

SMD 2436 MHz SAW Filter



AFS14A72-2436.00

Request Samples



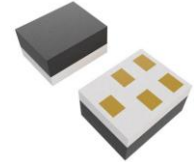
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1.4 x 1.1 x 0.7 mm
RoHS Compliant
MSL Level = 3

Description

Designed for cost-sensitive IoT and consumer electronics, this compact 1.4 x 1.1 x 0.7 mm filter provides essential RF conditioning for Wi-Fi 4/5, Bluetooth®, Zigbee®, Thread, and Matter protocols. Its 72 MHz bandwidth and >20 dB out-of-band rejection effectively mitigate interference, while a 2 dB insertion loss balances performance and value. Supporting up to +21 dBm input power and rated MSL Level 3 for reliable assembly, this RoHS-compliant solution is ideally suited for compact routers, home automation devices, and various networking and remote sensing applications.



Features

- Bandwidth: 72 MHz
- Small 1.4 x 1.1 x 0.7 mm in Size
- Low Insertion Loss: 2 dB
- Out-of-Band Rejection: > 20 dB
- Maximum Input Power: +21 dBm
- [RoHS Compliant | MSL Level 3](#)

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

Ordering Information

Part Number	Description
AFS14A72-2436.00	SMD 2436 MHz SAW Filter on Cut Tape
AFS14A72-2436.00-T3	SMD 2436 MHz SAW Filter on Tape & Reel
AFS14A72-2436.00-EVB	SMD 2436 MHz SAW Filter Evaluation Board

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



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Electrical Specification

Parameters	Minimum	Typical	Maximum	Units	Notes
Center Frequency (fc)	2400	2436	2472	MHz	
Bandwidth	-	72	-	MHz	
VSWR ⁽¹⁾	-	2.1	2.5	-	2400~2472MHz
Insertion Loss ⁽¹⁾	-	2.0	2.7	dB	2400~2472MHz
Insertion Loss	-	3.5	4.4	dB	2400~2472MHz
Amplitude Ripple ⁽¹⁾	-	1.5	2.1	dB	2400~2472MHz
Amplitude Ripple	-	2	3.3	dB	2400~2472MHz
Group Delay ⁽¹⁾	-	11.4	18.4	ns	2400~2472MHz
Group Delay Ripple ⁽¹⁾	-	1.5	6.1	ns	2400~2472MHz
Attenuation (Refer to min. insertion loss) ⁽¹⁾	25	35	-	dB	DC~960 MHz
	25	33	-		960~1580 MHz
	25	34	-		1710~1990 MHz
	28	37	-		2110~2170 MHz
	30	40	-		2496~2690 MHz @ 25°C
	10	20	-		2496~2690MHz over the operating temperature
	25	44	-		2690~4800MHz
	20	36	-		4800~5000MHz
	15	31	-		5000~6000MHz
DC Voltage	-	3	-	V	
Input Power Level	-	-	21	dBm	
Terminating Source Impedance ⁽²⁾	-	50	-	Ω	
Terminating Load Impedance ⁽²⁾	-	50	-	Ω	
Temperature Coefficient of Frequency		-36		ppm/°C	

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

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

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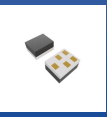
Mechanical Specification

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

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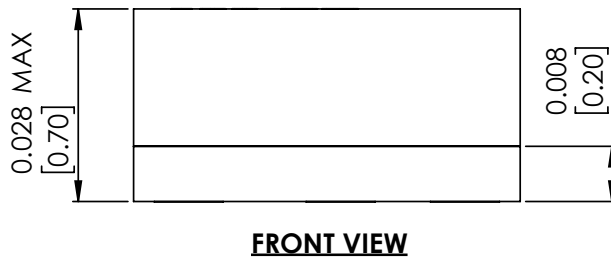
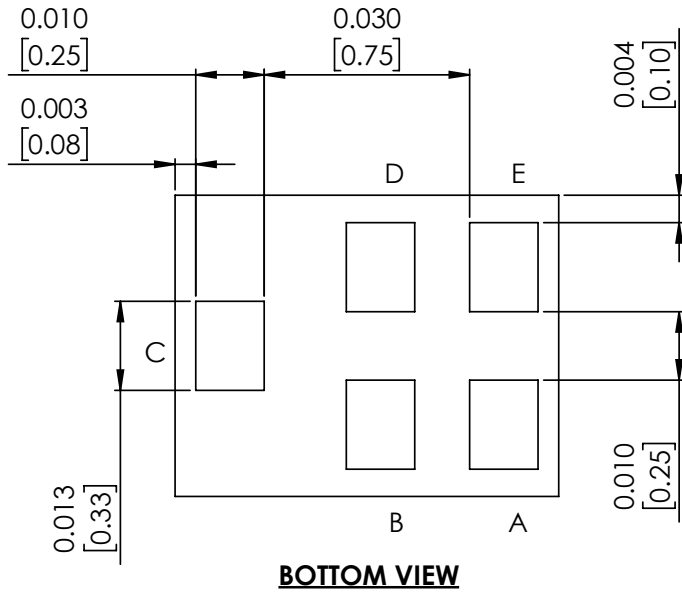
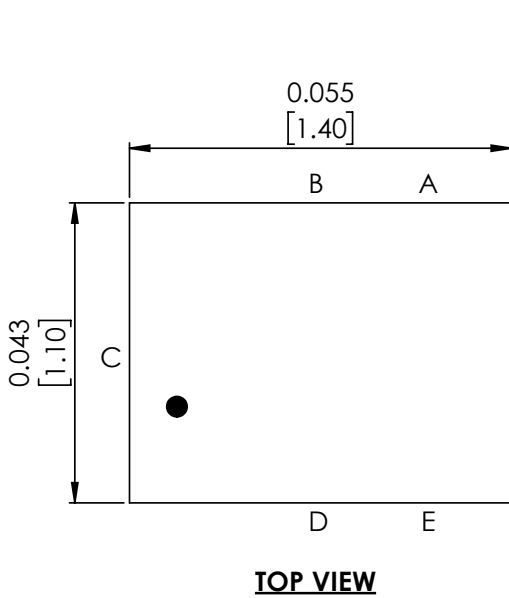


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Product Dimensions



Unit: inches [mm]

Pin No.	Description
C	Input
A	Output
B, D, E	Ground

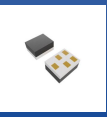


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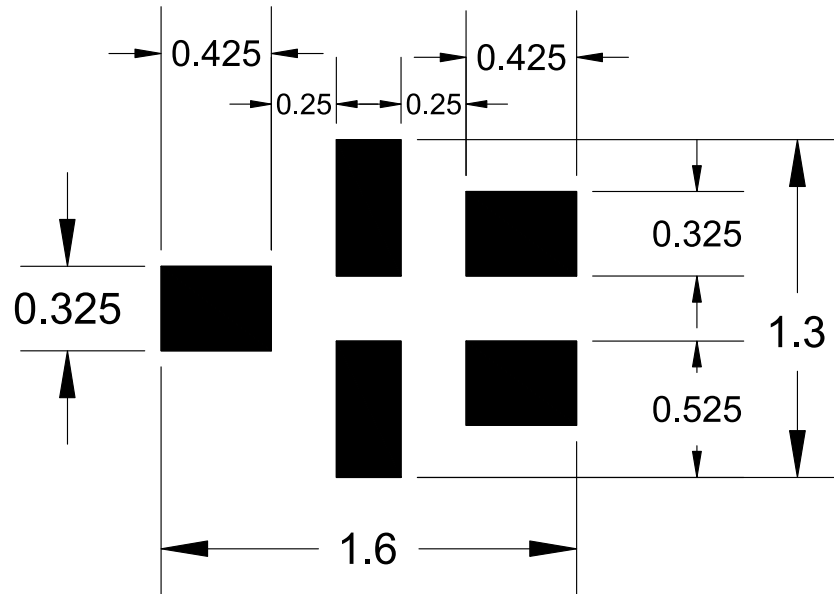
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Recommended Land Pattern



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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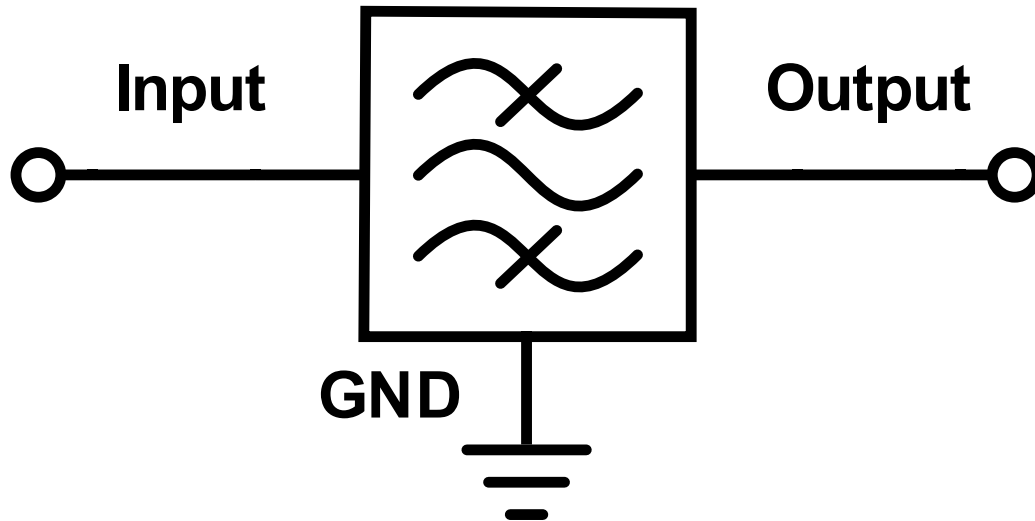


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Measurement Circuit



Pin No.	Description
C	Input Impedance: 50 Ω
A	Output Impedance: 50 Ω
B, D, E	Ground

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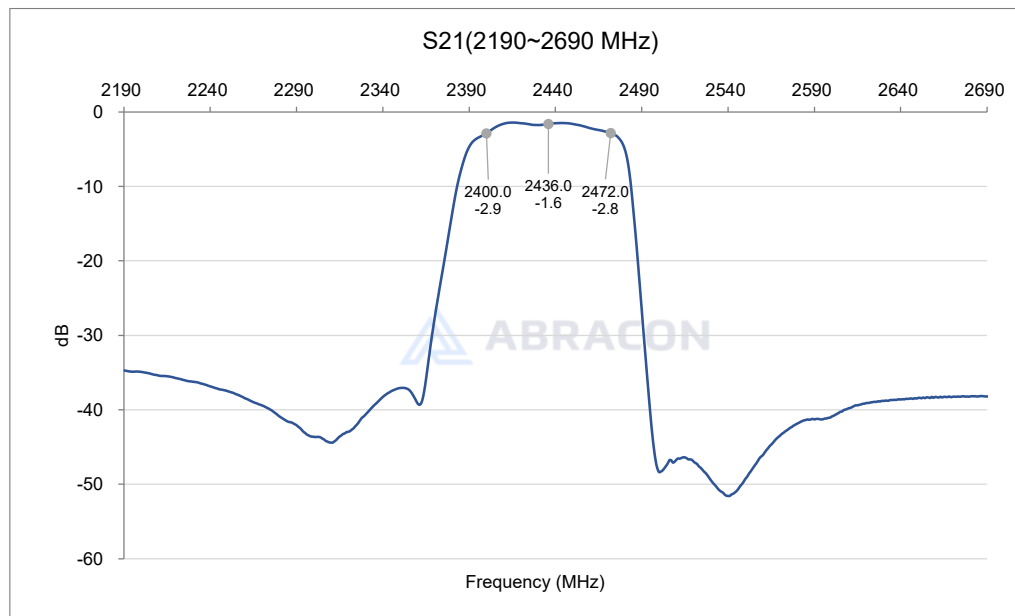
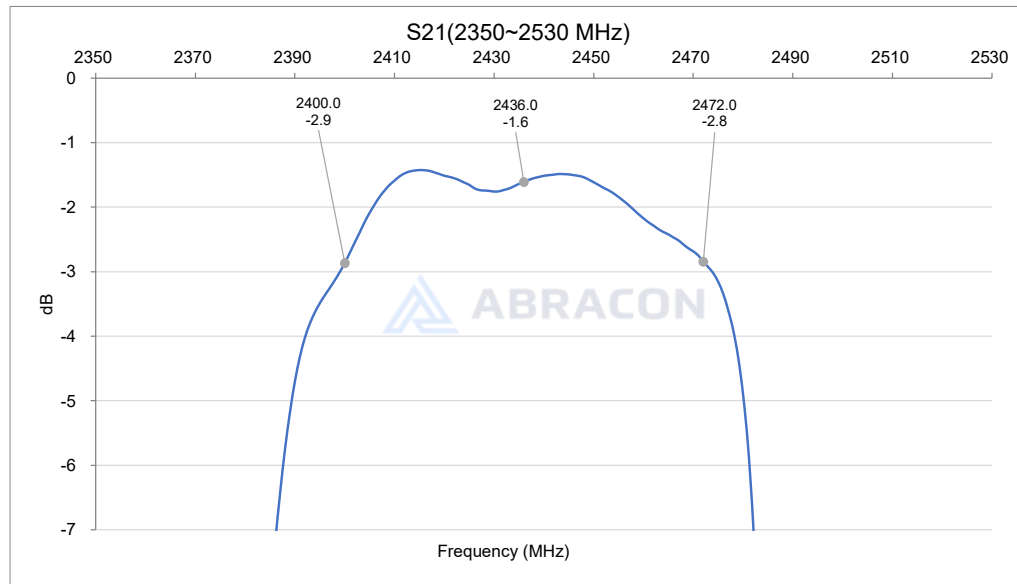
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Frequency Characteristics

S21 Narrow Band



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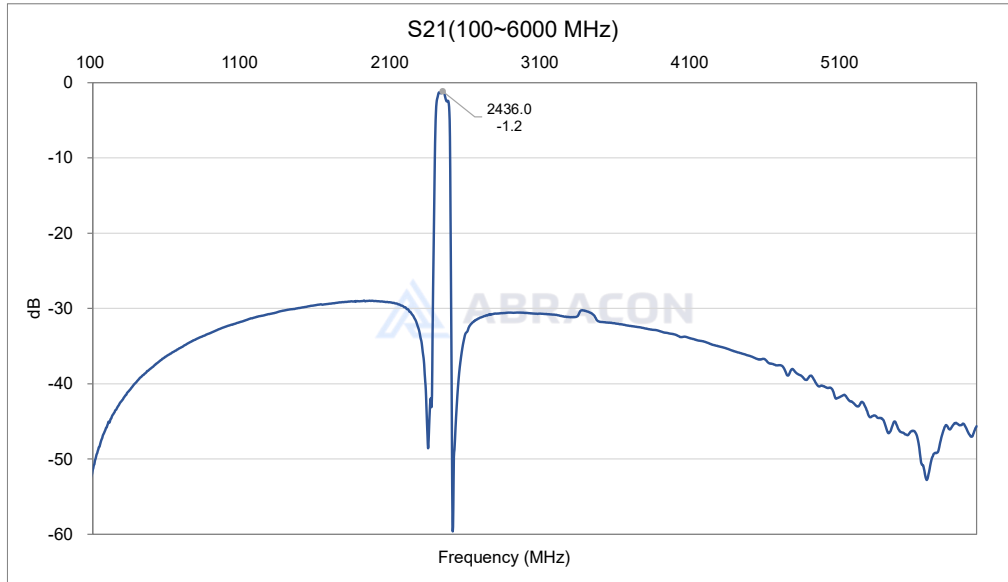


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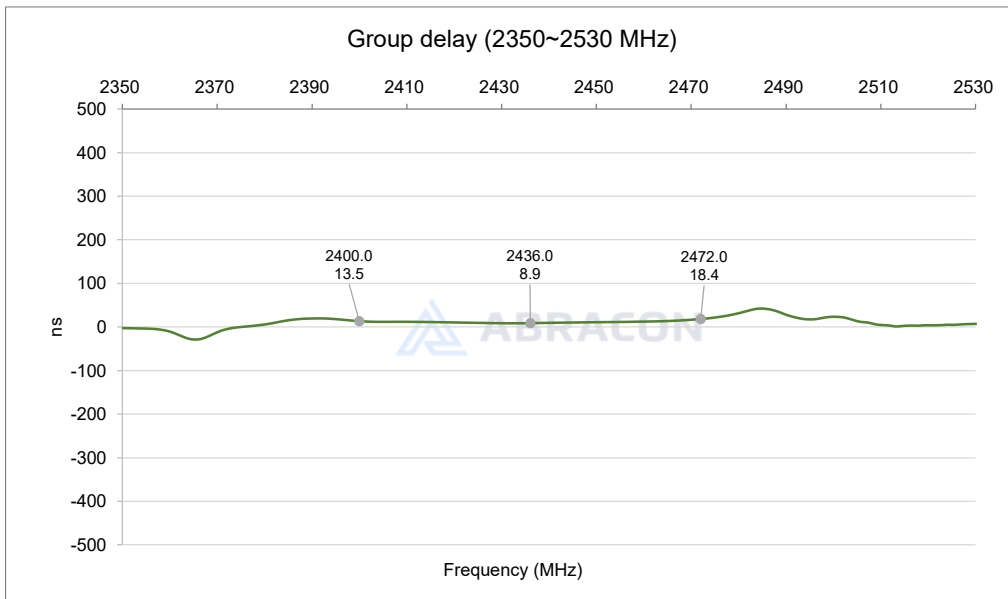


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S21 Wide Band



Group Delay



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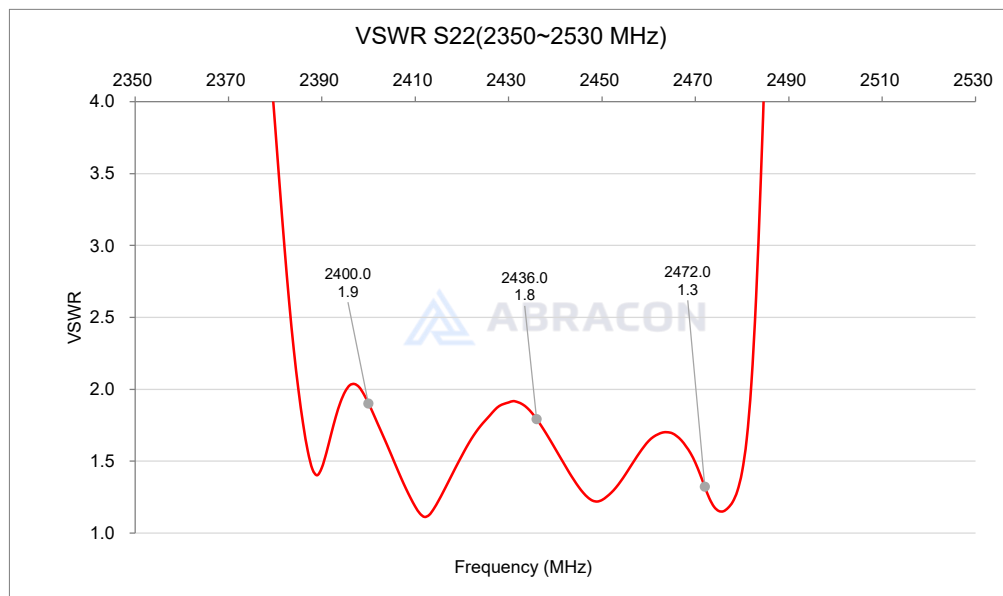
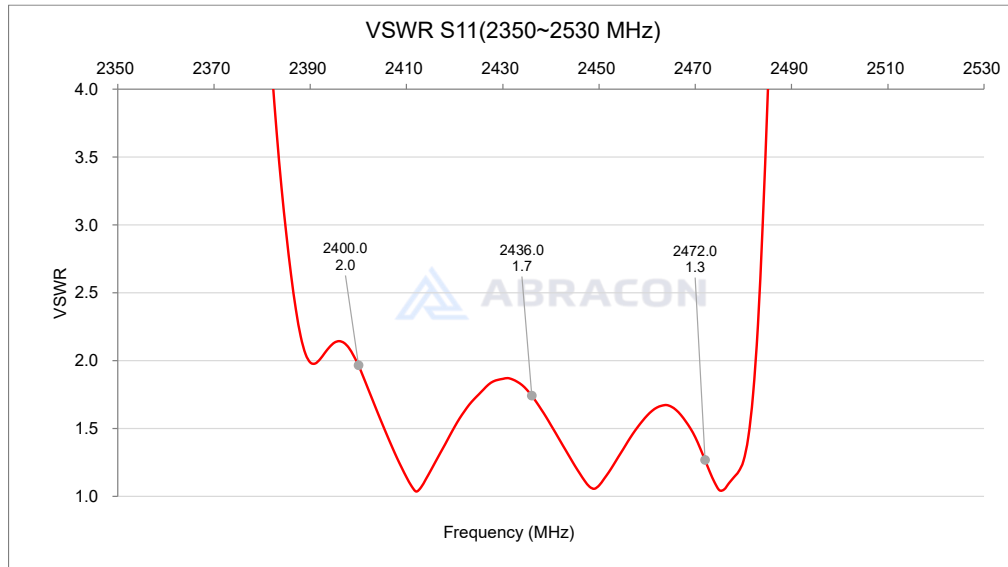


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VSWR (S11 & S22)



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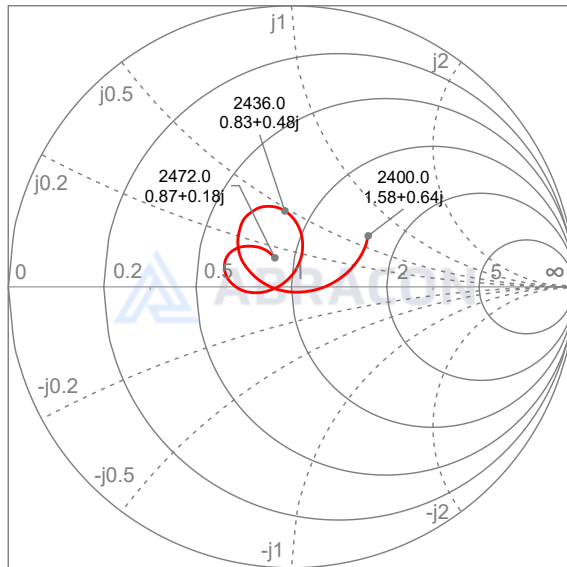
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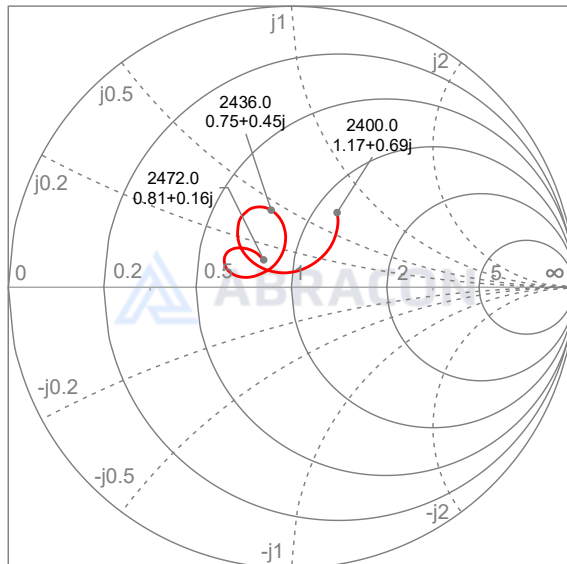
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Smith Chart (S11 & S22)

Smith chart S11 (2400~2472 MHz)



Smith chart S22 (2400~2472 MHz)



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Reflow Profile [JEDEC J-STD-020]

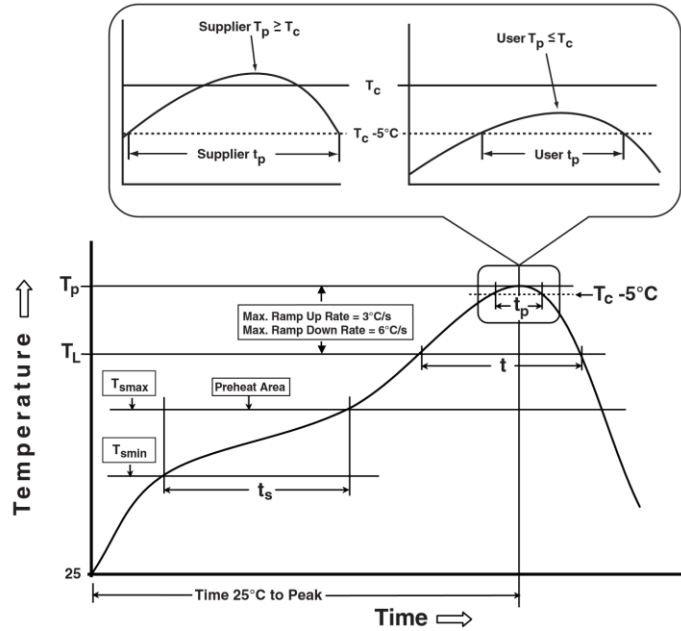


Table 1

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.

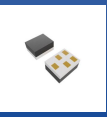


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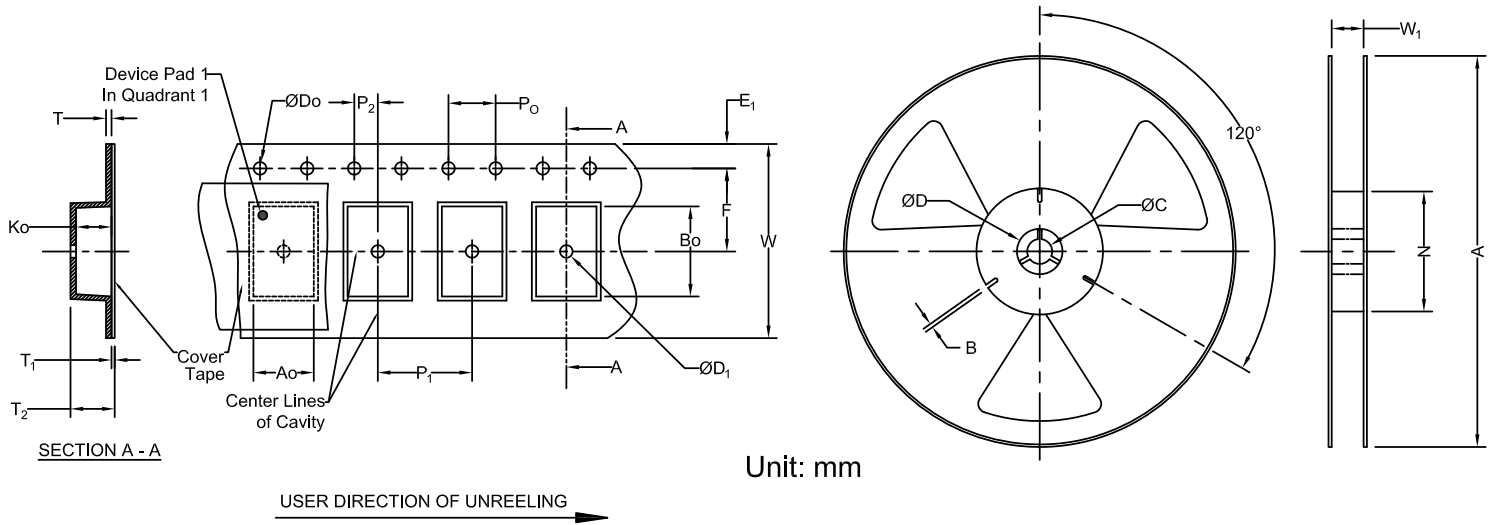


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RoHS Compliant
MSL Level = 3

Packaging

Tape & Reel

1. Tape & Reel Dimension



Carrier Tape Specifications (mm)

Do	D ₁	E ₁	P ₀	P ₂	T	F	P ₁	W	A ₀	B ₀	K ₀	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	W ₁	N	C	B
178.0 ± 1.0	8.4	72.0 ± 1.0	13.0 ± 0.2	2.0

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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