

# High Frequency Ceramic Solutions

2.4GHz / 5GHz Diplexer, EIA 0603, LGA package

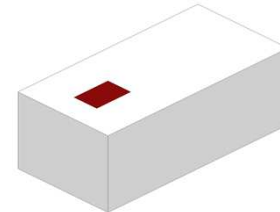
P/N 2450DP14R5400

Detail Specification: 7/16/2021

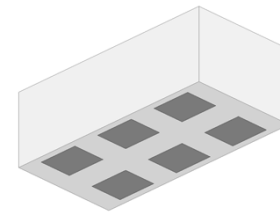
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Not exactly what you are looking for and want to see our other diplexers? Go to: <https://www.johansontechnology.com/diplexers>

General Specifications		
Part Number	2450DP14R5400	
Frequency	Low Band	High Band
Insertion Loss (dB)	<b>2.4 - 2.5GHz</b> 0.64 typ.(0.8 max.@ 25°C) 0.84 typ.(1.0 max.@ 105°C)	<b>4.9 - 5.1GHz</b> 1.08 typ.(1.2 max.@ 25°C) 1.28 typ.(1.4 max.@ 105°C)
		<b>5.15 - 5.95GHz</b> 0.8 typ. (1.0 max.@ 25°C) 1.0 typ. (1.2 max.@ 105°C)
Return Loss (dB)	9.5 min.	9.5 min.
Attenuation (dB)	50 typ.(40 min.) @ 4.8-5.0GHz 34 typ.(30 min.) @ 7.2-7.5GHz	45 typ.(40 min.) @ 2.4-2.5GHz 26 typ.(22 min.) @ 10.3-11.7GHz 26 typ.(22 min.) @ 15.3-16.2GHz
Isolation (dB)	45 typ.(40 min.) @ 2.4-2.5GHz 43 typ.(38 min.) @ 4.8-6.0GHz	
Power Capacity (W)	2 max. (CW)	
Operating Temp.	-40 to +105 °C	
Recommended Storage Conditions and Period for Unused Product on T&R	+5°C to +35°C Humidity 45 - 75% RH 18 months max.	
Reel Quantity (pcs./reel)	4,000	



Top



Bottom

Part Number Explanation				
P/N Suffix	Packing Style	Bulk (loose pcs.)	Suffix = S	E.g. 2450DP14R5400S
		T & R	Suffix = T	E.g. 2450DP14R5400T
	Termination Style	100% Tin	Suffix = None	E.g. 2450DP14R5400(T or S)
	Evaluation Board	2450DP14R5400-EB1SMA		

Mechanical Dimensions			
	In	mm	
L	0.063 ± 0.004	1.6 ± 0.1	
W	0.031 ± 0.004	0.8 ± 0.1	
T	0.028 max	0.7 max	
a	0.012 ± 0.002	0.3 ± 0.05	
b	0.008 ± 0.002	0.2 ± 0.05	
c	0.010 ± 0.002	0.25 ± 0.05	
d	0.008 ± 0.002	0.2 ± 0.05	
e	0.006 ± 0.001	0.15 ± 0.025	
f	0.002 ± 0.001	0.05 ± 0.025	

Terminal Configuration			
No.	Function	No.	Function
1	GND	4	Low Freq. Band
2	Common Port	5	GND
3	GND	6	High Freq. Band

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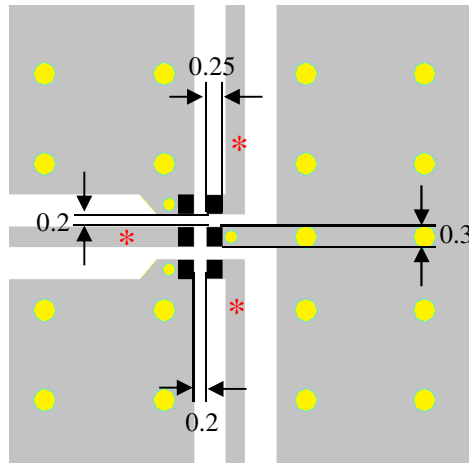
P/N 2450DP14R5400

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## Mounting Considerations

Units in mm



■ Solder Resist

■ Land

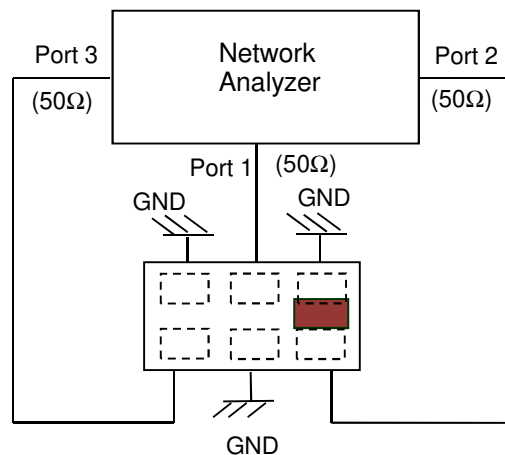
● Through-hole ( $\phi$  0.35)

● Through-hole ( $\phi$  0.2)

\* Line width should be designed to maintain 50 $\Omega$  characteristic impedance (CPWG preferred), depending on PCB material and thickness.

Need help with the layout, s-parameters, simulation, or design validation?  
Send us a message at: <https://www.johansontechnology.com/ask-a-question>

## Measuring Diagram



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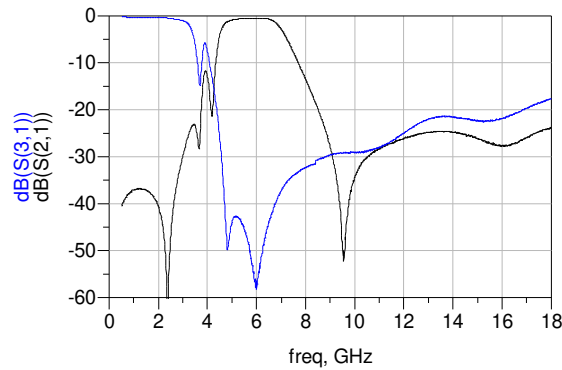
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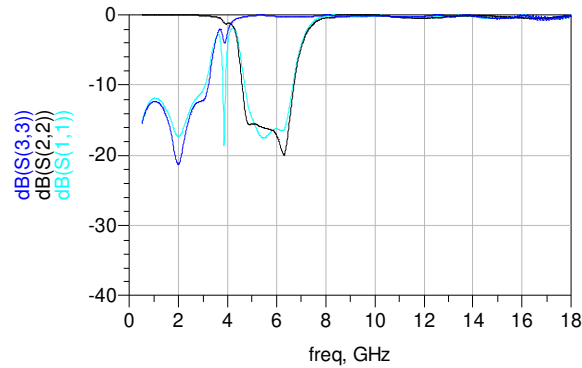
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## Typical Electrical Characteristics (T=25 °C)

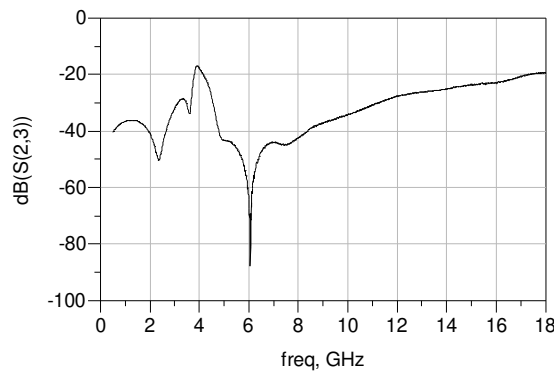
Insertion Loss



Return Loss



Isolation



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## Application Notes, Layout Files, and more

<https://www.johansontechnology.com/diplexers>

## 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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