

AEC-Q200 High Rejection UWB Band Pass Ceramic Filter



AFII-LC-0049-Q

Request Samples



Check Inventory



2.0 x 1.25 x 0.95 mm

RoHS Compliant

MSL Level = N/A

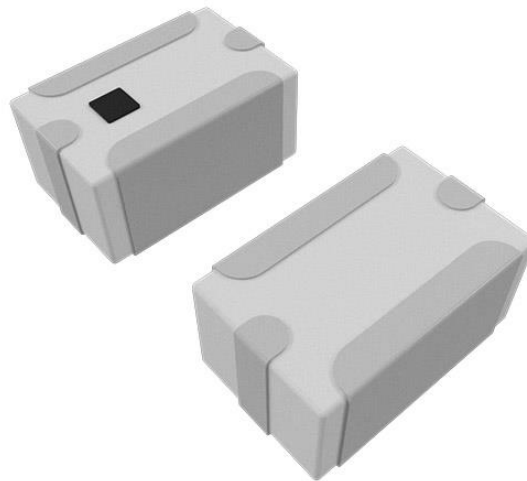
Features

- AEC-Q200 Qualified
- TS16949 Production Line Certified
- PPAP Available Upon Request
- Supports UWB channels 5-8
- Compact in Size 2.0 x 1.25 x 0.95 mm
- Single-Ended Input and Output
- Excellent Selectivity with High Out-of-Band Rejection

Applications

- Automotive UWB Applications
- Secure Car Access
- Real-Time Location Systems (RTLS)
- Indoor Navigation
- Hands-Free Payment
- Smart Access
- Object Detection

Product Image



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Electrical Specification

Parameters	Minimum	Typical	Maximum	Units	Notes
Center Frequency (f_0)		7000		MHz	
Passband	6200	-	7800		UWB channels 5-8
Insertion Loss	-	-	0.9	dB	
VSWR	-	-	2.0		
Relative Attenuation (Reference level: 0dB)	30	-	-	dB	2400~3400 MHz
	35	-	-		3400~3800 MHz
	30	-	-		4200~5400 MHz
	11	-	-		5850 MHz
	25	-	-		8500~16000 MHz
Group Delay	-	-	0.7	ns	
Group Delay Ripple	-	-	1.0	ns	
Source Impedance ⁽¹⁾ (single ended)	-	50	-	Ω	
Load Impedance ⁽¹⁾ (single ended)	-	50	-	Ω	
Power Capacity	3.0			W	

Notes: (1) A matching network is unnecessary (refer to the Measurement Circuits section).

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Mechanical Specification

Parameters	Specifications
Dimension	2.0 x 1.25 x 0.95 mm
Mounting Type	Surface Mount

Environmental Specification

Parameters	Specifications
Operating Temperature Range	-40°C ~ +125°C
Storage Temperature Range	-10°C ~ +40°C
RoHS Complaint	Yes

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Ordering Information

Part Number	Description
AFII-LC-0049-Q	AEC-Q200 High Rejection UWB Band Pass Ceramic Filter
AFII-LC-0049-Q-EVB	AEC-Q200 High Rejection UWB Band Pass Ceramic Filter EVB

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

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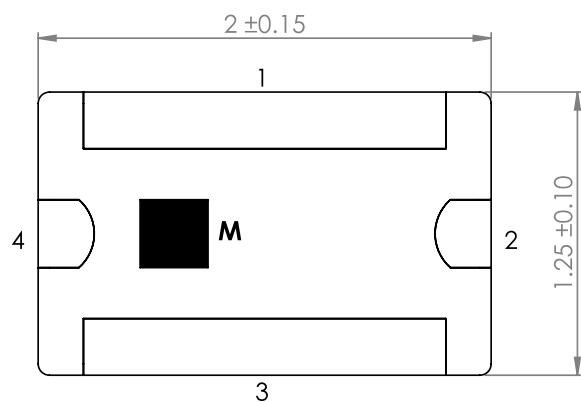


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RoHS Compliant

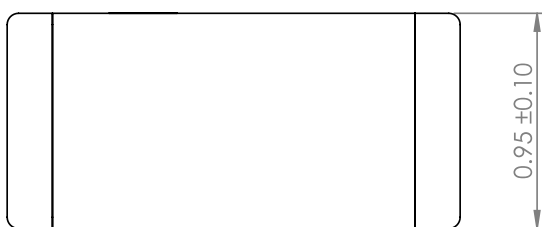
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Product Dimensions

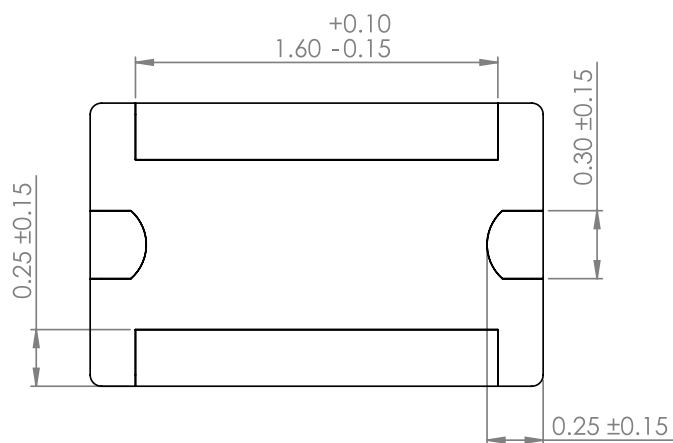


TOP VIEW

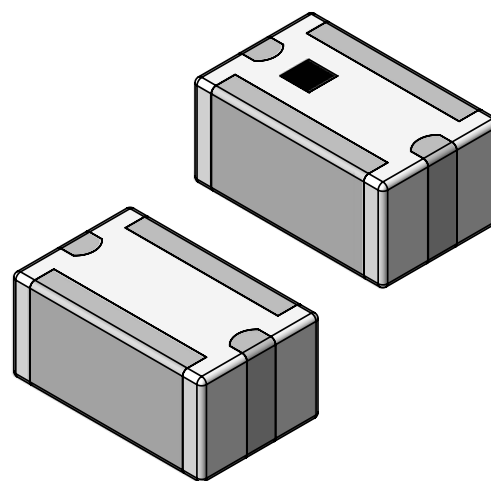
Pin#	DESCRIPTION
1	GND
2	OUT
3	GND
4	IN
M	Mark



FRONT VIEW



BOTTOM VIEW



Unit: mm



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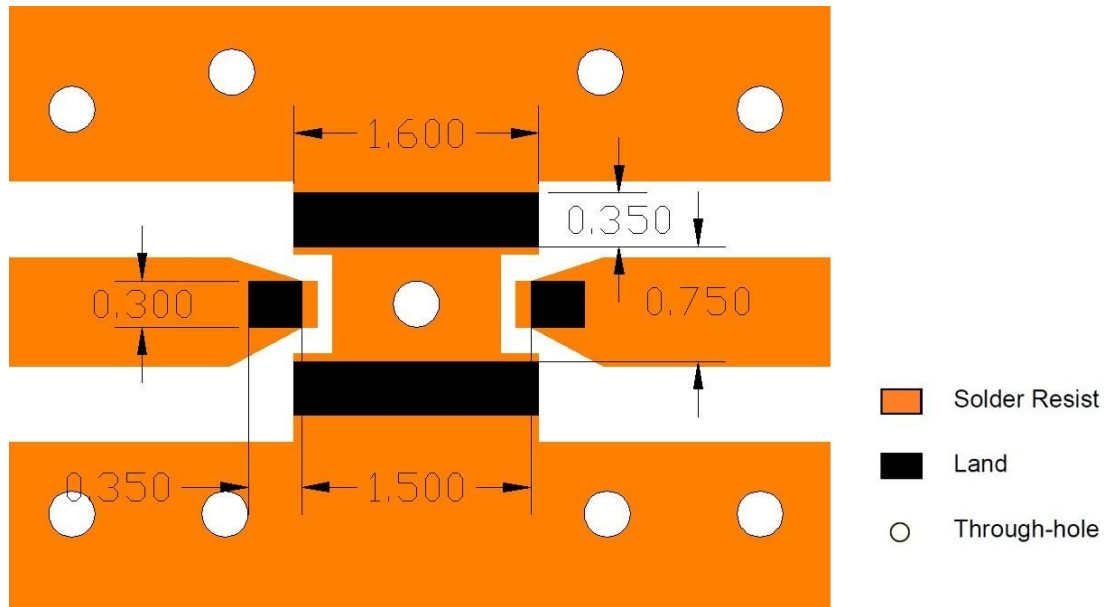


2.0 x 1.25 x 0.95 mm

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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.

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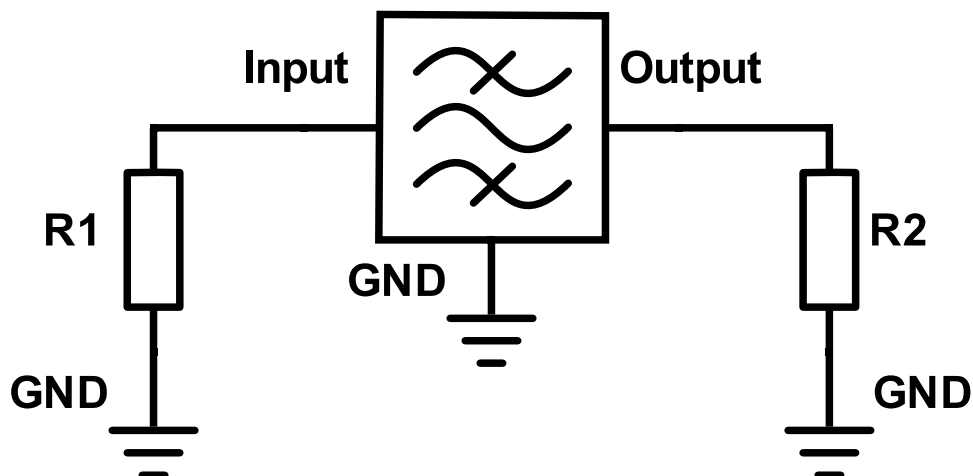


2.0 x 1.25 x 0.95 mm

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Measurement Circuit



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

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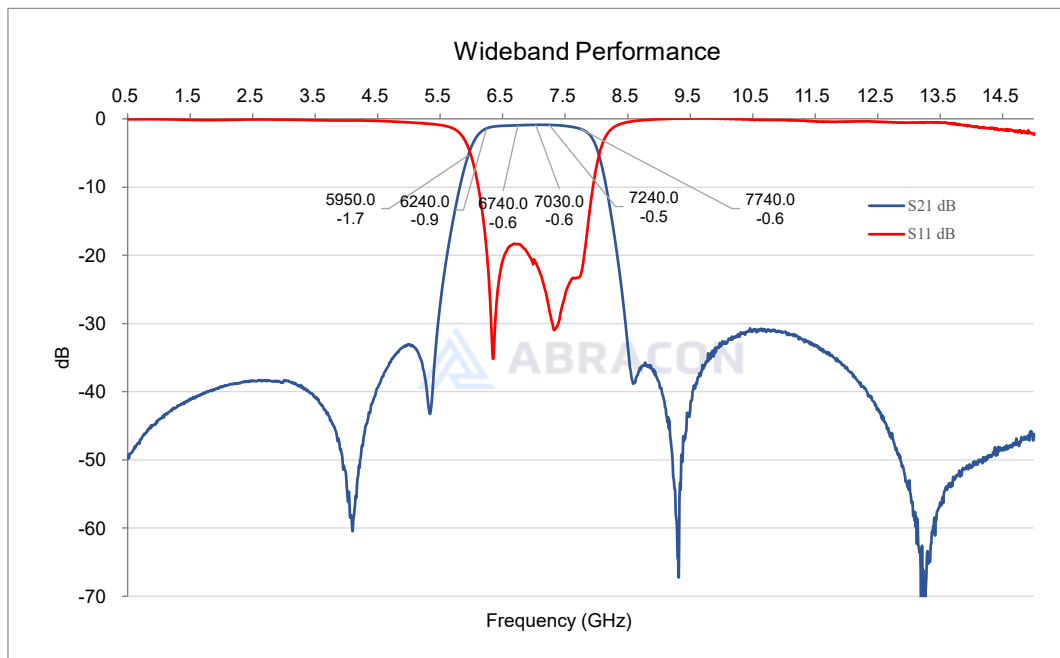


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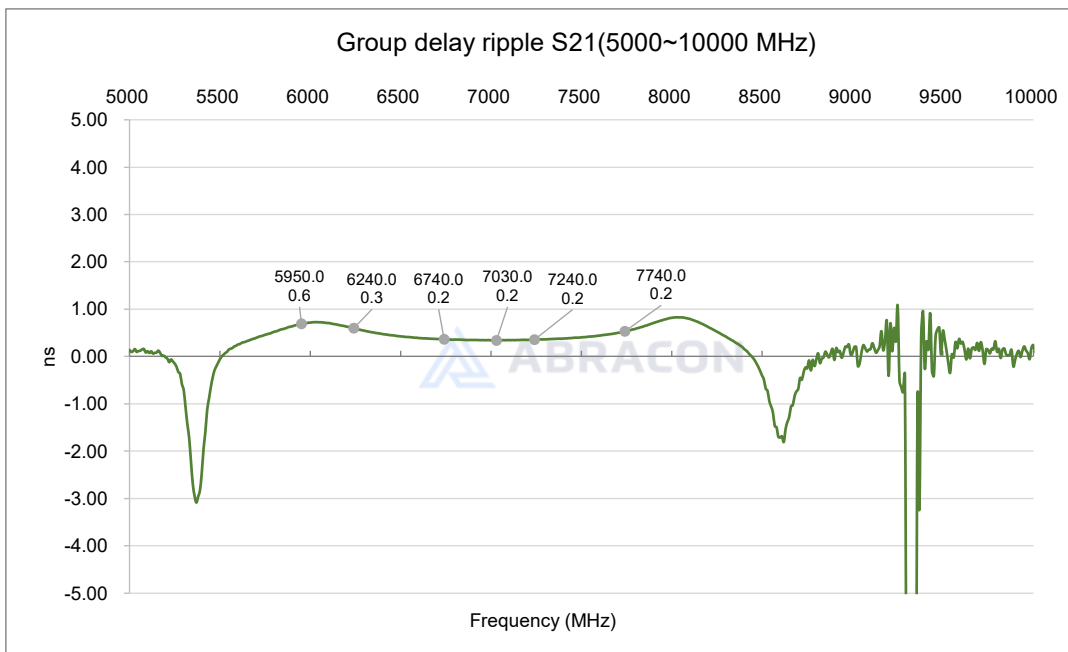
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Frequency Characteristics



Group Delay Ripple



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Reflow Profile [JEDEC J-STD-020]

Solder paste: Sn/3.0Ag/0.5Cu

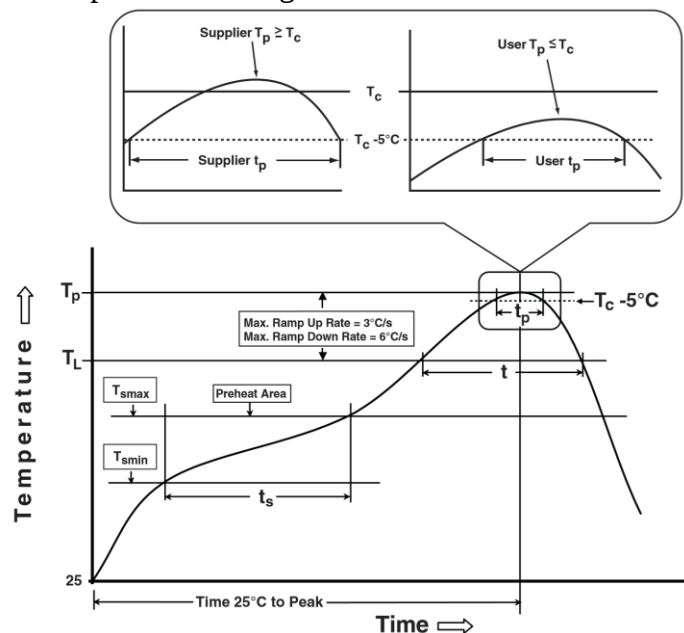


Table 1

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 – 120 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 – 90 sec.	60 – 90 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.	10 sec.
Ramp-down rate (T_p to T_{smax})	3°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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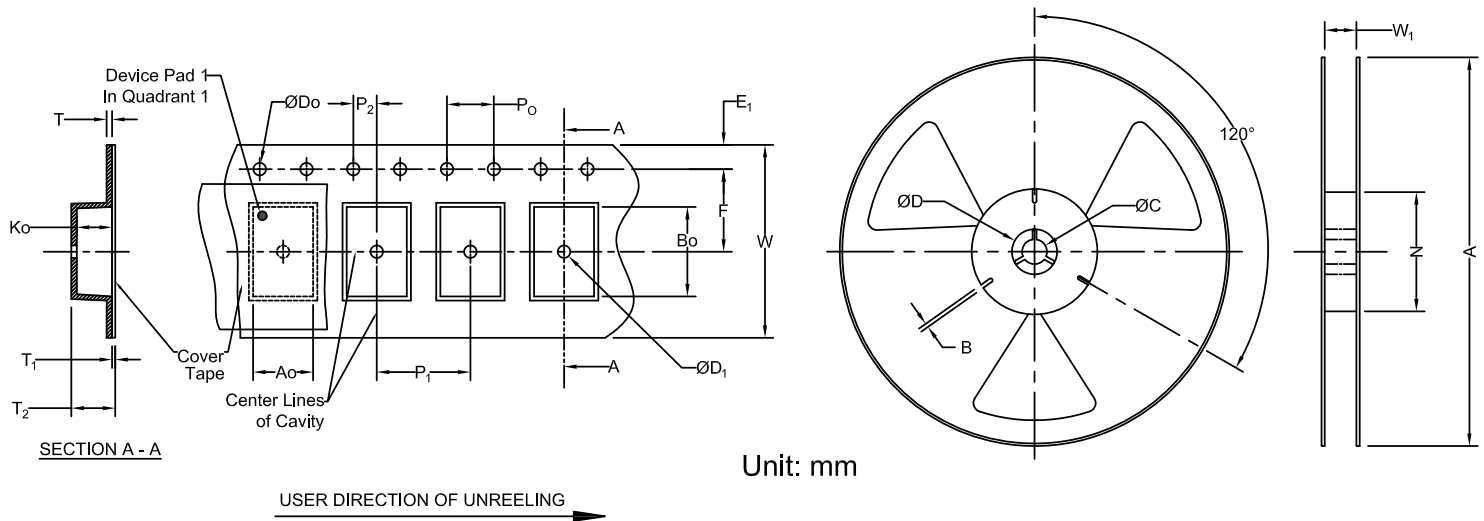
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Packaging

Tape & Reel Dimension



Carrier Tape Specifications (mm)

E1	D0	P0	P2	F	P1	W	A0	B0	T ₂	Reel Qty
1.75 ± 0.1	1.5 ± 0.1	4.0 ± 0.1	2.0 ± 0.05	3.5 ± 0.05	2.0 ± 0.05	8.0 ± 0.3	1.42 ± 0.10	2.25 ± 0.10	1.14 Max	4,000

Reel Specifications (mm)

A	W ₁	N	C
178 ± 2.0	10.0 ± 1.5	58 ± 2.0	13.5 ± 0.2

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