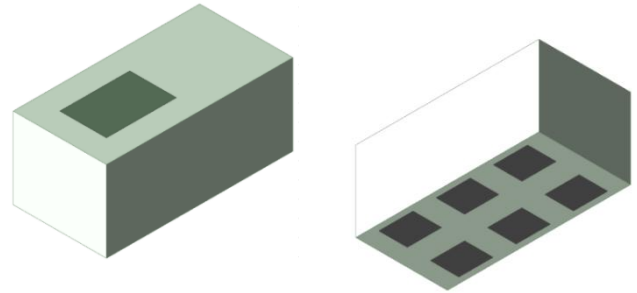


## 2450 / 6000 MHz RF Diplexer

- 2400 - 2500 / 4900 - 7150 MHz operational bands
- WiFi, WiFi 6E, Bluetooth, Zigbee, 5 GHz UNII
- SMD, EIA 0603
- RoHS compliant



### General Specifications<sup>1 2</sup>

Passband Frequency (MHz)	2400 - 2500	4900 - 5100	5150 - 7150
Insertion Loss (dB)	0.8 Typ. / 1.0 Max.	1.2 Typ. / 1.5 Max.	1.0 Typ. / 1.2 Max.
Return Loss (dB)	9.5 Min.	9.5 Min.	9.5 Min.
Attenuation (dB)	50 Typ. / 45 Min. @4800 - 5000 MHz	50 Typ. / 40 Min. @2400 - 2500 MHz	25 Typ. / 22 Min. @10300 - 14300 MHz
Isolation (dB)	33 Typ. / 15 Min. @7200 - 7500 MHz	50 Typ. / 40 Min. @2400 - 2500 MHz	25 Typ. / 15 Min. @15300 - 21450 MHz
		50 Typ. / 40 Min. @4800 - 5000 MHz	
		45 Typ. / 40 Min. @5000 - 6000 MHz	
		35 Typ. / 30 Min. @6000 - 7150 MHz	

<sup>1</sup> Typical value represents average measurement at 25°C. Min./Max. values represent measurements over specified operating temperature.

<sup>2</sup> General specifications measured on Johanson's evaluation board PN 2450DP14A6000001CE1.

**Maximum Ratings**

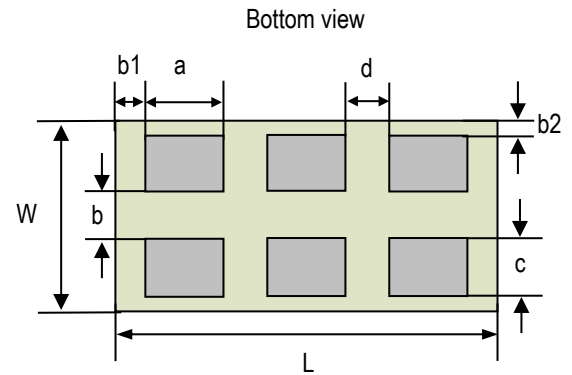
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Power Capacity (W)	3 Max. (CW)
Operating Temperature (°C)	-40 to +105
Recommended Storage Conditions post-installation (°C)	-40 to +105
Recommended Storage Conditions and Period for Unused T&R Product	45% - 75% RH
	+5 to +35°C
	18 Months Max.

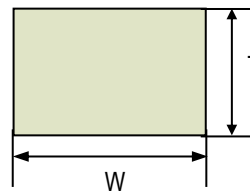
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**Mechanical Dimensions**

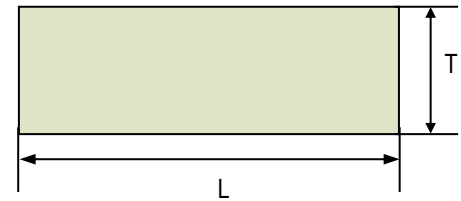
	Inches			Millimeters		
<b>L</b>	0.063	±	0.004	1.60	±	0.10
<b>W</b>	0.031	±	0.004	0.80	±	0.10
<b>T</b>	0.027 Max.			0.70 Max.		
<b>a</b>	0.012	±	0.004	0.30	±	0.10
<b>b</b>	0.008	±	0.004	0.20	±	0.10
<b>c</b>	0.010	±	0.004	0.25	±	0.10
<b>d</b>	0.008	±	0.004	0.20	±	0.10
<b>b1</b>	0.006	±	0.002	0.15	±	0.05
<b>b2</b>	0.002	±	0.002	0.05	±	0.05



Side view



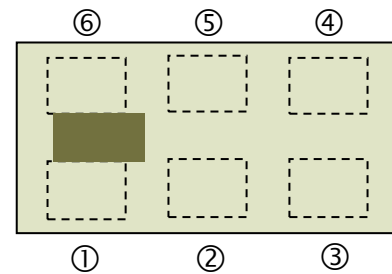
Side view



**Terminal Configuration<sup>3</sup>**

Pin Number	Function
1	GND
2	Common Port
3	GND
4	Higher Freq. Port
5	GND
6	Lower Freq. Port

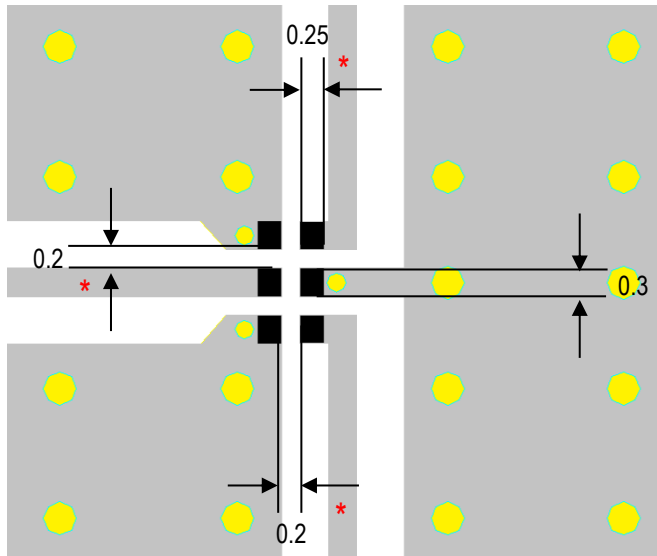
Top view







<sup>3</sup> The termination type is Nickel Tin. Go to: <https://www.johansontechnology.com/tech-notes/typical-soldering-profile-ipc/> for Typical Soldering Profile.

**Recommended PCB Layout**

Note: Mount device with colored mark facing up.



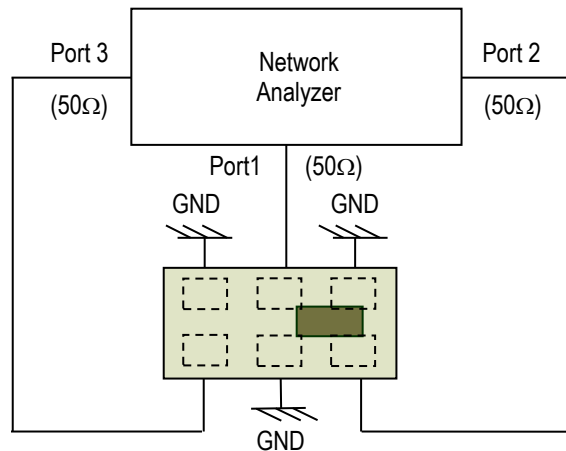
Units: mm

-  Solder Resist
-  Land
-  Through-hole ( $\phi 0.35$ )
-  Through-hole ( $\phi 0.2$ )

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

If you would like the full reference design package or have any questions, contact our application engineers at <https://www.johansontechnology.com/ask-a-question>

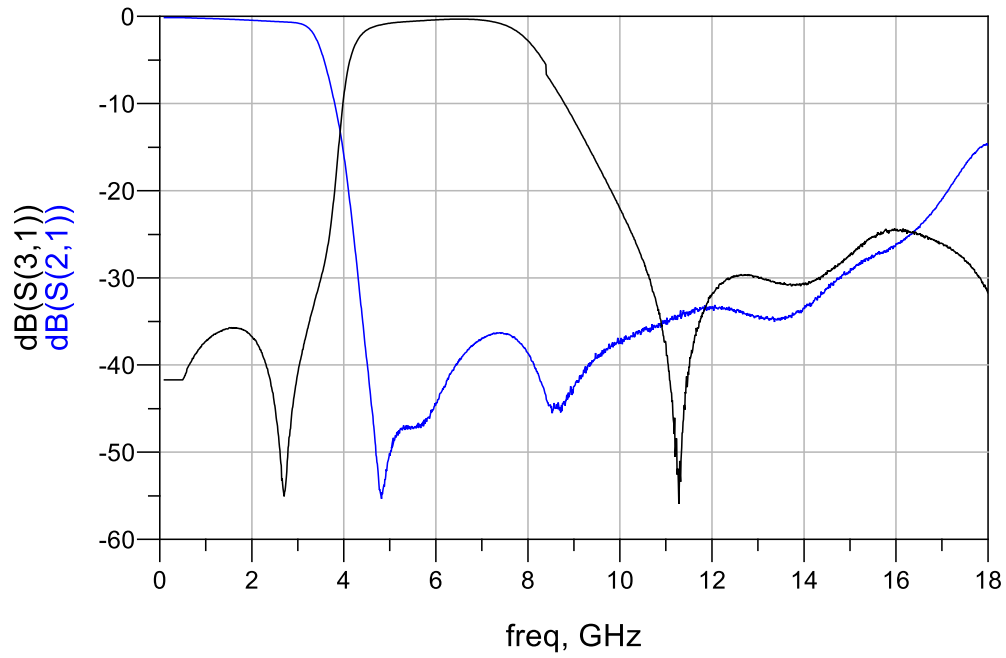
**Measuring Diagram**



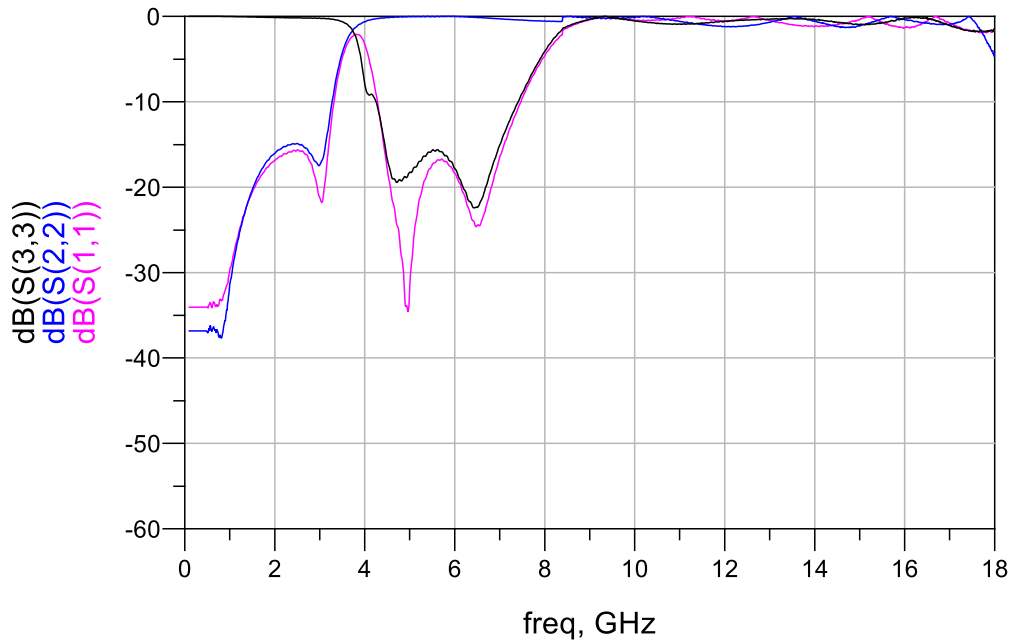


**RF Measurements (T = 25°C)**

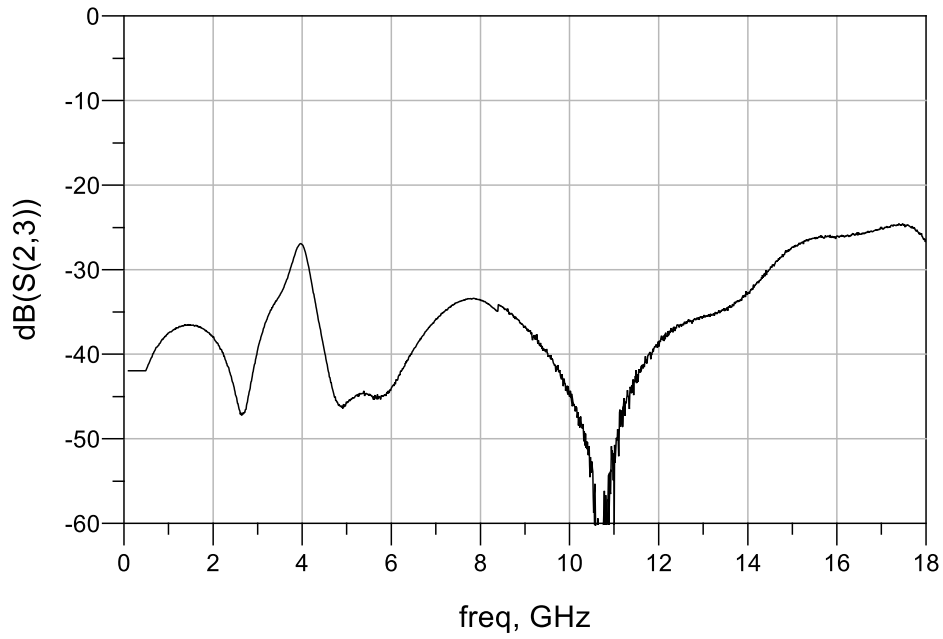
**Insertion Loss and Attenuation**



**Return Loss**



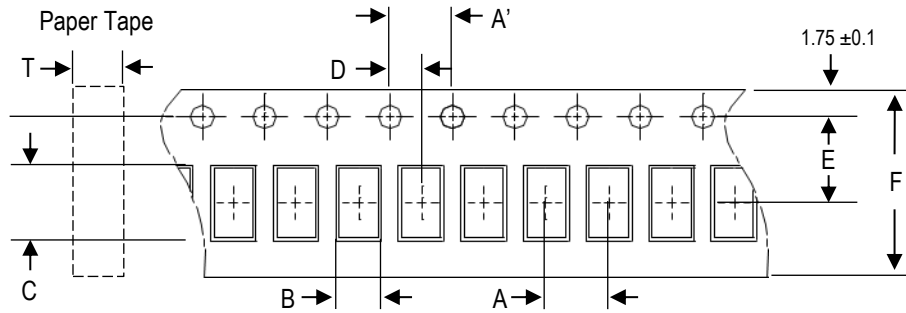
**Isolation**



S-parameter and layout files available upon request. Please contact us at <https://www.johansontechnology.com/ask-a-question>

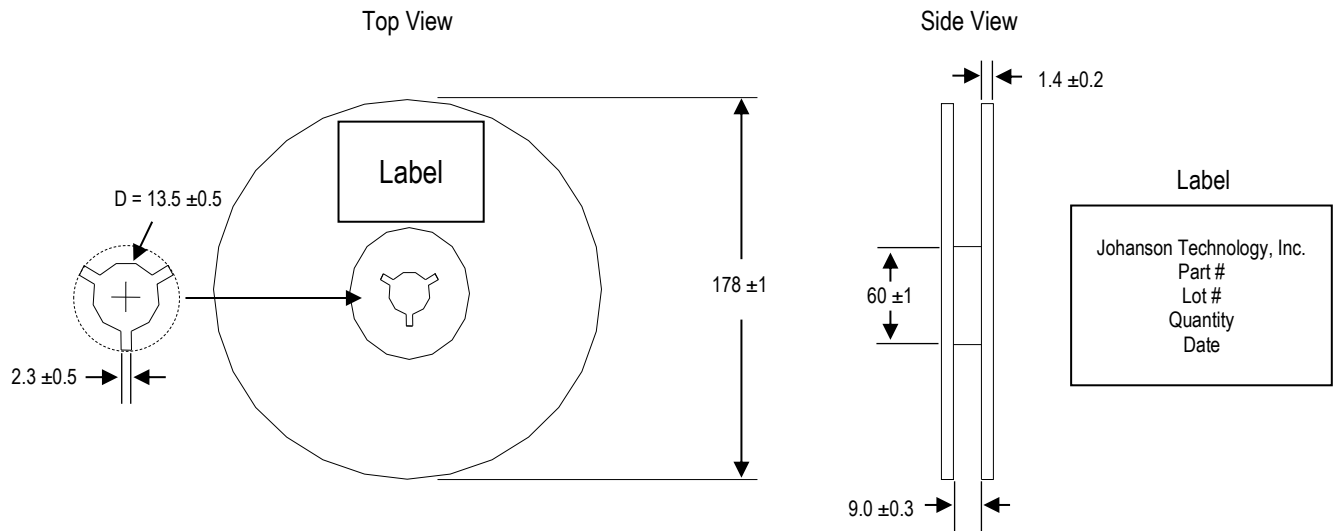
**Tape and Reel Specifications (Units in mm)**

**Tape Dimensions**

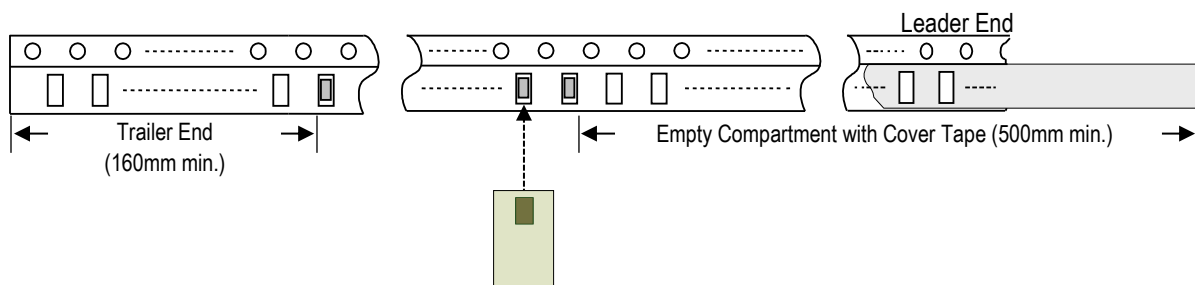


A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
4.0 ± 0.1	4.0 ± 0.1	1.10 ± 0.1	1.92 ± 0.1	2.0 ± 0.1	3.5 ± 0.1	8.0 ± 0.1	0.75 ± 0.05	4,000 pcs	Paper

**Reel Dimensions**



**Leader and Trailer Dimensions**



**Orderable Part Numbers**

Packaging Style	Part Number	Termination
Bulk (loose pcs.)	2450DP14A6000001B	Nickel Tin
T & R (7" Reel Paper Tape)	2450DP14A6000001T (Qty: 4,000 pcs./reel)	
Evaluation Board with 3 SMA Connector	2450DP14A6000001CE1	

**Important Links**

[2450DP14A6000001T Product Page](#)

[More Diplexers](#)

[Antenna Tuning, Optimization, and Validation Services](#)

[Soldering Information](#)

[MSL Information](#)

[Packaging Information](#)

[Recommended Storage Condition and Max Shelf Life](#)

[RoHS Compliance](#)

*Contact our application engineers for a PCB layout review.*

**Johanson Technology, Inc. reserves the right to make design changes without notice.**

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