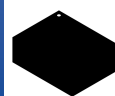


5662MHz Wi-Fi UNII 2c-3 Bandpass Filter



AFII-LW-0016

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1.8 x 1.4 x 0.65 mm

RoHS6 Compliant

MSL LEVEL = N/A

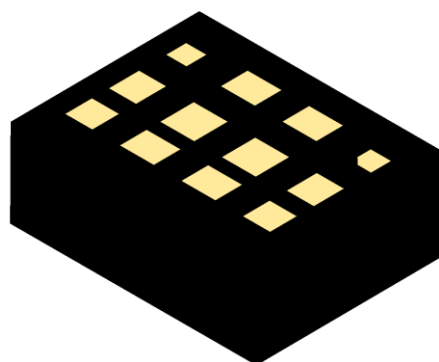
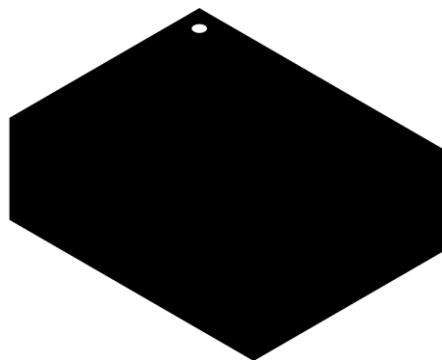
Features

- Frequency Range 5490 - 5835MHz
- Compact Size: 1.8 x 1.4 x 0.65 mm
- Low Insertion Loss in Wi-Fi UNII 2c-3 Bands
- High Rejection in Wi-Fi UNII 1-2a Bands
- Maximum Input Power: +28 dBm
- Single-Ended Input and Output
- Extended Temperature -40 to +105 °C

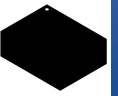
Applications

- Access Point
- Wireless Routers
- Residential Gateways
- Customer Premise Equipment
- Internet of Things
- Wi-Fi UNII 2c-3 Indoor and Outdoor Use

Product Image



5662MHz Wi-Fi UNII 2c-3 Bandpass Filter



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1.8 x 1.4 x 0.65 mm

RoHS6 Compliant

MSL LEVEL = N/A

Electrical Specification

Parameters	Minimum	Typical	Maximum	Units	Notes
Center Frequency(f_c)	-	5662	-	MHz	-
VSWR	-	1.6	1.8		5490 - 5835MHz
Insertion Loss ⁽¹⁾		1.9	2.1	dB	5490 - 5835MHz
Amplitude Ripple	-	1.6	1.9	dB	5490 - 5835MHz
Group Delay	-	3.6	6.4	ns	5490 - 5835MHz
Group Delay Ripple	-	0.19	0.03	ns	5490 - 5835MHz
Attenuation ⁽²⁾ (Reference level from 0 dB)	33	37	-	dB	30 - 2400 MHz
	32	36	-		2400 - 2500 MHz
	24	28	-		2400 - 3000 MHz
	25	29	-		3400- 3800 MHz
	25	27	-		3800 - 4900 MHz
	26	28	-		4400 - 4800 MHz
	28	31	-		4800 -5000 MHz
	48	50	-		5170 - 5330 MHz
	39	39	-		7200 - 7500 MHz
	20	20	-		10300 - 11800 MHz
Source Impedance ⁽³⁾ (single ended)	-	50	-	Ω	
Load Impedance ⁽³⁾ (single ended)	-	50	-	Ω	
DC Voltage	-	3	-	V	
Input Power	-	-	28	dBm	

Notes: (1) Integrated IL referenced to 0dB. 345MHz bandwidth.

(2) Typical values are based on average measurements at + 25 °C.

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

5662MHz Wi-Fi UNII 2c-3 Bandpass Filter



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1.8 x 1.4 x 0.65 mm

RoHS6 Compliant

MSL LEVEL = N/A

Mechanical Specification

Parameters	Specifications
Dimension	1.8 x 1.4 x 0.65 mm
Mounting Type	Surface Mount

Environmental Specification

Parameters	Specifications
Operating Temperature Range	-40°C ~ +105°C
Storage Temperature Range	-40°C ~ +105°C
RoHS Complaint	Yes
Maximum Input Power(dBm)	+28@50°C
ESD Voltage (HBM)	> 250 V
ESD Voltage (CDM)	> 250 V
Moisture Sensitivity Levels	3

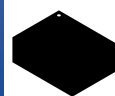


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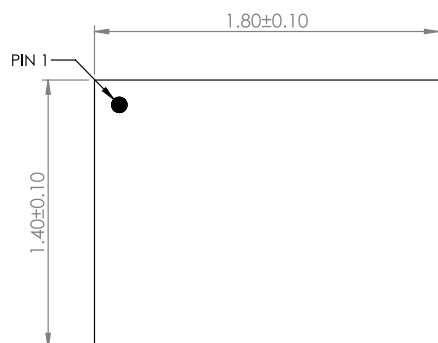


1.8 x 1.4 x 0.65 mm

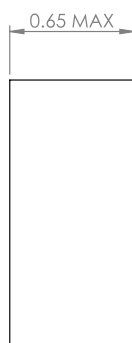
RoHS6 Compliant

MSL LEVEL = N/A

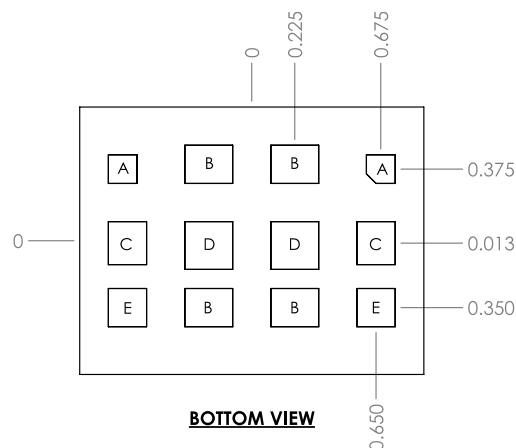
Product Dimensions



TOP VIEW



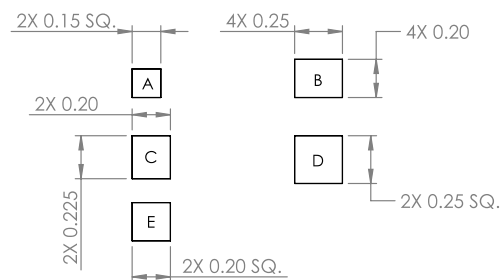
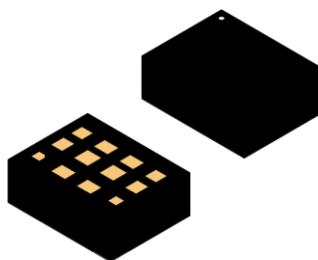
SIDE VIEW



BOTTOM VIEW



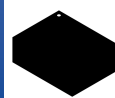
FRONT VIEW



Unit : mm

All tolerances are ± 0.05 mm except overall length and width ± 0.10 mm

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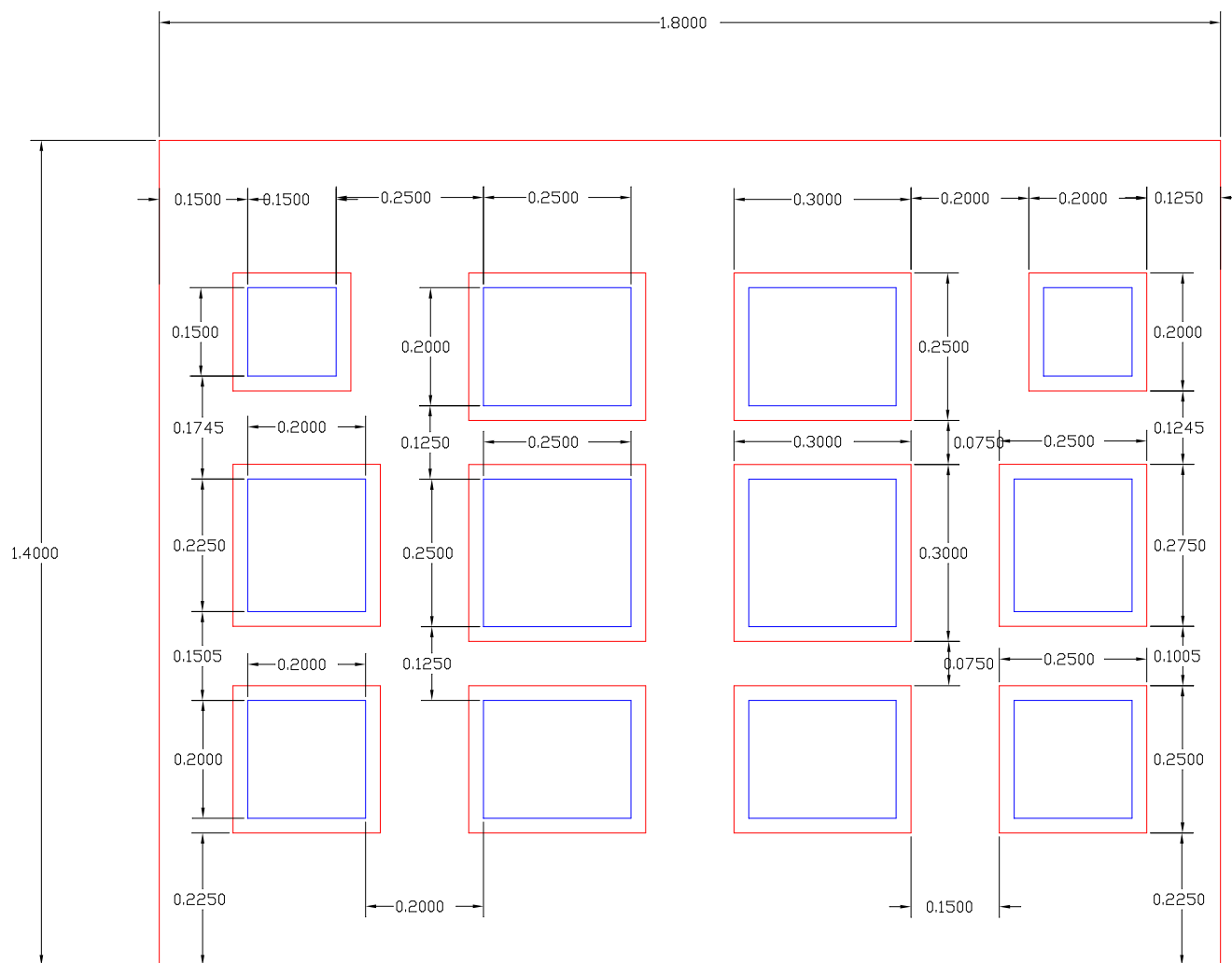


1.8 x 1.4 x 0.65 mm

RoHS6 Compliant

MSL LEVEL = N/A

Recommended Land Pattern

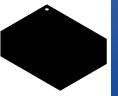


--- Land Pattern --- Solder Mask

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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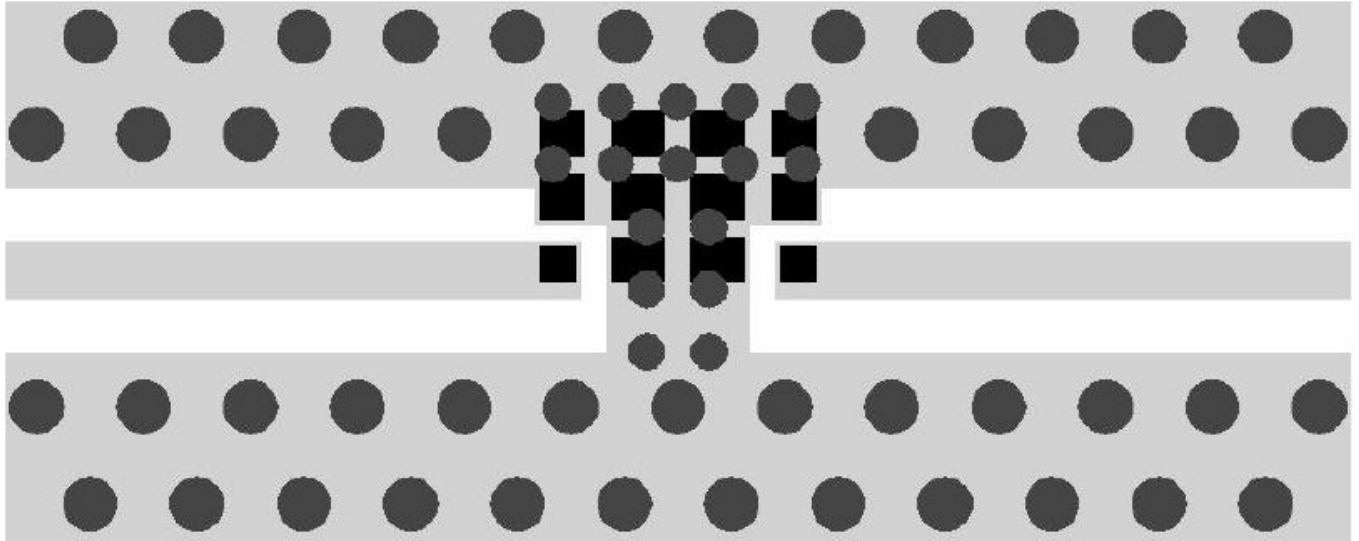
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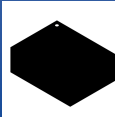
1.8 x 1.4 x 0.65 mm

RoHS6 Compliant
MSL LEVEL = N/A

Evaluation Board Layout Guide



1. The diameter of the pad vias connecting to the bottom ground plane is 200 µm.
2. The diameter of the top ground vias connecting to the bottom ground plane is 300 µm.
3. The width of the RF signal line is 325 µm.
4. The spacing between the RF signal lines and the adjacent ground metals is 300 µm.



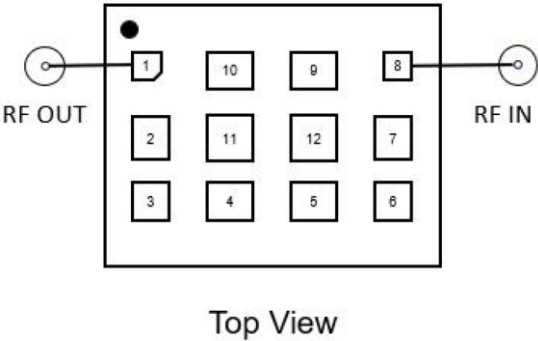
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1.8 x 1.4 x 0.65 mm
RoHS6 Compliant
MSL LEVEL = N/A

Measurement Circuit



Port	Matching Component
Input (Pin 8)	RF Input matched to 50 Ω
Output (Pin 1)	RF Output matched to 50 Ω
Others	RF/DC ground. Use the recommended via pattern to minimize inductance and thermal resistance. Refer to PCB Mounting Pattern for suggested footprint.

* Matching component values shown are recommended based on the evaluation board. Value adjustment may be required on the end-user's circuit boards for the selected component manufacturer and PCB material.

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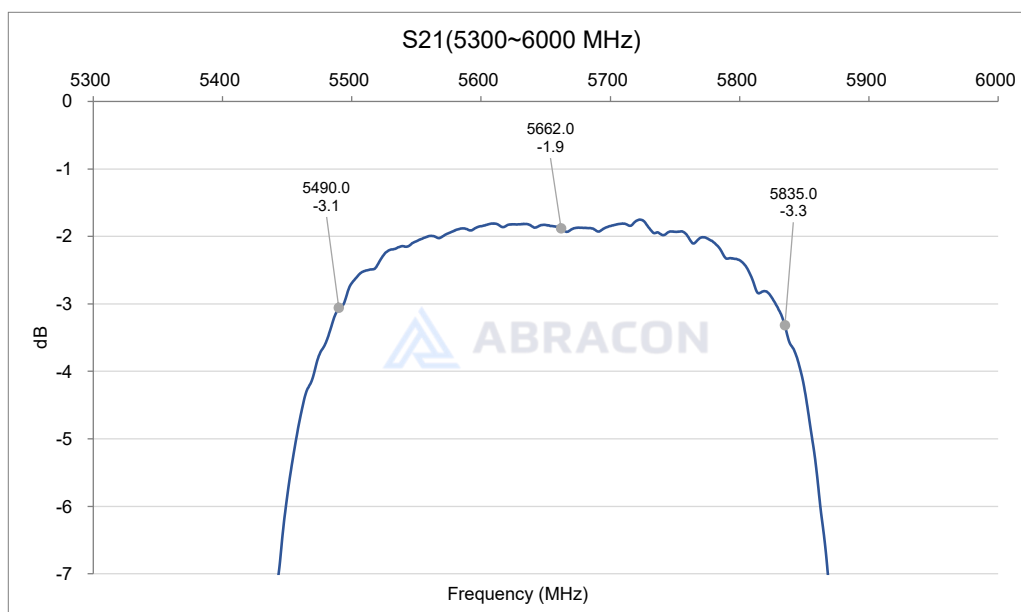
1.8 x 1.4 x 0.65 mm

RoHS6 Compliant

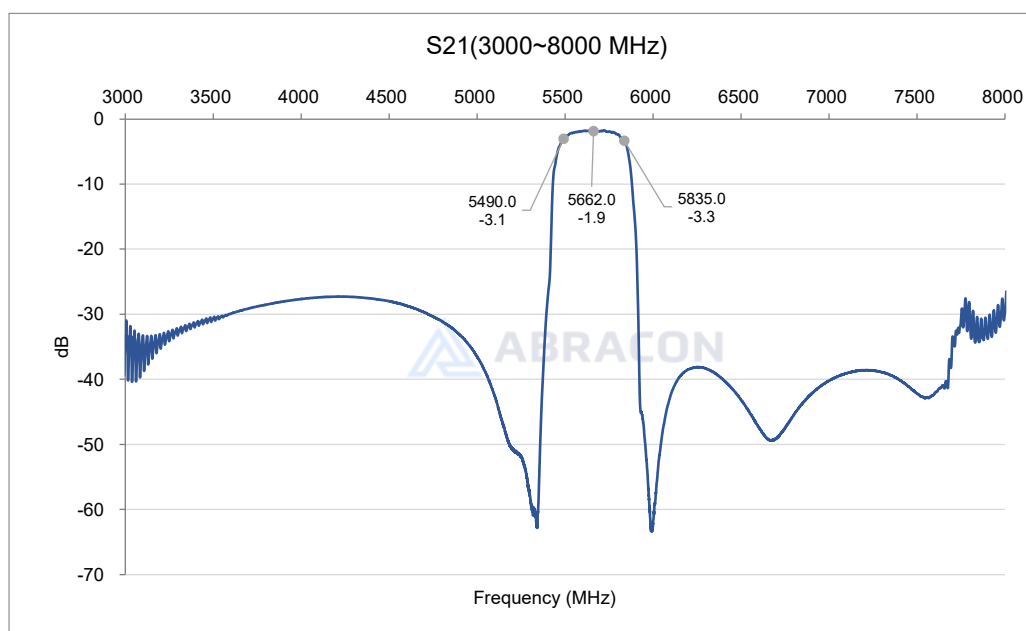
MSL LEVEL = N/A

Frequency Characteristics

S21 narrow band



S21 wide band

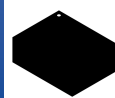


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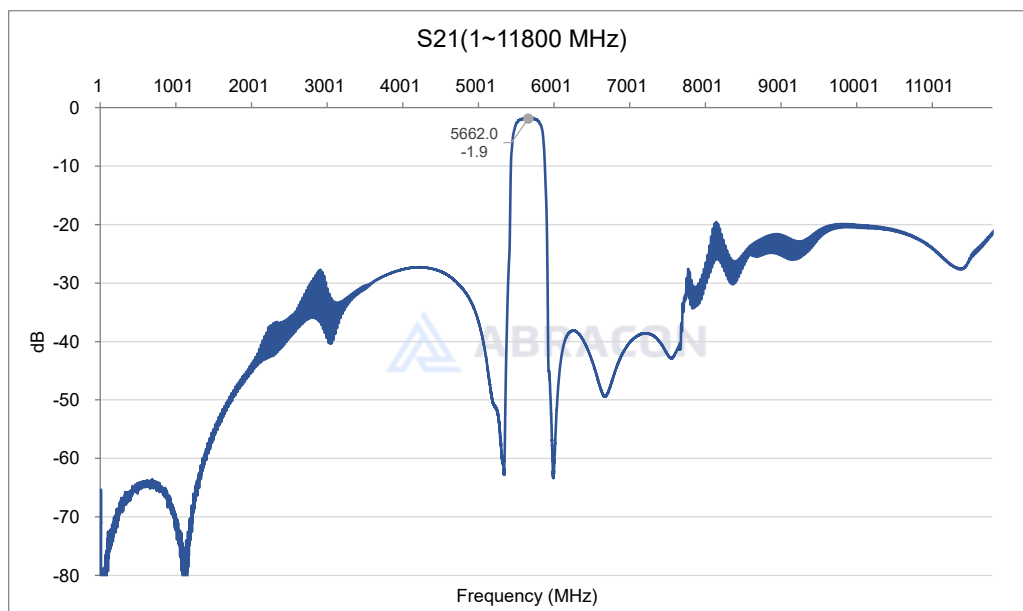


1.8 x 1.4 x 0.65 mm

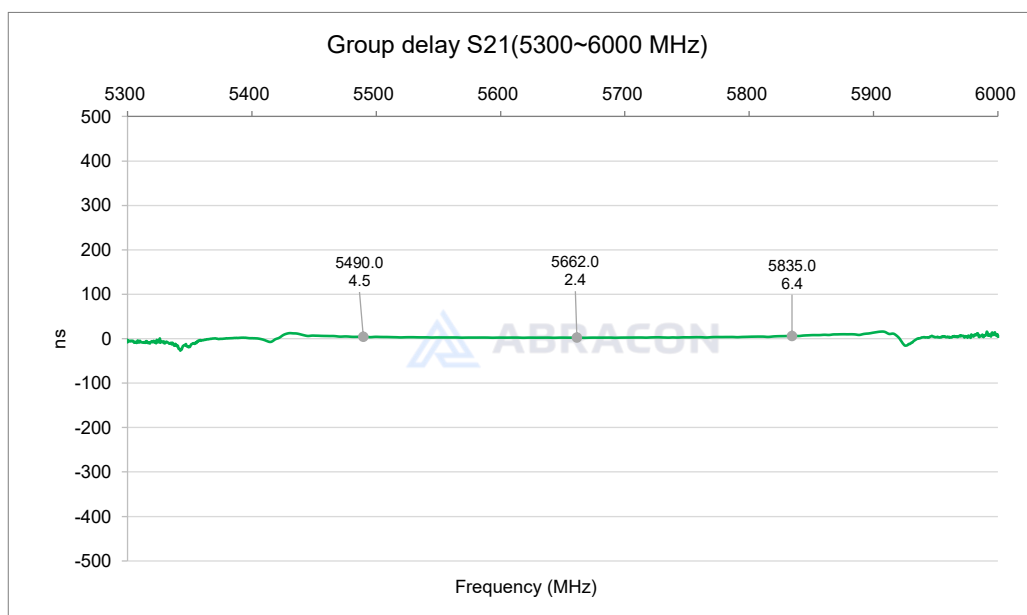
RoHS6 Compliant

MSL LEVEL = N/A

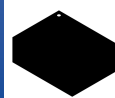
S21 wide band



Group Delay



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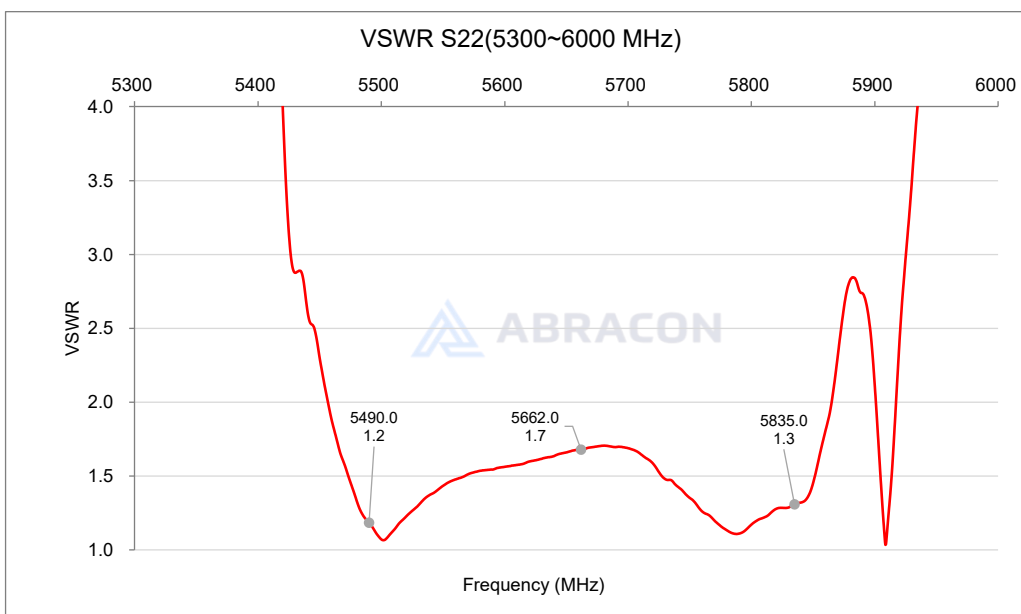
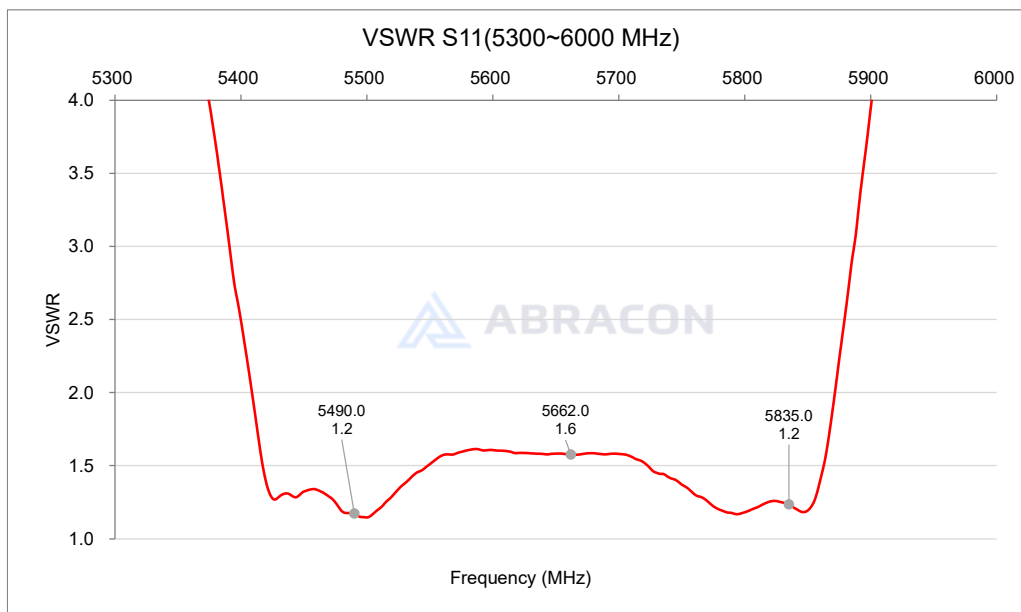


1.8 x 1.4 x 0.65 mm

RoHS6 Compliant

MSL LEVEL = N/A

VSWR (S11 & S22)



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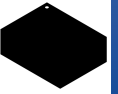
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1.8 x 1.4 x 0.65 mm

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Reflow Profile [JEDEC J-STD-020]

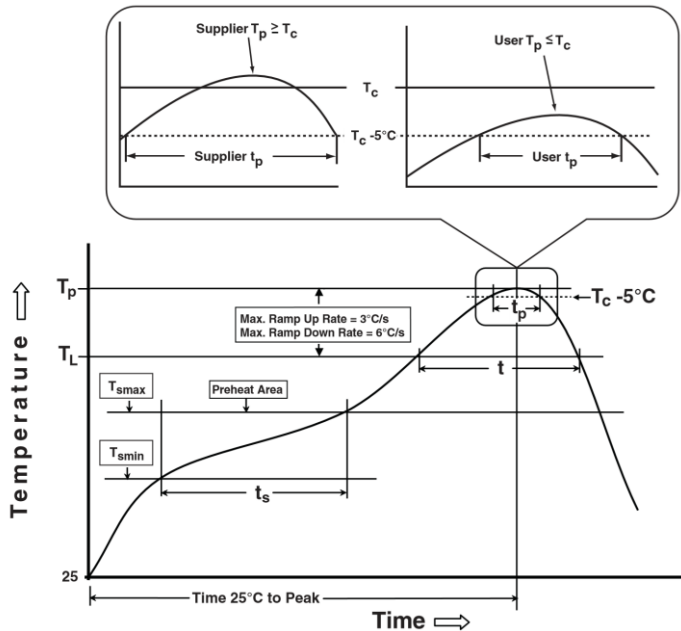


Table 1

SnPb Eutectic Process Classification Temperatures (T_c)		
Package Thickness	Volume mm ³ <350	Volume mm ³ ≥350
<2.5mm	235°C	220°C
≥2.5mm	220°C	220°C

Table 2

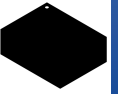
Pb-Free Process Classification Temperatures (T_c)			
Package Thickness	Volume mm ³ <350	Volume mm ³ 350-2000	Volume mm ³ >2000
<1.6mm	260°C	260°C	260°C
1.6mm - 2.5mm	260°C	250°C	245°C
>2.5mm	250°C	245°C	245°C

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	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.	30 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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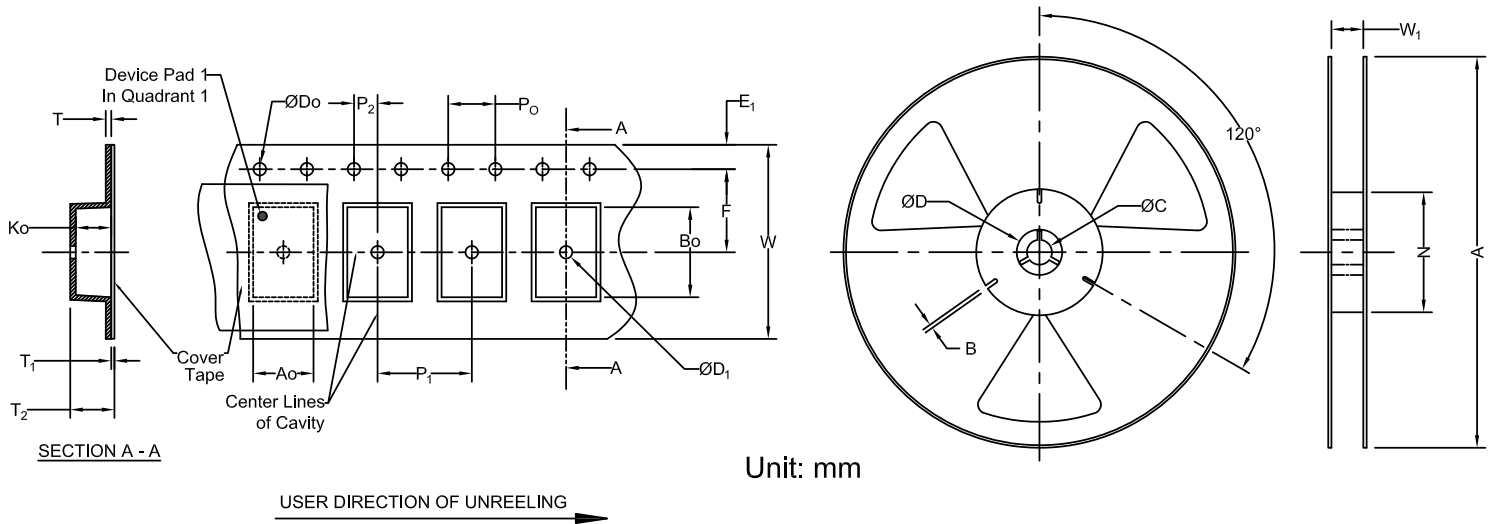
1.8 x 1.4 x 0.65 mm

RoHS6 Compliant
MSL LEVEL = N/A

Packaging

Tape & Reel (4,000 pcs / reel)

Tape & Reel Dimension



Carrier Tape Specifications (mm)

Do	D1	E1	P0	P2	T	F	P1	W	A0	B0	K0	Reel Qty
1.50 ± 0.1	0.6 ± 0.05	1.75 ± 0.1	4.0 ± 0.1	2.0 ± 0.05	0.20 ± 0.02	3.5 ± 0.05	4.0 ± 0.1	8.0 +0.3/-0.1	1.7 ± 0.05	2.1 ± 0.05	0.8 ± 0.05	4,000

Reel Specifications (mm)

A	W1	N	D	C	B
178 ± 1.0	9.0 ± 0.5	54.0 ± 0.5	21 ± 0.5	13.2 +0.3/-0.2	2.2 ± 0.3

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