

# High Frequency Ceramic Solutions

## 2.45 / 5.4GHz Low Loss Ceramic Chip Diplexer (LPF/BPF type)

P/N 2450DP15L5400

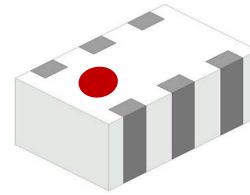
Detail Specification: 4/6/2021

Page 1 of 4

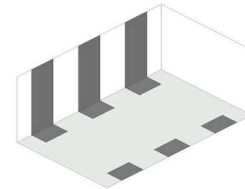
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### General Specifications

<b>Part Number</b>	2450DP15L5400	
<b>Passband (MHz)</b>	2400-2500	4900-5950
<b>Insertion Loss (dB)</b>	0.25 typ.(0.5 max.)	0.35 typ.(0.65 max.)
<b>Return Loss (dB)</b>	20 typ.(10 min.)	15 typ.(10 min.)
<b>Attenuation (dB)</b>	27 typ. (20 min.) @ 4.8-6.0GHz	23 typ. (20 min.) @ 0.8-2.5GHz
	30 typ. (20 min.) @ 7.2-7.5GHz	18 typ. (15 min.) @ 9.8-11.9GHz
<b>Isolation (dB)</b>	22 typ. (20 min.) @ DC-2.5GHz	27 typ. (20 min.) @ 4.9-5.95GHz
<b>Power Capacity (W)</b>	2 max. (CW)	
<b>Operating Temp.</b>	-40 to +85 °C	
<b>Recommended Storage Conditions and Period for Unused Product on T&amp;R</b>	+5°C to +35°C Humidity 45 - 75% RH 18 months max.	
<b>Reel Quantity (pcs/reel)</b>	4,000	



Top



Bottom

Note: This component is identical to p/n: 2450DP15K5400 except that the 2.4G and 5G pins are swapped in functionality and has a round top red mark for distinction.

### Part Number Explanation

<b>P/N Suffix</b>	<b>Packing Style</b>	Bulk (loose pcs.)	Suffix = S	e.g. 2450DP15L5400S
		T & R	Suffix = E	e.g. 2450DP15L5400E
		100% Tin	Suffix = None	e.g. 2450DP15L5400(E or S)
	<b>Evaluation Board</b>	2450DP15L5400-EB1SMA		

### Mechanical Dimensions

	In	mm
<b>L</b>	0.079 ± 0.004	2.00 ± 0.10
<b>W</b>	0.049 ± 0.004	1.25 ± 0.10
<b>T</b>	0.020 ± 0.004	0.50 ± 0.10
<b>a</b>	0.012 ± 0.004	0.30 ± 0.10
<b>b</b>	0.008 ± 0.004	0.20 ± 0.10
<b>c</b>	0.012 ± 0.004/-0.008	0.30 ± 0.1/-0.2
<b>g</b>	0.014 ± 0.004	0.35 ± 0.10
<b>p</b>	0.026 ± 0.002	0.65 ± 0.05

### Terminal Configuration

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

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Ver. 3.3

<https://www.johansontechnology.com>

4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821

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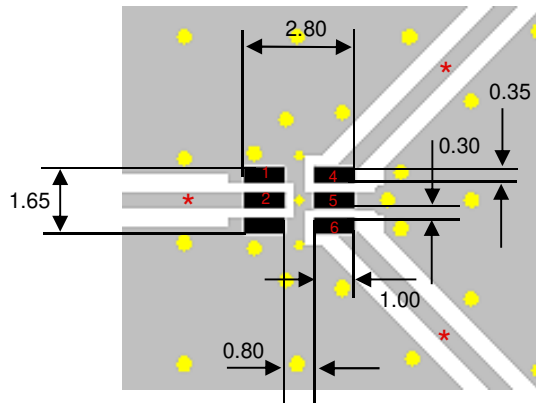
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Detail Specification: 4/6/2021

Page 2 of 4

## Mounting Considerations

Units in mm



■ Solder Resist

■ Land

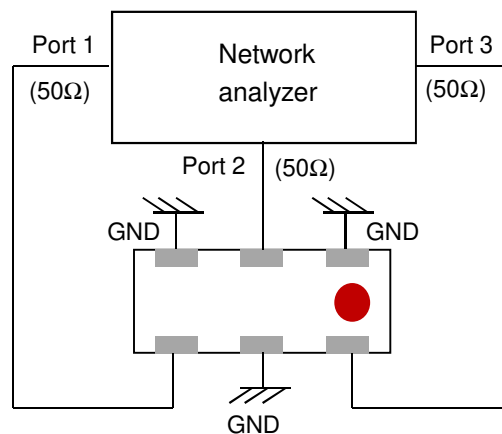
● Through-hole ( $\phi$  0.35)

● 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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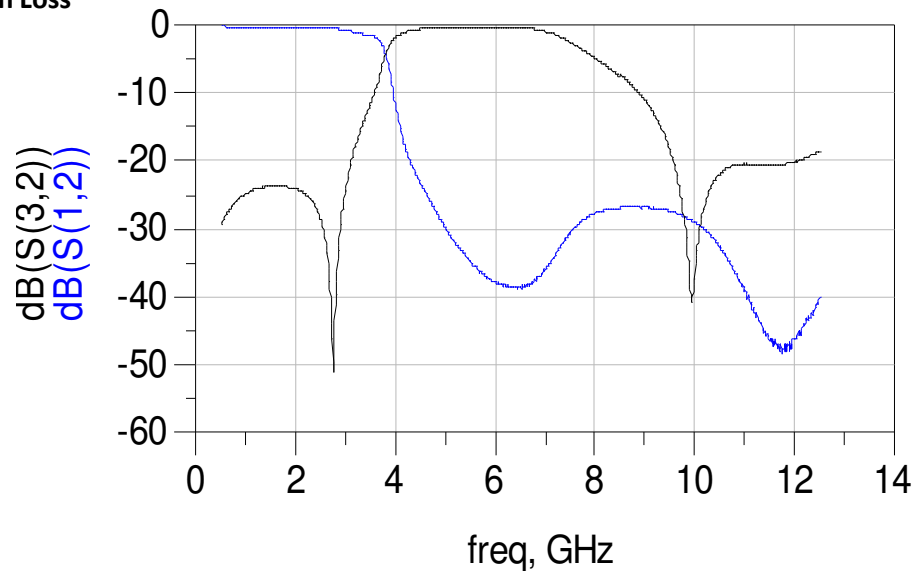
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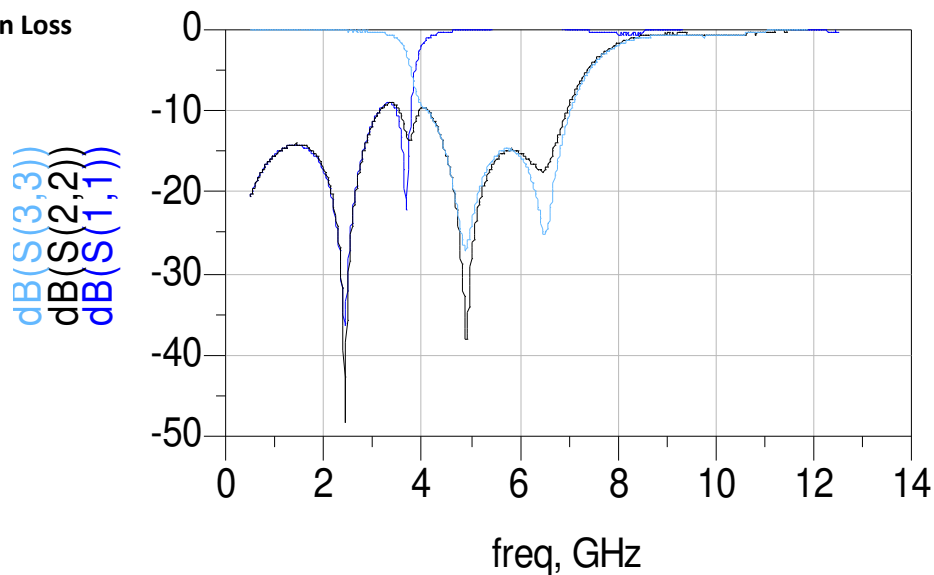
Page 3 of 4

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

Insertion Loss



Return Loss



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Page 4 of 4

## 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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