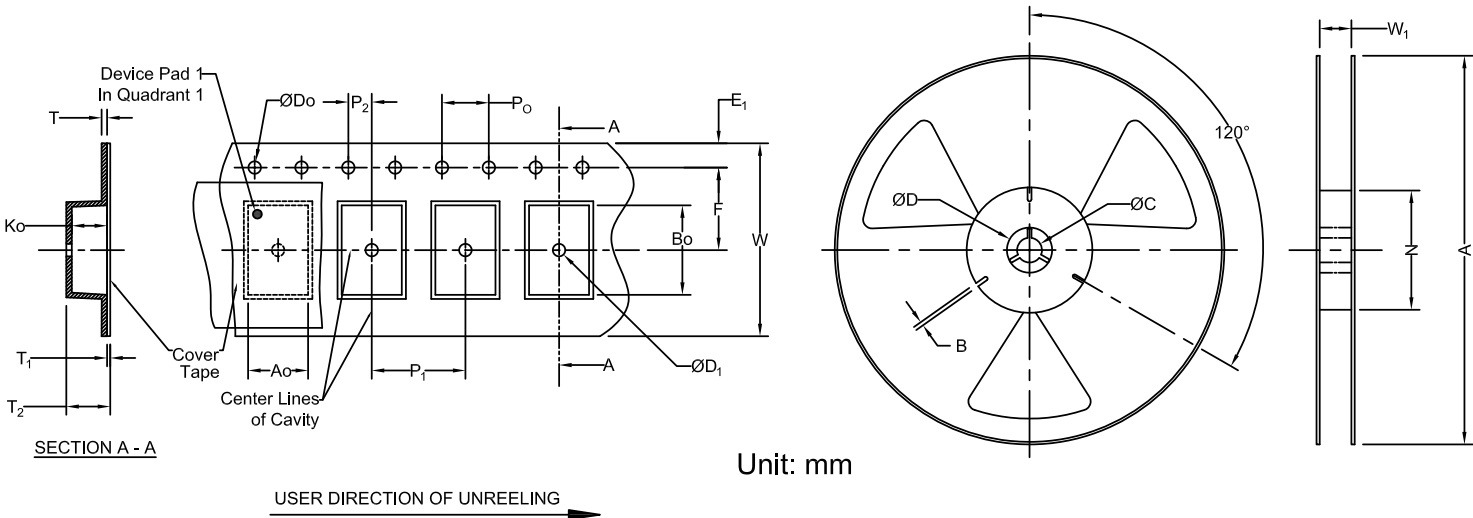
Check Inventory



3.0 x 3.0 x 1.4mm
RoHS Compliant
MSL Level = 1

Packaging

Tape & Reel Dimension



Carrier Tape Specifications (mm)

E1	P0	F	P1	P2	W	A0	B0	K0	Reel Qty
1.75 ± 0.1	4.0 ± 0.05	5.5 ± 0.05	8.0 ± 0.05	2.0 ± 0.05	12.0 ± 0.3	3.35 ± 0.1	3.35 ± 0.1	1.4 ± 0.1	13" = 3,000

Reel Specifications (mm)

A	W1	N	B	C	D
330 ± 1.0	12.0 ± 1.0	100 ± 1.0	2.0 ± 0.5	13 ± 0.5	20.2 min

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.



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For terms and conditions of sales, please visit:
www.abracon.com

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