

# "High Frequency Ceramic Solutions"

## Mini 2.45 GHz Antenna

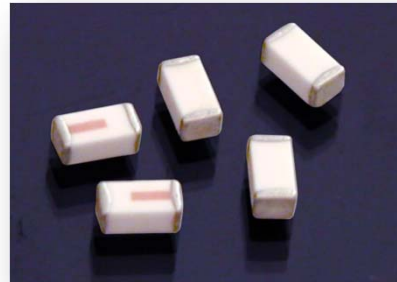
Detail Specification: 09/03/13

P/N 2450AT18A100

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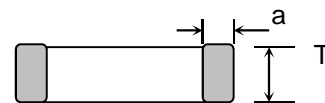
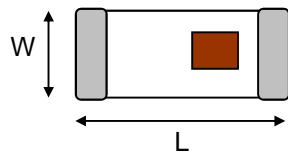
### General Specifications

|                       |                      |
|-----------------------|----------------------|
| Part Number           | 2450AT18A100         |
| Frequency Range       | 2400 - 2500 Mhz      |
| Peak Gain             | 0.5 dBi typ. (XZ-V)  |
| Average Gain          | -0.5 dBi typ. (XZ-V) |
| Return Loss           | 9.5 dB min.          |
| Input Power           | 2W max. (CW)         |
| Impedance             | 50 $\Omega$          |
| Operating Temperature | -40 to +85°C         |
| Reel Quantity         | 3,000                |



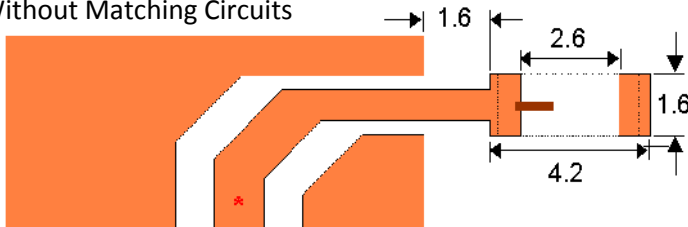
### Mechanical Dimensions

|   | In                 | mm              |
|---|--------------------|-----------------|
| L | 0.126 $\pm$ 0.008  | 3.20 $\pm$ 0.20 |
| W | 0.063 $\pm$ 0.008  | 1.60 $\pm$ 0.20 |
| T | 0.051 +.004/-0.008 | 1.30 +0.1/-0.2  |
| a | 0.020 $\pm$ 0.012  | 0.50 $\pm$ 0.30 |

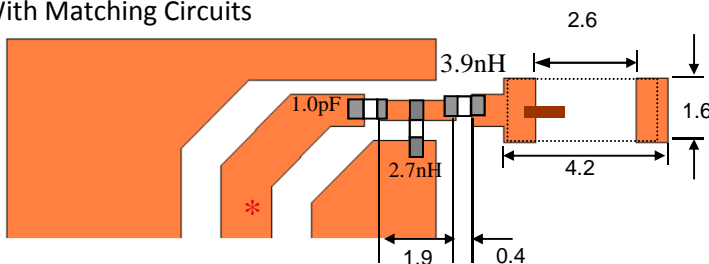


### Mounting Considerations

#### a) Without Matching Circuits



#### b) With Matching Circuits

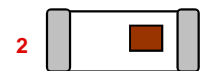


Mount these devices with mark facing up. Units: mm

\* Line width should be designed to provide 50  $\Omega$  impedance matching characteristics.

### Terminal Configuration

| No. | Function      |
|-----|---------------|
| 1   | Feeding Point |
| 2   | NC            |



Note: It is recommended that the designer leave available slots for a "pi" (or shunt-series-shunt) network. The antenna matching network values here are used when antenna is mounted on Johanson's evaluation board. The matching values on client's PCB will be different, go to: [www.johansontechnology.com/tuning](http://www.johansontechnology.com/tuning) and see how to obtain the new values. If you need further help, contact our RF Applications Eng Team at: [www.johansontechnology.com/en/ask-a-technical-question.html](http://www.johansontechnology.com/en/ask-a-technical-question.html)

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[www.johansontechnology.com](http://www.johansontechnology.com)

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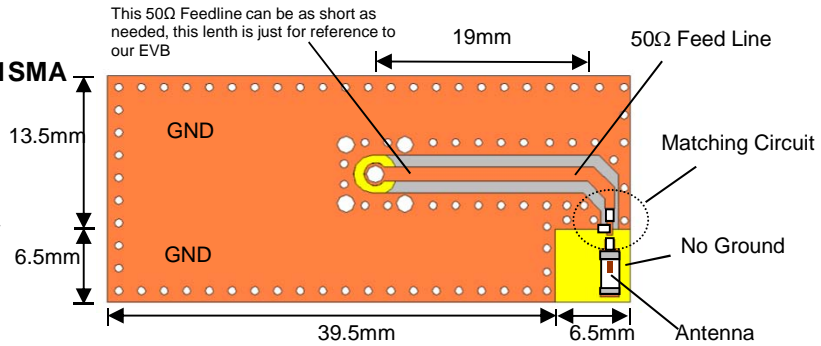
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### Typical Electrical Characteristics (T=25°C)

#### Test Board:

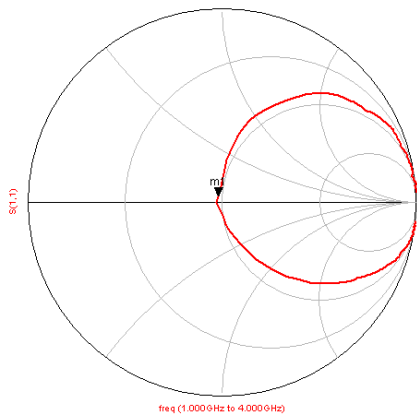
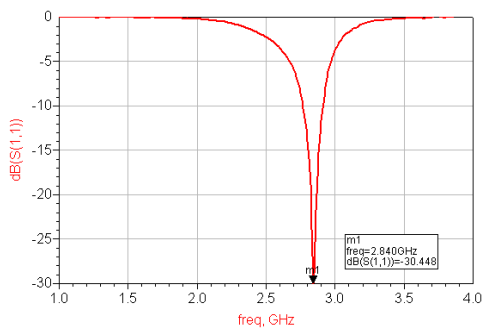
P/N: 2450AT18A100-EB1SMA  
(orderable item)

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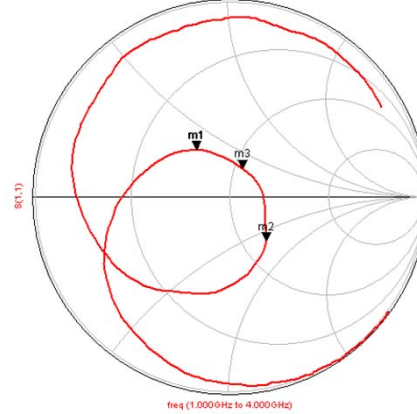
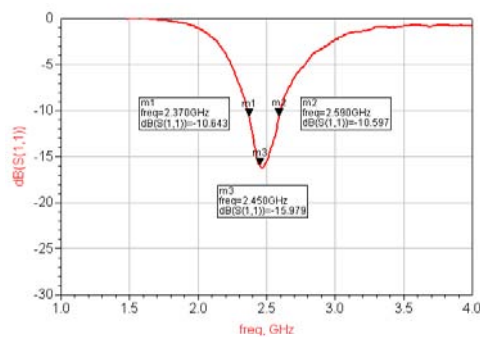


#### Return Loss

##### a) Without Matching Circuits



##### b) With Matching Circuits



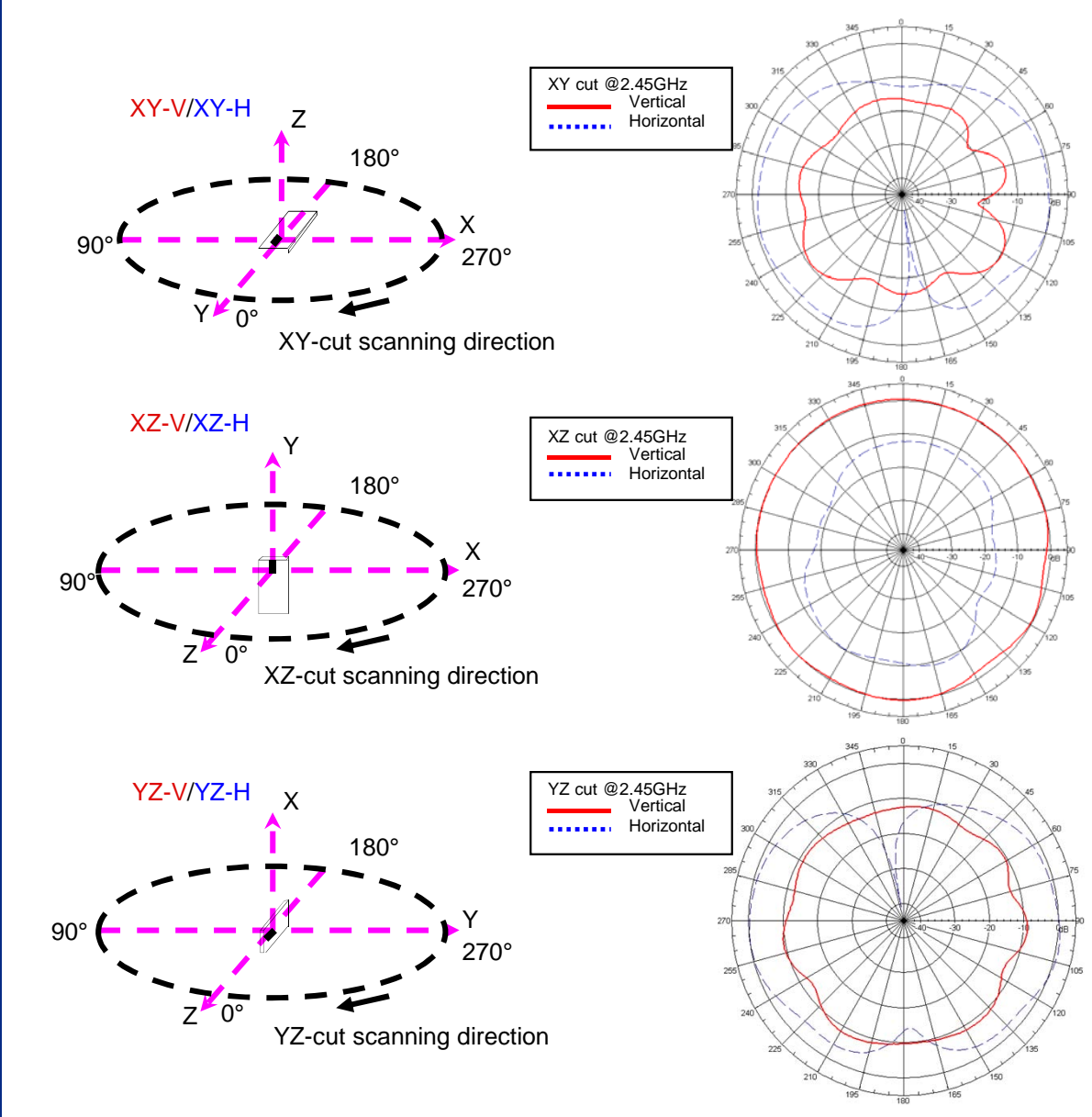
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 Detail Specification: 09/03/13

**P/N 2450AT18A100**  
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## Typical Radiation Patterns at 2.45GHz (25C)



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## Part Number Explanation

|   |                              |                     |                        |                                 |
|---|------------------------------|---------------------|------------------------|---------------------------------|
| <b>P/N Suffix</b>   | <b>Packaging Style</b>       | Bulk (loose pieces) | Suffix = S             | Eg. 2450AT18A100S               |
|   |                              | T & R               | Suffix = E             | Eg. 2450AT18A100E               |
|   |                              | T & R (Reverse)     | Suffix = R             | Eg. 2450AT18A100R (MOQ Applies) |
|   | <b>Termination style</b>     | 100% Tin (RoHS)     | Suffix = S/E/R         | Eg. 2450AT18A100(S, E, R)       |
|   |                              | Tin / Lead          | Please consult Factory |                                 |
| <b>Evaluation Board(s)<br/>(1-port SMA antenna<br/>test boards)</b> | 2450AT18A100-EB1SMA (Page 2) |                     |                        |                                 |

## Packaging information

[www.johansontechnology.com/ipcpackaging.html](http://www.johansontechnology.com/ipcpackaging.html)

## Soldering Information

[www.johansontechnology.com/ipcsoldering-profile](http://www.johansontechnology.com/ipcsoldering-profile)

## Antenna layout review, tuning, and characterization services

[www.johansontechnology.com/ipcantennaservices](http://www.johansontechnology.com/ipcantennaservices)

## RoHS Compliance

[www.johansontechnology.com/technical-notes/rohs-compliance.html](http://www.johansontechnology.com/technical-notes/rohs-compliance.html)

## MSL Info

[www.johansontechnology.com/technical-notes/msl-rating.html](http://www.johansontechnology.com/technical-notes/msl-rating.html)

## Recommended Storage Condition and Max Shelf Life

[www.johansontechnology.com/ipcstorage-shelflife](http://www.johansontechnology.com/ipcstorage-shelflife)

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