

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

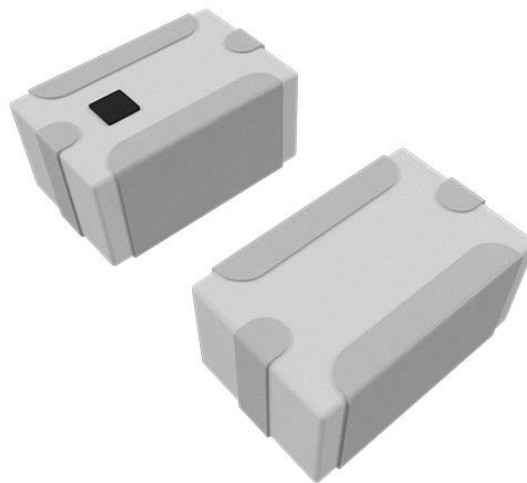
Features

- 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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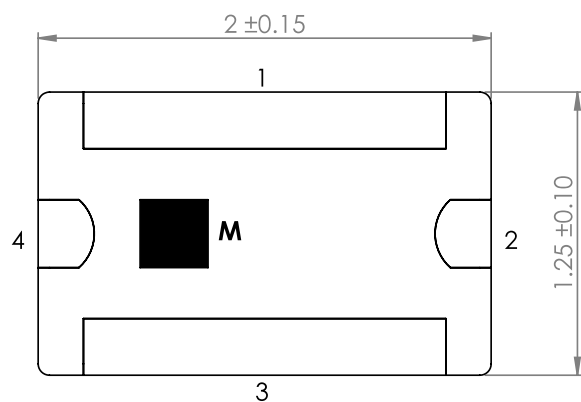


2.0 x 1.25 x 0.95 mm

RoHS Compliant

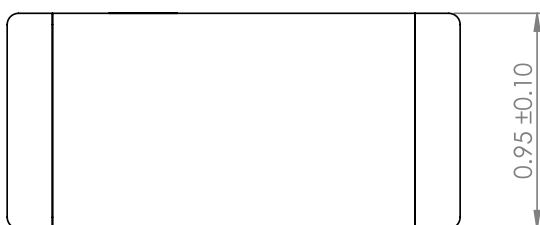
MSL Level = N/A

Product Dimensions

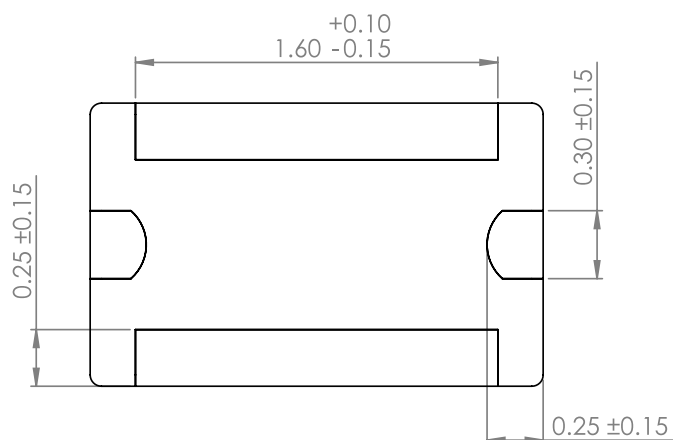


TOP VIEW

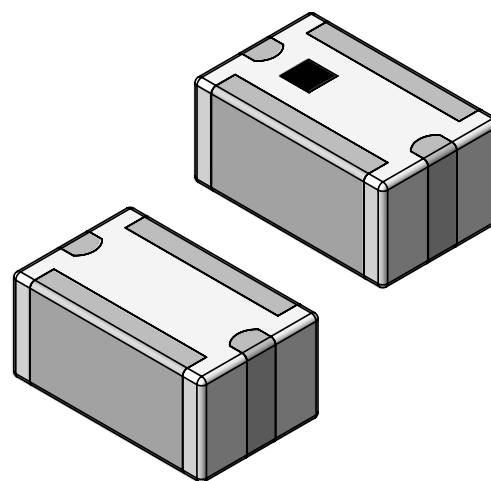
Pin#	DESCRIPTION
1	GND
2	OUT
3	GND
4	IN
M	Mark



FRONT VIEW



BOTTOM VIEW



Unit: mm



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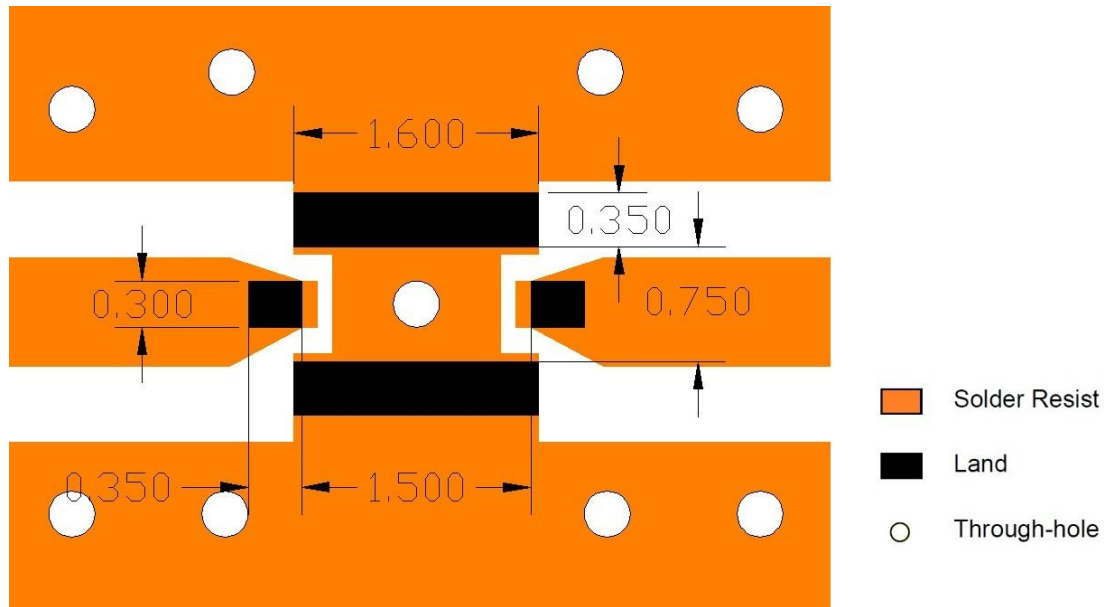


2.0 x 1.25 x 0.95 mm

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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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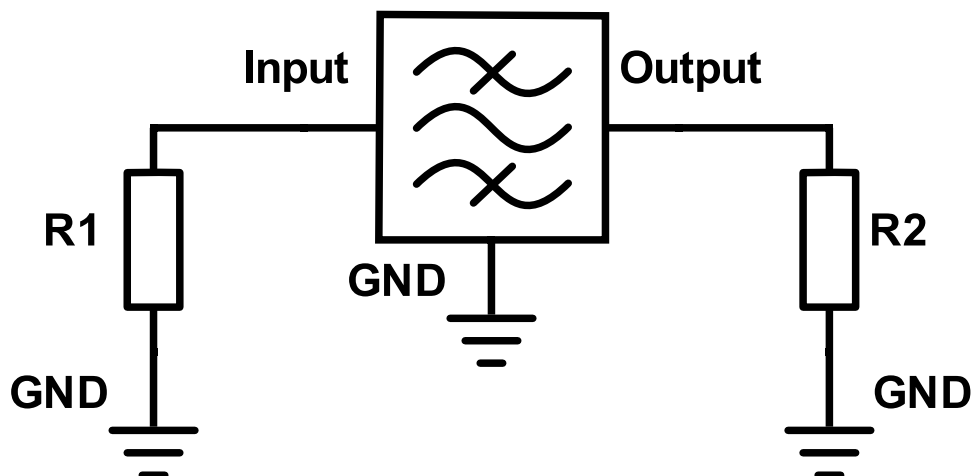


2.0 x 1.25 x 0.95 mm

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Measurement Circuit



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

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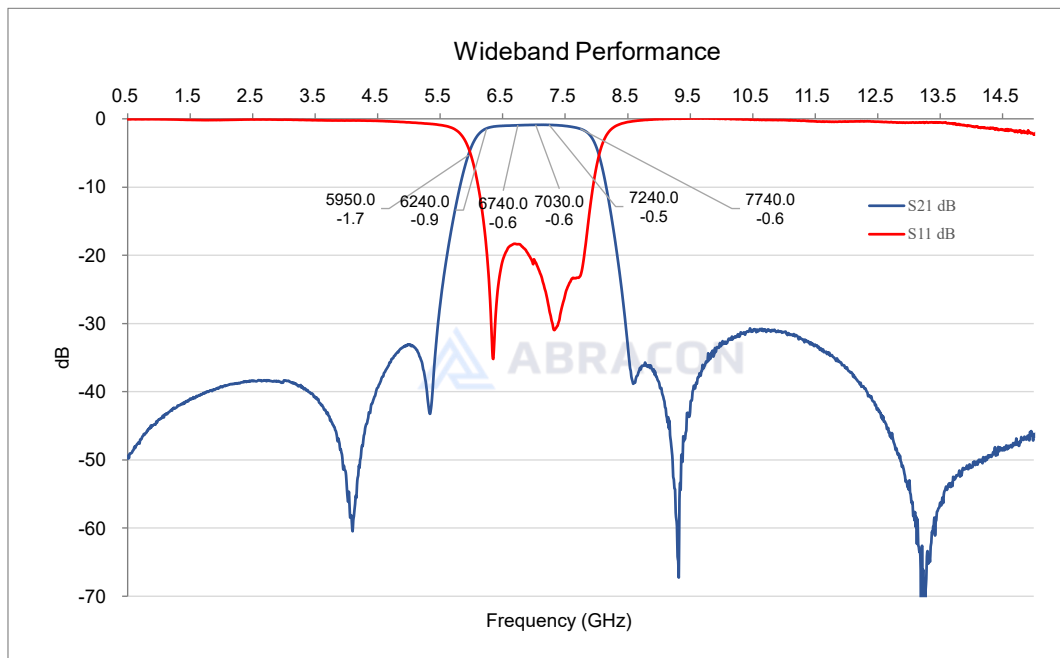


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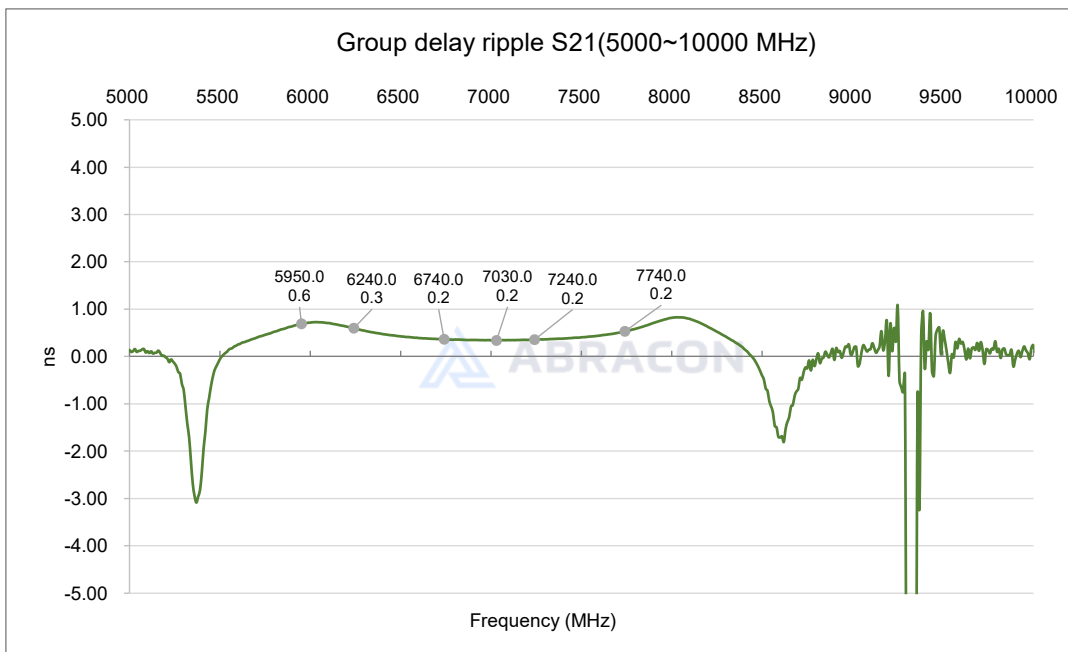
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Frequency Characteristics



Group Delay Ripple



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Reflow Profile [JEDEC J-STD-020]

Solder paste: Sn/3.0Ag/0.5Cu

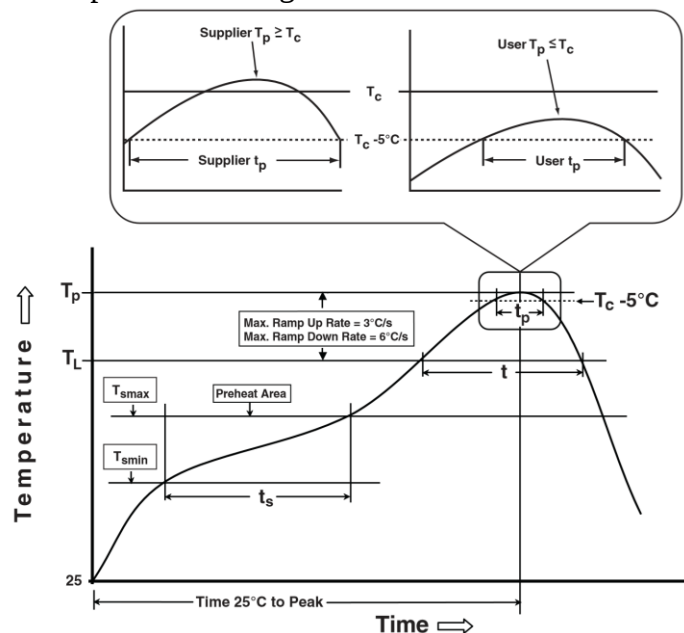


Table 1

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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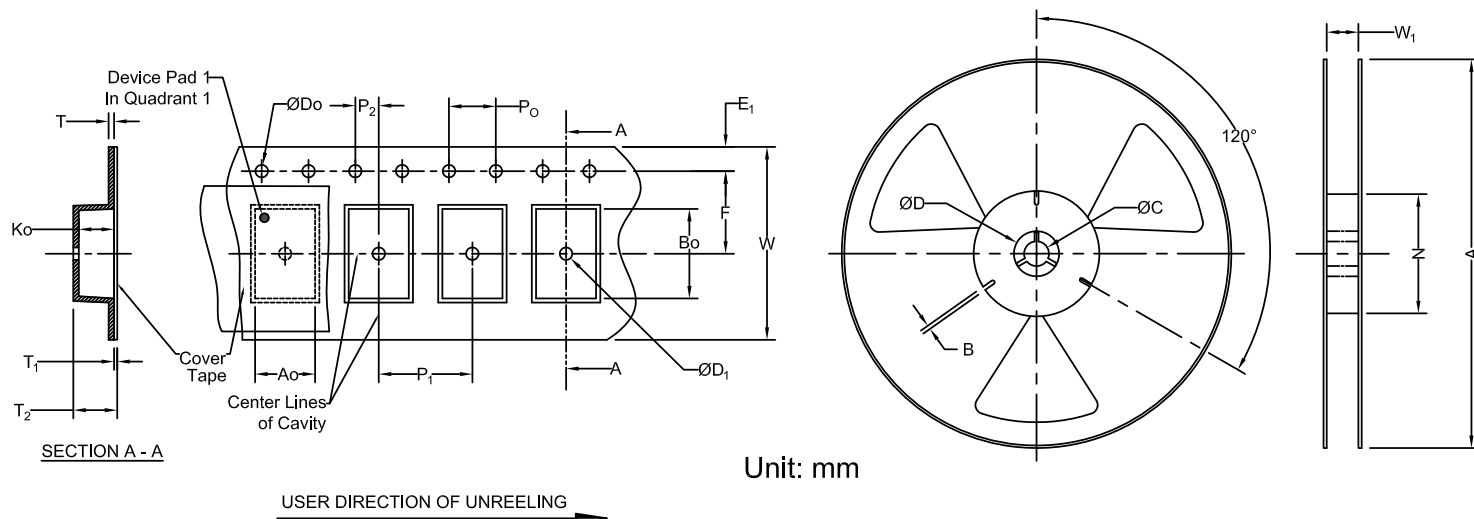
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Packaging

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

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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