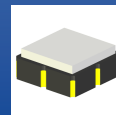


916 MHz SMD SAW Filter



AFII-SW-0040

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3.0 x 3.0 x 1.25 mm

RoHS Compliant

MSL Level = 3

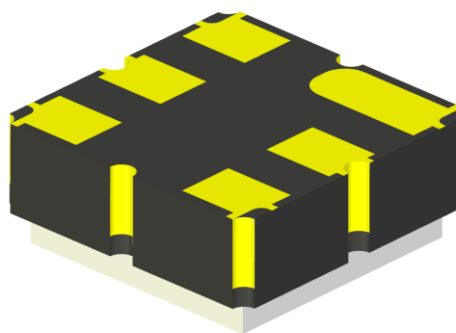
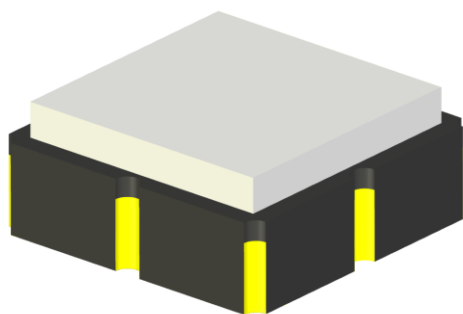
Features

- 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



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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

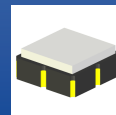


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916 MHz SMD SAW Filter



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3.0 x 3.0 x 1.25 mm

RoHS Compliant

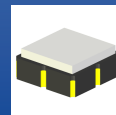
MSL Level = 3

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

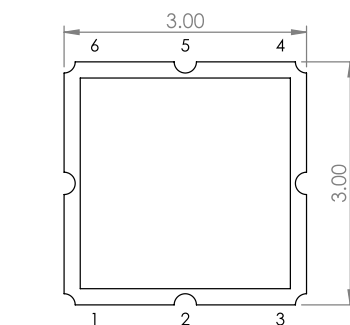


Check Inventory

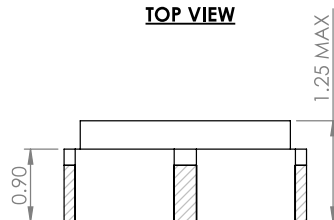


3.0 x 3.0 x 1.25 mm
RoHS Compliant
MSL Level = 3

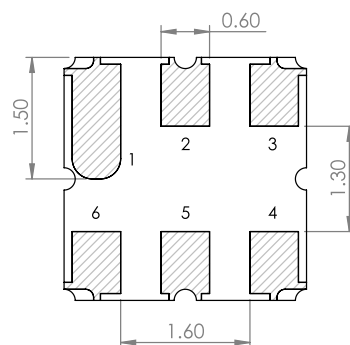
Product Dimensions



TOP VIEW



FRONT VIEW

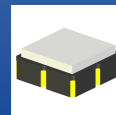


BOTTOM VIEW

Unit: mm

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

916 MHz SMD SAW Filter



AFII-SW-0040

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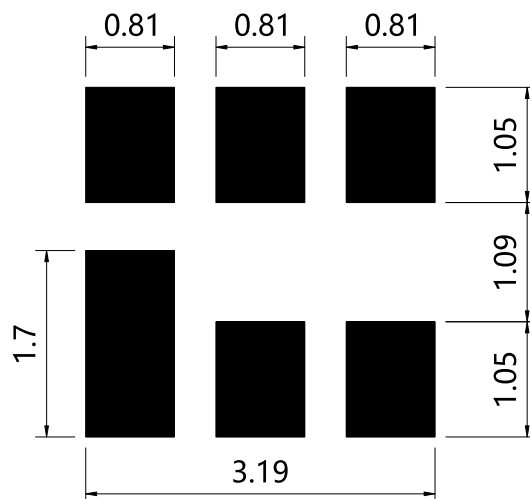


3.0 x 3.0 x 1.25 mm

RoHS Compliant

MSL Level = 3

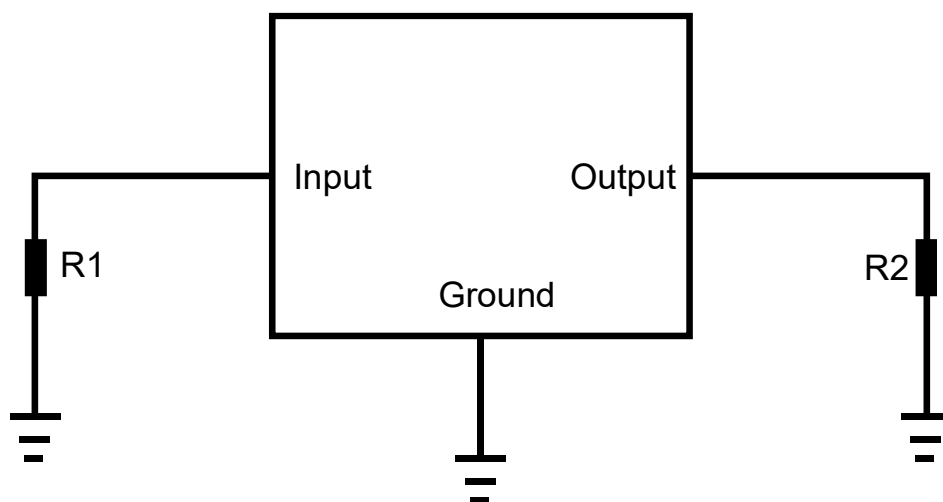
Recommended Land Pattern



Unit : mm

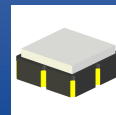
Please note: The line width should be designed to achieve a 50-ohm characteristic impedance, depending on the PCB material and thickness. For technical assistance, please contact [Abracon online support](#) through our online support platform.

Measurement Circuit



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

916 MHz SMD SAW Filter



AFII-SW-0040

Request Samples



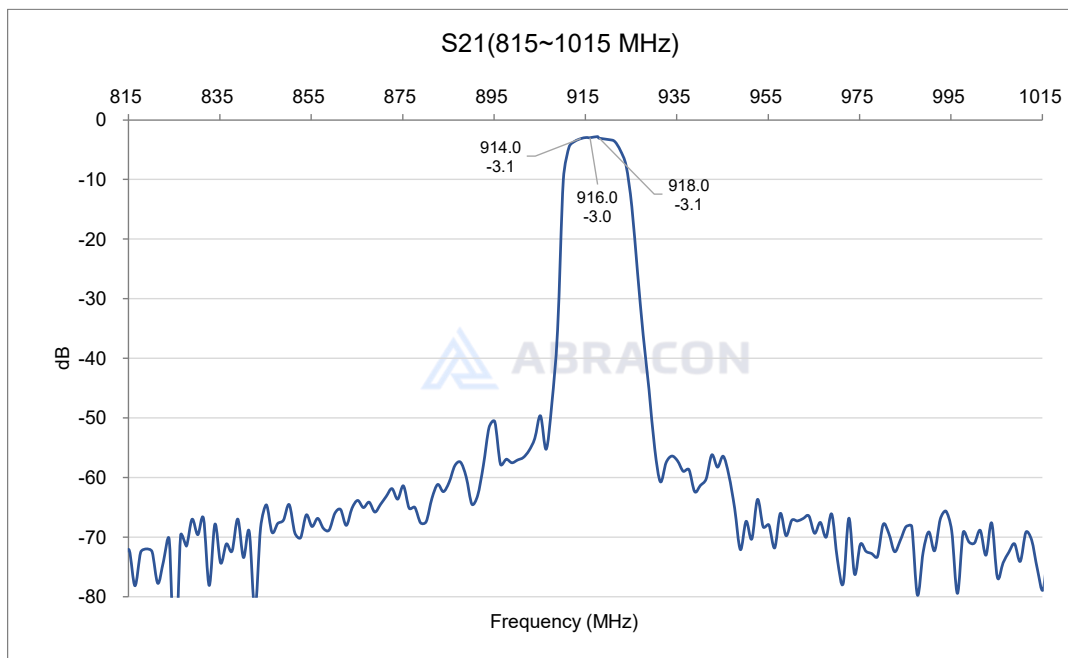
Check Inventory



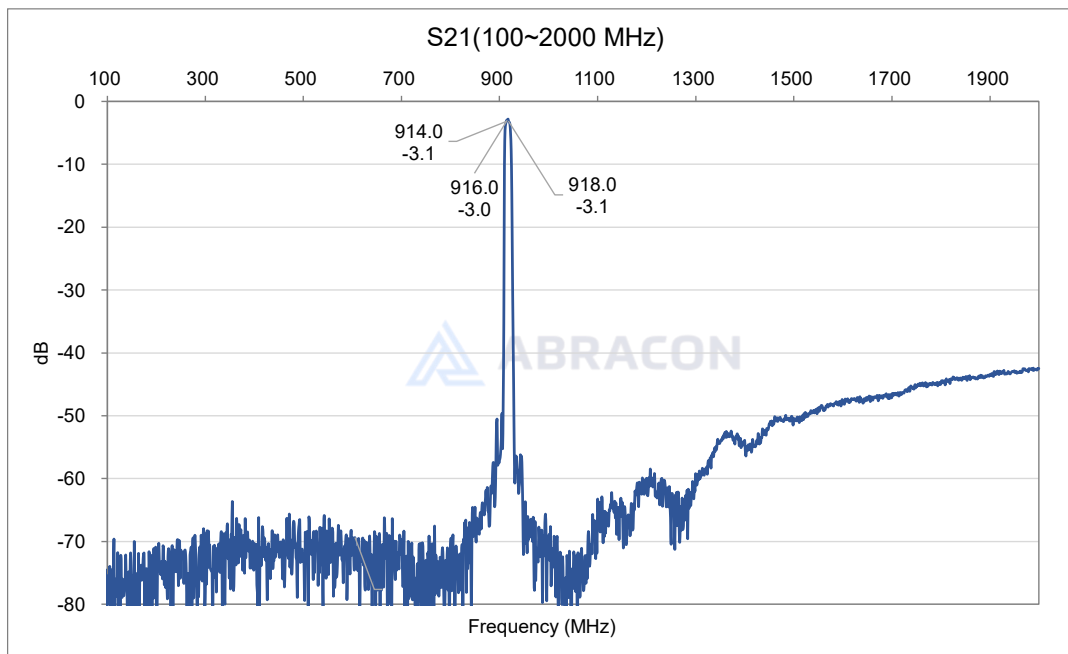
3.0 x 3.0 x 1.25 mm
RoHS Compliant
MSL Level = 3

Frequency Characteristics

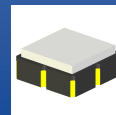
S21 narrow band



S21 wide band



916 MHz SMD SAW Filter



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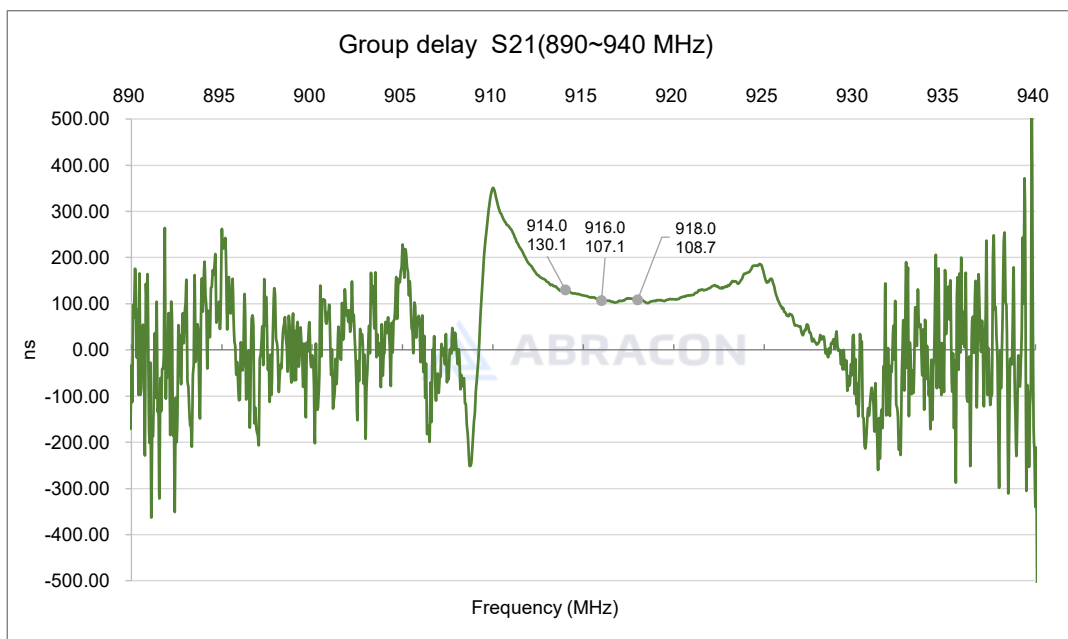


3.0 x 3.0 x 1.25 mm

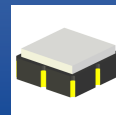
RoHS Compliant

MSL Level = 3

Group Delay



916 MHz SMD SAW Filter



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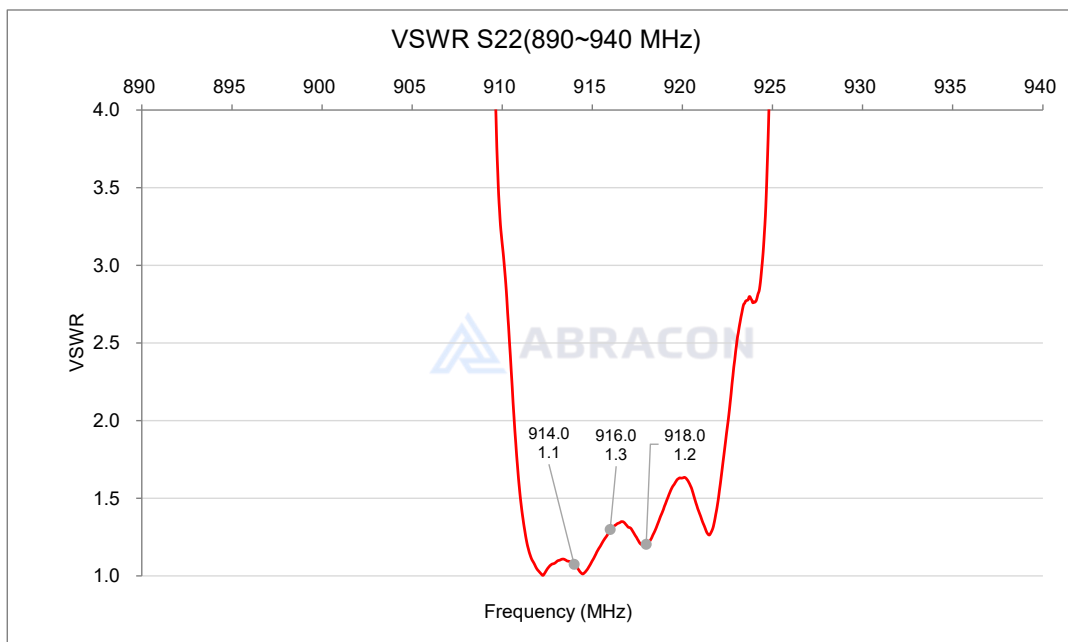
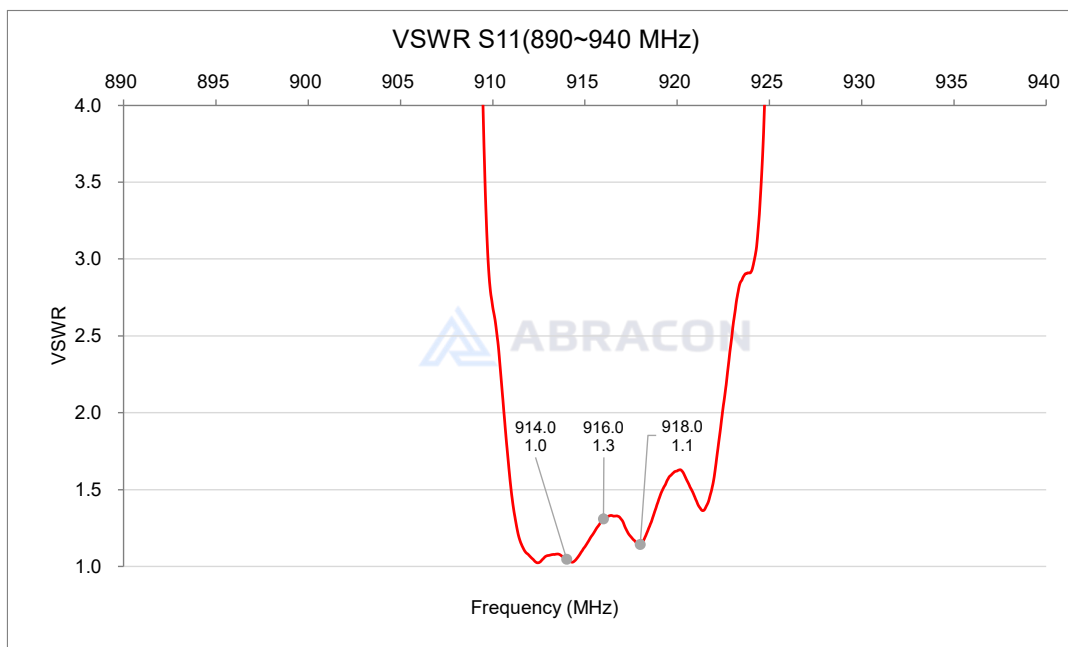


Check Inventory

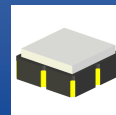


3.0 x 3.0 x 1.25 mm
RoHS Compliant
MSL Level = 3

VSWR (S11 & S22)



916 MHz SMD SAW Filter



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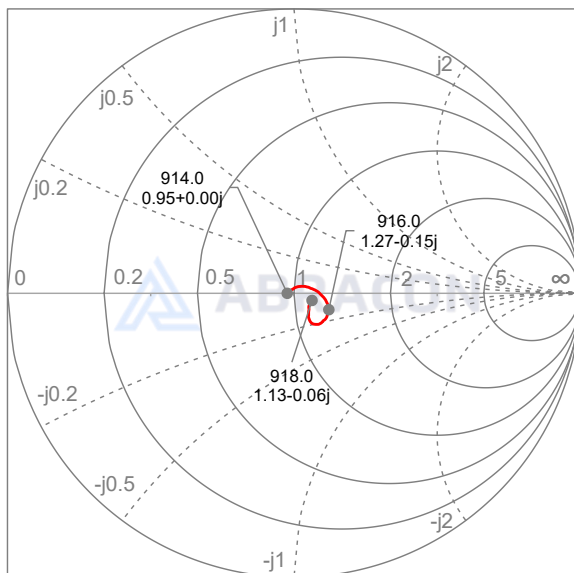
Check Inventory



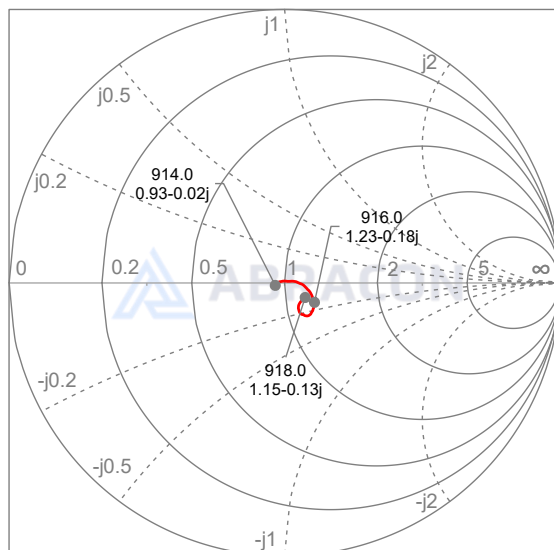
3.0 x 3.0 x 1.25 mm
RoHS Compliant
MSL Level = 3

Smith Chart (S11 & S22)

Smith chart S11 (914~918MHz)



Smith chart S22 (914~918MHz)





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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

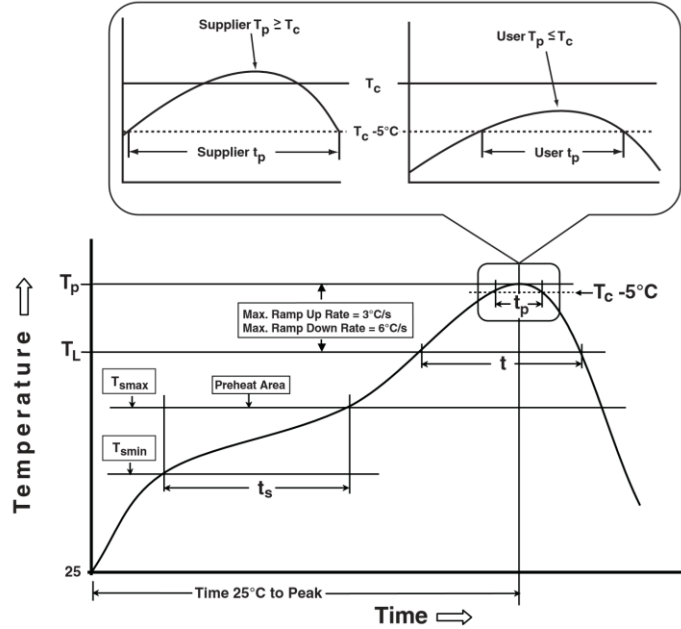


Table 1

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.

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