

# "High Frequency Ceramic Solutions"

## 5.24GHz High Rejection UNII-low Band Pass Filter

P/N 5235CR45A0180

Detail Specification: 4/11/2019

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### General Specifications

Part Number	5235CR45A0180
Operating Passband Freq.	5150 - 5330 MHz
Insertion loss 1 (5150-5320MHz)	1.8 typ. (2.4 max.) dB
Insertion loss 2 (5320-5330MHz)	2.1 typ. (2.5 max.) dB
Return Loss (dB)	10 min.
Ripple in bandwidth (dB)	1.3 max.
Power Capacity (W)	1 max. (CW)



Top View

Side View



Attenuation (dB)		Reel Quantity	1,000 pcs
30 - 2700 MHz	55 typ. (45 min.)	Operating Temperature	-40 to +100°C
3453 - 3547 MHz	48 typ. (42 min.)	Storage Temperature	-40 to +100°C
3667 - 3883 MHz	45 typ. (40 min.)	Recommended Storage Conditions for unused T&R product	+5 ~ +35 °C, Humidity 45~75%RH, 18 months. 1 week max after opened.
5490 - 5850 MHz	52 typ. (50 min.)		

For more info go to <https://www.johansontechnology.com/silverleads>

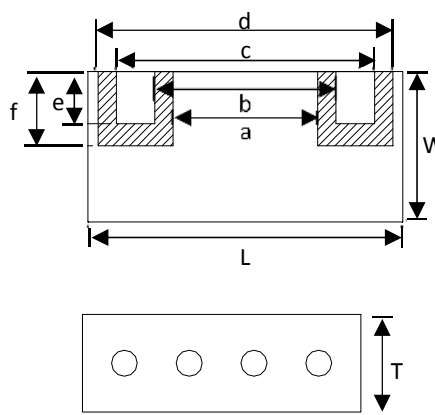
You can download measured s-parameters of this component at: <https://www.johansontechnology.com/band-pass-filters>

### Part Number Explanation

P/N Suffix	Packaging Style	Bulk	Suffix = S	E.g. 5235CR45A0180S
			T & R	Suffix = E
	Termination Style	Silver	Suffix = None	E.g. 5235CR45A0180(E or S)
	Evaluation Board	50Ω SMA	Suffix = EB1SMA	E.g. 5235CR45A0180-EB1SMA

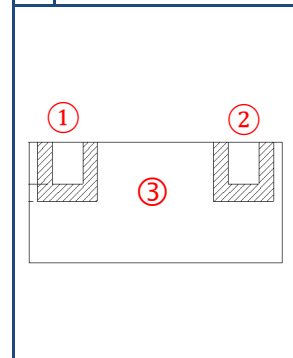
### Mechanical Dimensions

	In	mm
L	0.337 ± 0.010	8.56 ± 0.25
W	0.152 ± 0.010	3.85 ± 0.25
T	0.114 ± 0.010	2.90 ± 0.25
a	0.156 ± 0.010	3.95 ± 0.25
b	0.195 ± 0.010	4.95 ± 0.25
c	0.278 ± 0.010	7.05 ± 0.25
d	0.317 ± 0.010	8.05 ± 0.25
e	0.053 ± 0.010	1.35 ± 0.25
f	0.077 ± 0.010	1.95 ± 0.25



### Terminal Configuration

No.	Function
1	IN/OUT
2	IN/OUT
3	GND



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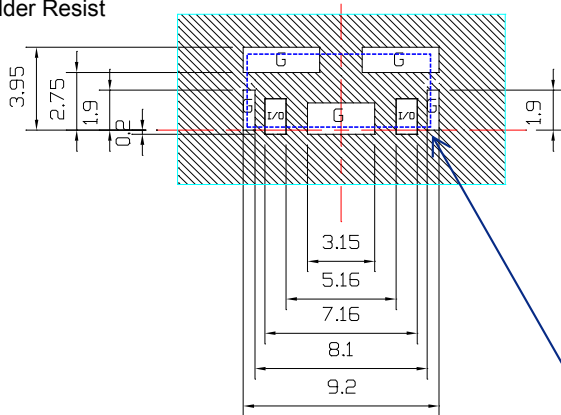
P/N 5235CR45A0180

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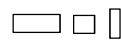
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### Mounting Pad Dimensions (Solder Resist pattern and Conductive pattern)

Solder Resist



Solder resist mask

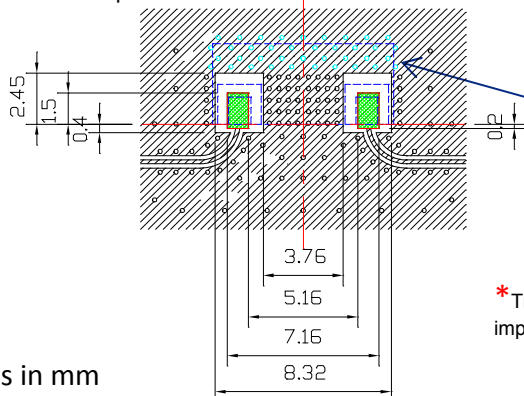


Solder pads

G = Ground (these are important for proper functionality)

I/O = Input/Output

Ground and trace pattern dimensions



INPUT/OUTPUT

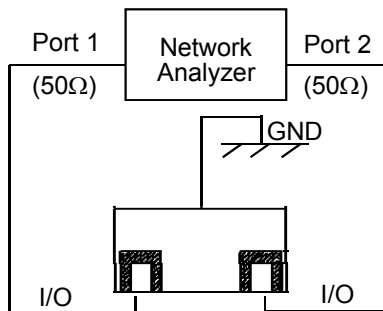
Blue rectangle represents the filter mounted onto the pattern

Would you like the layout? Send us a message at:  
<https://www.johansontechnology.com/ask-a-question>

\* Transmission line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

units in mm

### Measurement Schematic



Port 1: Filter IN/OUT  
 Port 2: Filter IN/OUT

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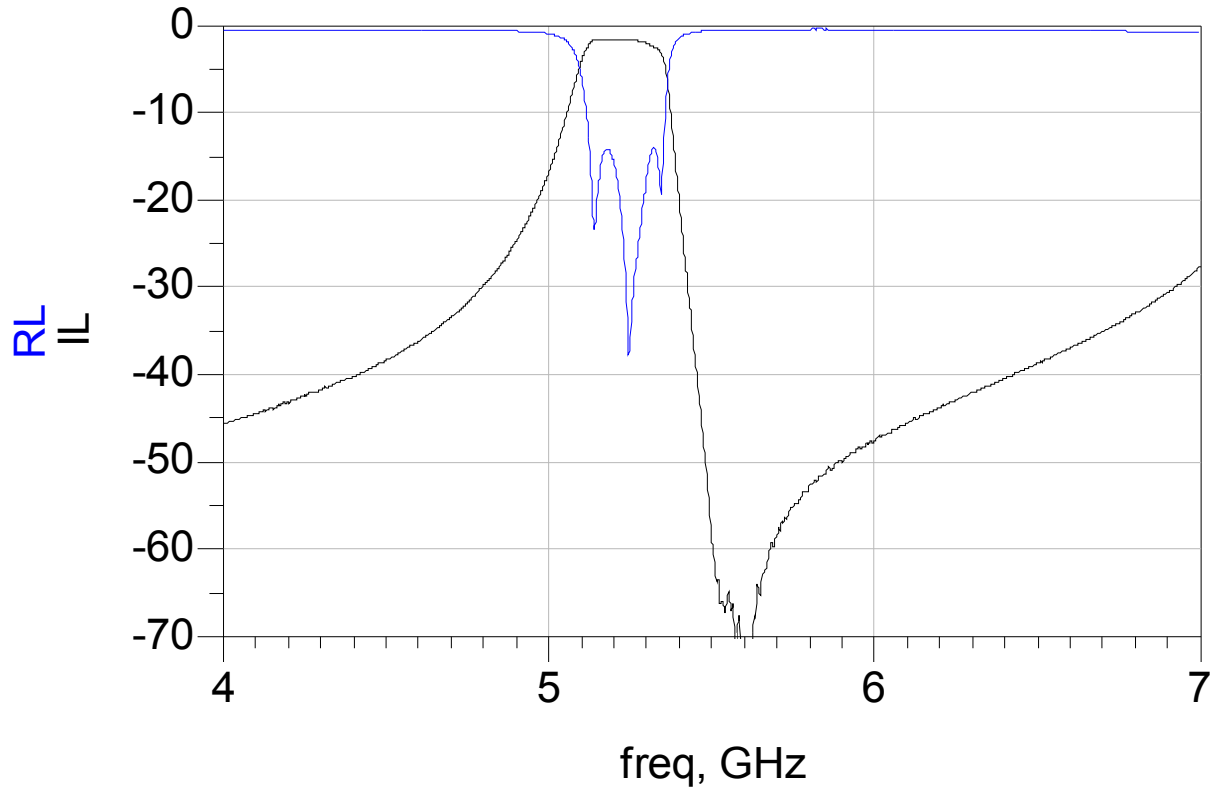
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## Typical Electrical Characteristics (T=25°C)

Insertion Loss & Return loss



Do you need the S-parameter file of the above? Send us a message at:  
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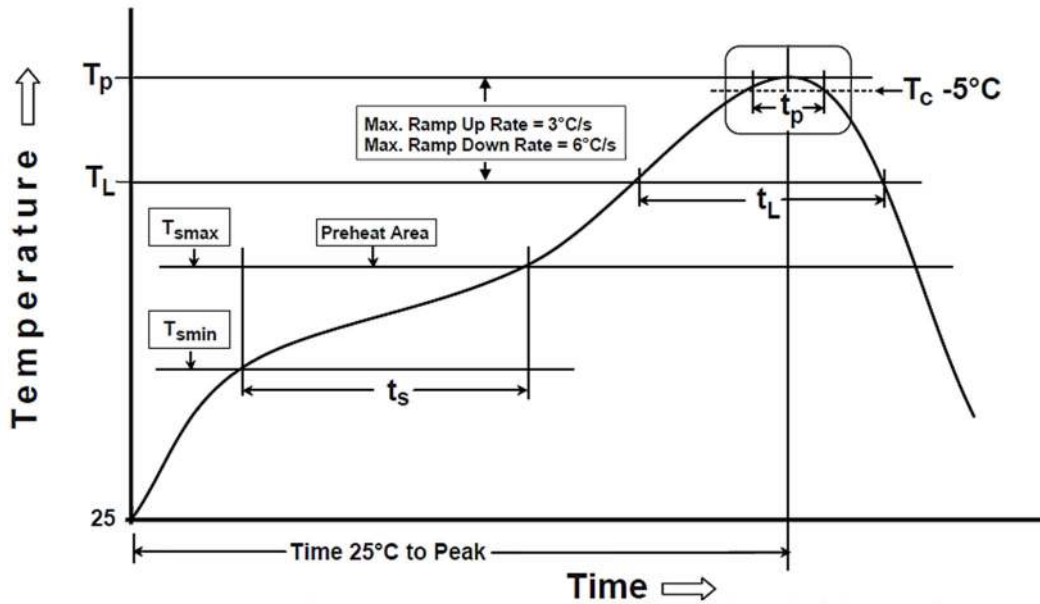
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## Recommended Reflow Soldering Profile



Phase	Profile features	Pb-Free Assembly (SnAgCu)
Preheat	-Temperature min( $T_{smin}$ ) -Temperature max( $T_{smax}$ ) -Time( $t_s$ ) from ( $T_{smin}$ to $T_{smax}$ )	150°C 200°C 60-120 seconds
Ramp-up	Avg. Ramp-up rate( $T_{smax}$ to $T_p$ )	3°C/second(max)
Reflow	-Temperature( $T_L$ ) -Total time above $T_L$ ( $t_L$ )	217°C 30-100 seconds
Peak	-Temperature( $T_p$ ) -Time( $t_p$ )	260°C 3 second
Ramp-down	Rate	6°C/second max.
Time from 25°C to peak temperature		8 minutes max.
Composition of solder paste		96.5Sn/3Ag/0.5Cu

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## Application Notes, Layout Files, and more

<https://www.johansontechnology.com/band-pass-filters>

## Packaging information

<https://www.johansontechnology.com/tape-reel-packaging>

## Soldering Information

<https://www.johansontechnology.com/ipcsoldering-profile>

## MSL Info

<https://www.johansontechnology.com/msl-rating>

## Recommended Storage Condition and Max Shelf Life

<https://www.johansontechnology.com/recommended-storage-conditions>

## RoHS Compliance

<https://www.johansontechnology.com/technical-notes/rohs-compliance>

## Antenna layout and tuning techniques

<https://www.johansontechnology.com/tuning.html>

## Antenna layout review, tuning, and characterization services

<https://www.johansontechnology.com/ipc-antenna-services>

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