

915 MHz SMD SAW Filter



AFII-SW-0029

Request Samples



Check Inventory



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

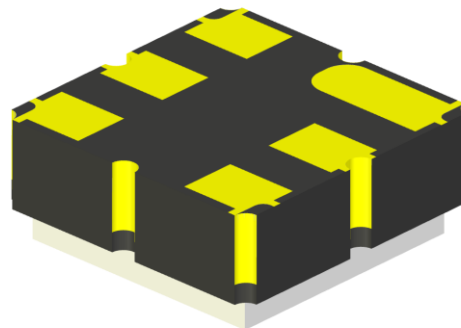
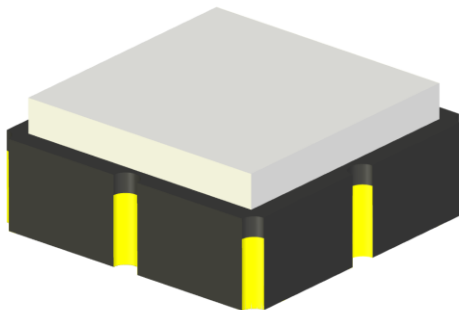
Features

- 3.0 x 3.0 x 1.25 mm in Size
- Low Insertion Loss: 2.4 dB
- Out-of-Band Rejection: > 35 dB
- 50 Ohms Single-Ended Input & Output
- Maximum Input Power: +20dBm
- Industrial Grade -40°C ~ +85°C

Applications

- Automotive Telematics & Asset Tracking
- Sub-GHz LoRa/Sigfox/Wi-Fi HaLow
- Internet of Things (IoT)
- Smart Metering
- Smart Lighting
- RF Modules

Product Image



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Electrical Specification

Parameters	Minimum	Typical	Maximum	Units	Notes
Center Frequency (fc)	-	915	-	MHz	
VSWR	-	2.0	2.4	-	902~928MHz
Insertion Loss ⁽¹⁾	-	2.4	2.7	dB	902~928MHz
Amplitude Ripple ⁽¹⁾	-	0.8	1.0	dB _{p-p}	902~928MHz
Group Delay ⁽¹⁾		35.6	49.5	ns	902~928MHz
Group Delay Ripple ⁽¹⁾	-	0.33	1.19	ns	902~928MHz
Attenuation ⁽²⁾ (Reference level from 0 dB)	50	53	-	dB	D.C. ~ 800 MHz
	45	50	-		800 ~ 845 MHz
	40	45			845 ~ 880 MHz
	15	50			947 ~ 1500 MHz
	30	35			1500 ~ 2000 MHz
Source Impedance ⁽³⁾ (single ended)	-	50	-	Ω	
Load Impedance ⁽³⁾ (single ended)	-	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



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 Phone: 512-371-6159 | Fax: 512-351-8858
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Ordering Information

Part Number	Description
AFII-SW-0029	915 MHz SMD SAW Filter on Cut Tape
AFII-SW-0029-T	915 MHz SMD SAW Filter on Tape & Reel
AFII-SW-0029-EVB	915 MHz SMD SAW Filter Evaluation Board

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

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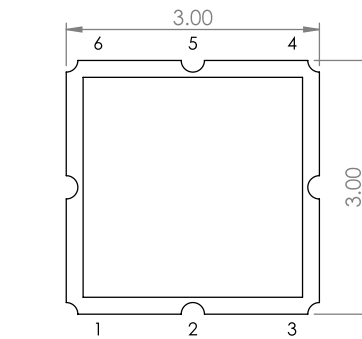


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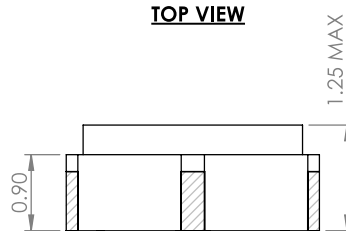


3.0 x 3.0 x 1.25 mm
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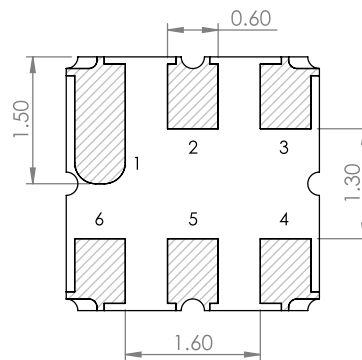
Product Dimensions



TOP VIEW



FRONT VIEW



BOTTOM VIEW

Unit : mm

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

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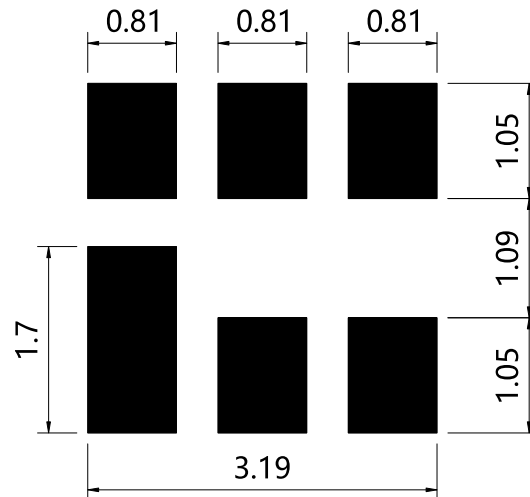


3.0 x 3.0 x 1.25 mm

RoHS Compliant

MSL Level = 3

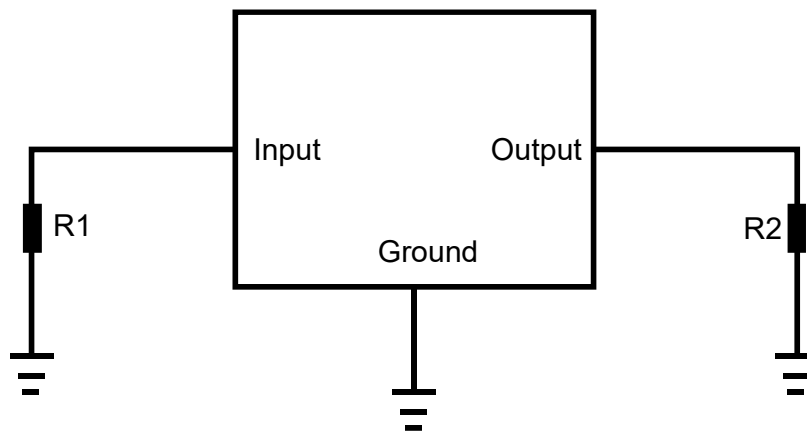
Recommended Land Pattern



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

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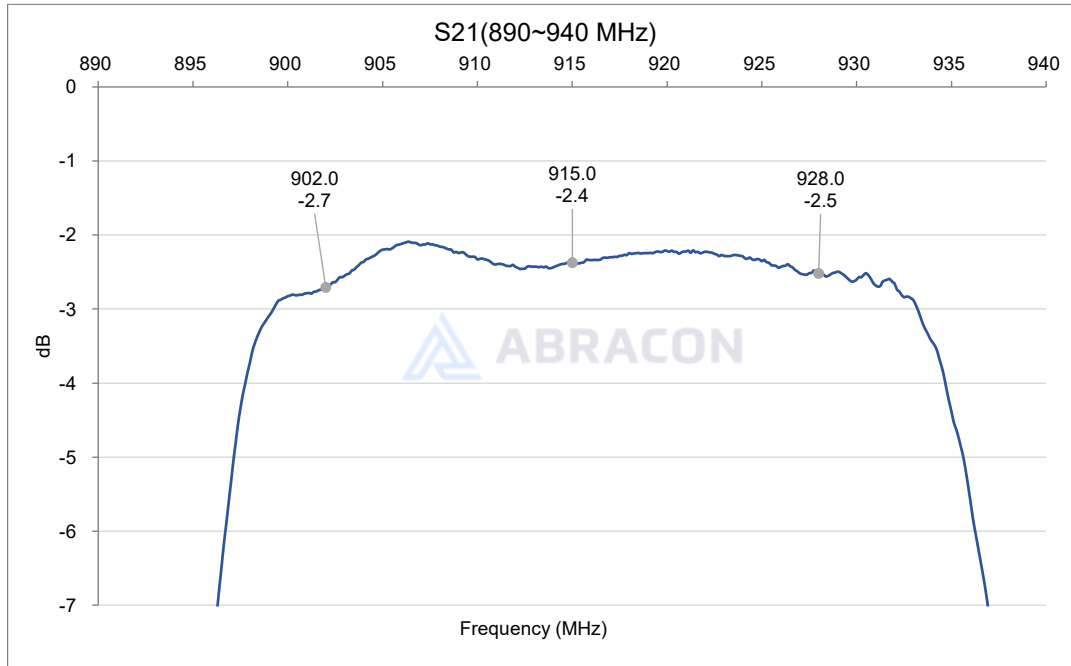
Check Inventory



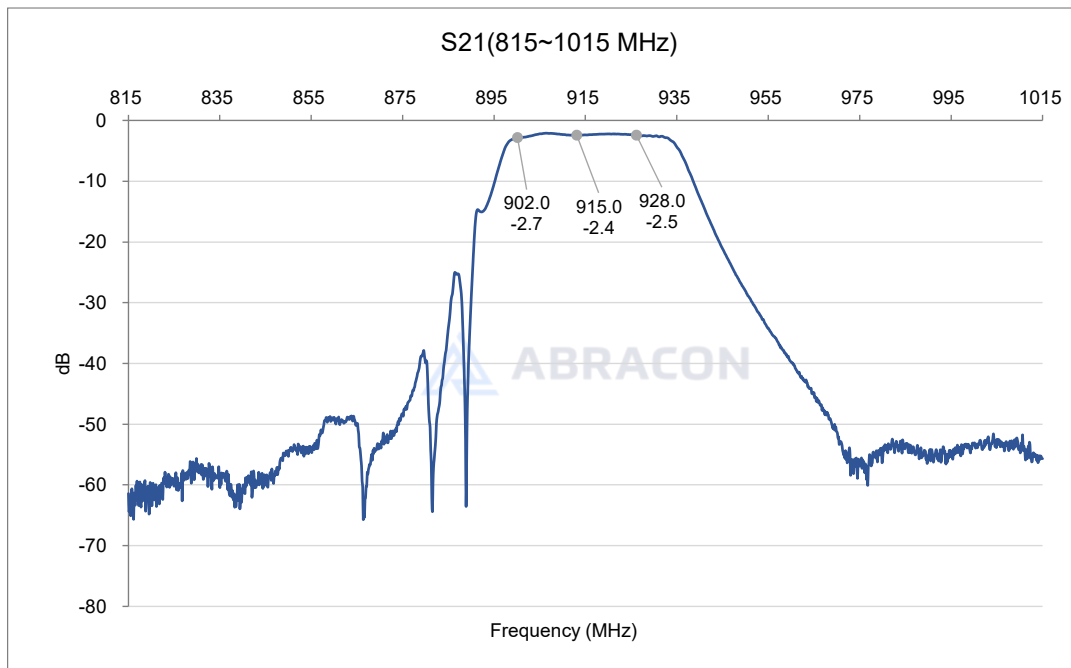
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Frequency Characteristics

S21 narrow band



S21 wide band



Group Delay Ripple
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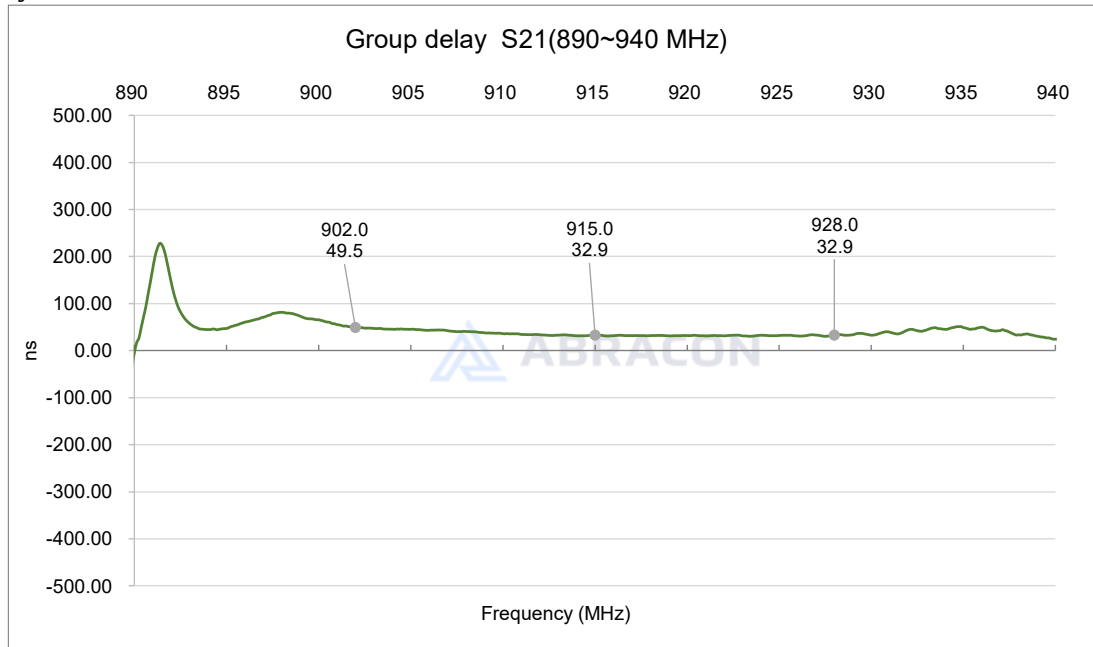


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Group Delay



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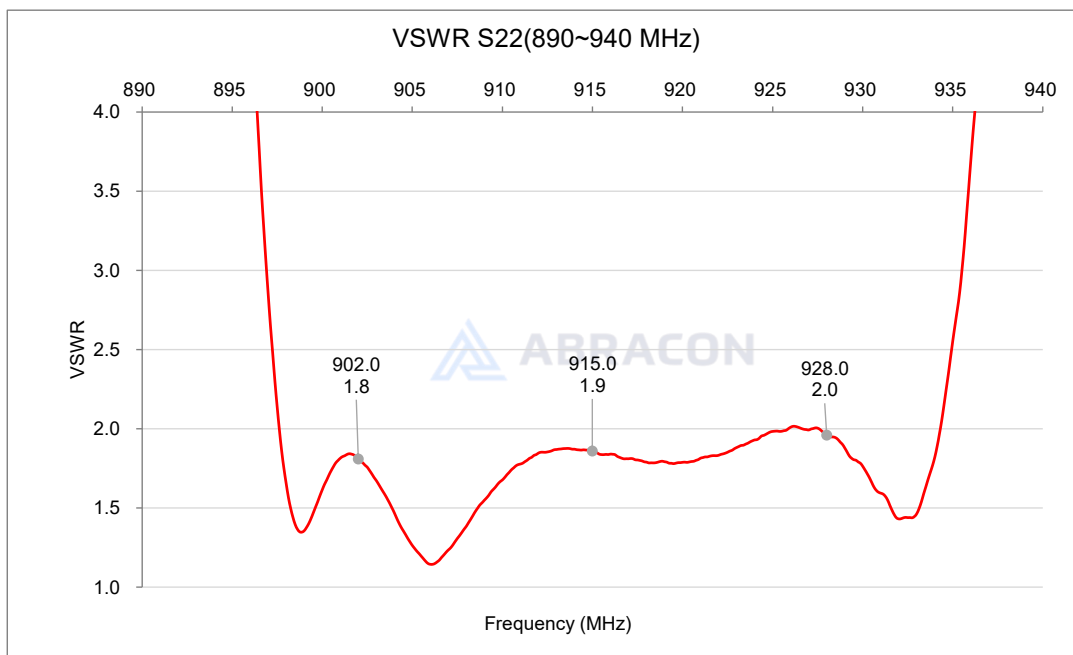
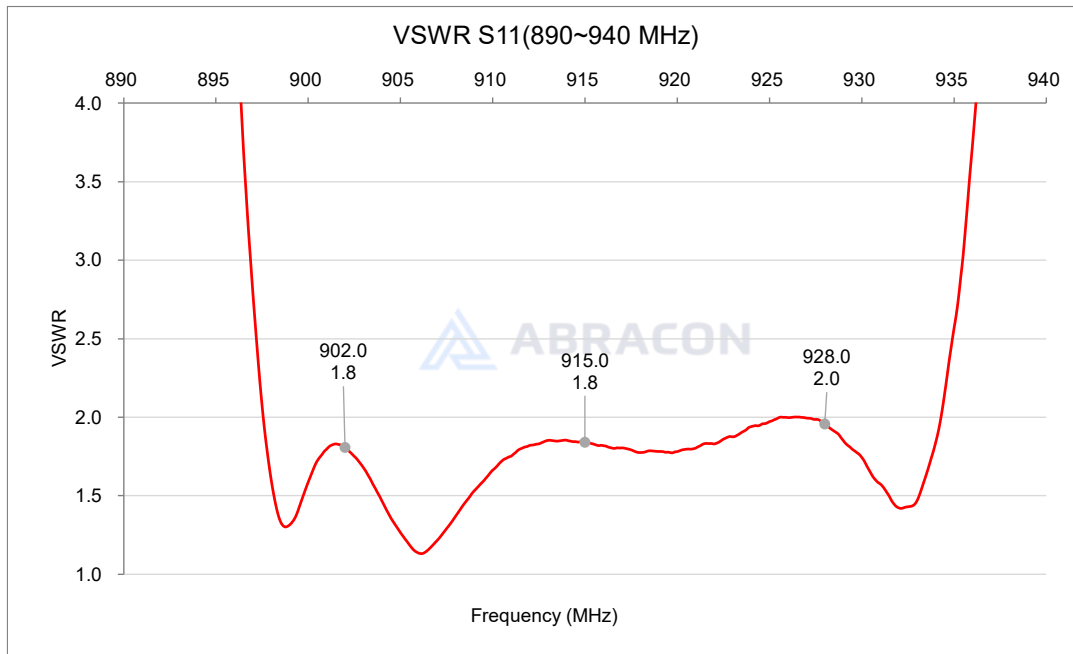


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VSWR (S11 & S22)



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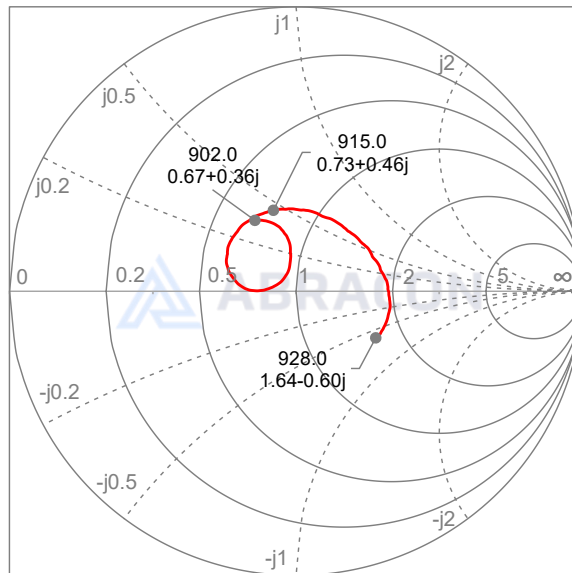
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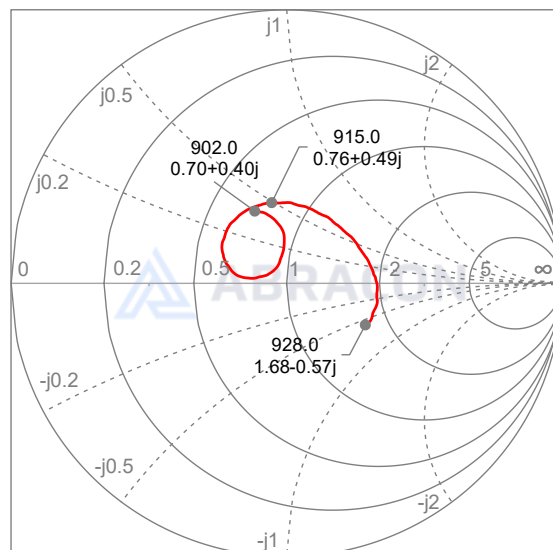
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Smith Chart (S11 & S22)

Smith chart S11 (902~928MHz)



Smith chart S22 (902~928MHz)



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Reflow Profile [JEDEC J-STD-020]

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

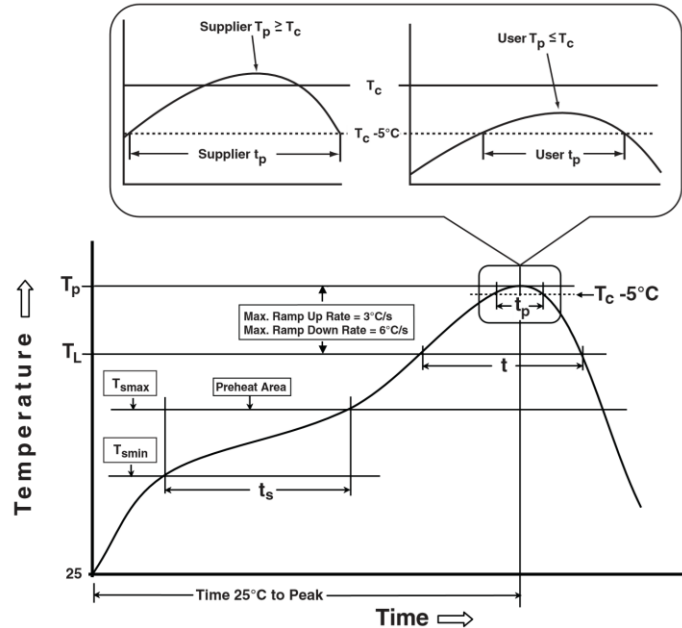


Table 1

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.

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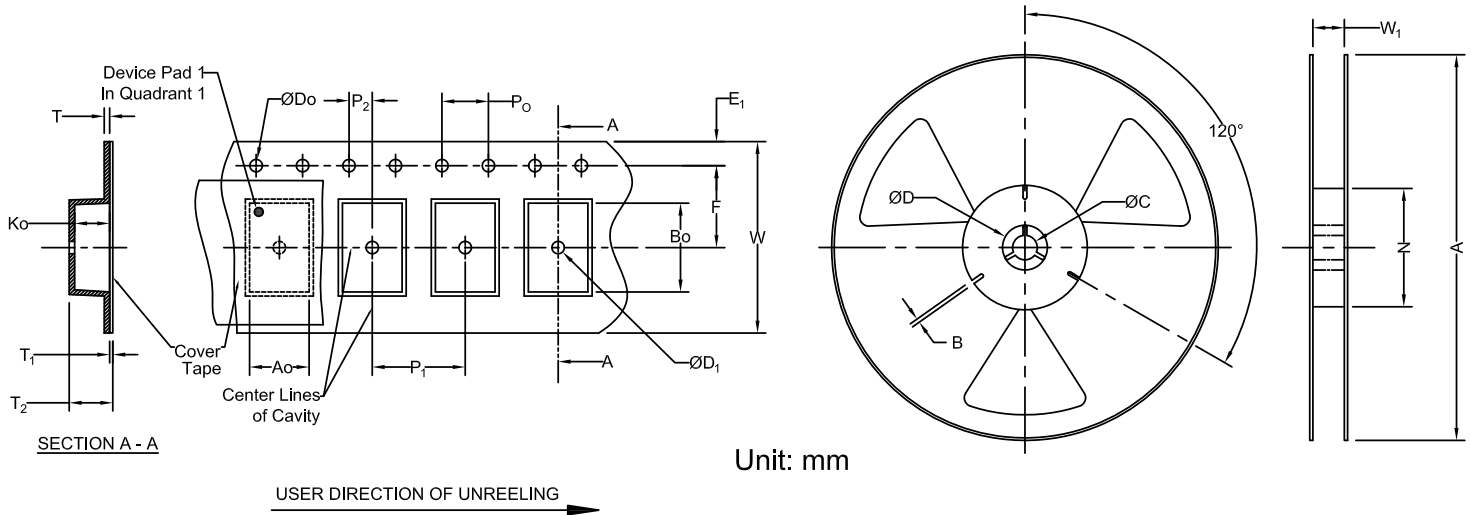
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3.0 x 3.0 x 1.25 mm
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MSL Level = 3

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

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