2.4GHz Mini Antenna, SMT

P/N 2450AT18A100

Detail Specification: 7/9/2018

General Specifications

<table>
<thead>
<tr>
<th>Part Number</th>
<th>2450AT18A100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency (MHz)</td>
<td>2400 - 2500</td>
</tr>
<tr>
<td>Avg. Rad Efficiency*</td>
<td>76%</td>
</tr>
<tr>
<td>Peak Gain (dBi typ.)</td>
<td>0.5</td>
</tr>
<tr>
<td>Average Gain (dBi typ.)</td>
<td>-0.5</td>
</tr>
<tr>
<td>Return Loss (dB)</td>
<td>9.5 min.</td>
</tr>
<tr>
<td>Impedance</td>
<td>50 Ω</td>
</tr>
<tr>
<td>Input Power</td>
<td>2 Watts max. (CW)</td>
</tr>
</tbody>
</table>

Storage Period: 18 months max.
Storage Temperature: -40 to +125°C
Operating Temperature: -40 to +125°C

Part Number Explanation

<table>
<thead>
<tr>
<th>P/N Suffix</th>
<th>Packing Style</th>
<th>Suffix = S</th>
<th>e.g. 2450AT18A100S</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>T &amp; R</td>
<td>Suffix = E</td>
<td>e.g. 2450AT18A100E</td>
</tr>
<tr>
<td>100% Tin</td>
<td>Suffix = E or S</td>
<td>e.g. 2450AT18A100(E or S)</td>
<td></td>
</tr>
</tbody>
</table>

Evaluation Board: 2450AT18A100-EBSMA (see page 2&3 for details)

Mechanical Dimensions

<table>
<thead>
<tr>
<th>L</th>
<th>W</th>
<th>T</th>
<th>a</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.126</td>
<td>0.063</td>
<td>0.051</td>
<td>0.020</td>
</tr>
</tbody>
</table>

± 0.008 | ± 0.008 | ±0.004/-0.008 | ± 0.012 |

3.20 ± 0.2 | 1.60 ± 0.2 | 1.30 +0.1/-0.2 | 0.50 ± 0.3 |

Terminal Configuration

<table>
<thead>
<tr>
<th>No.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>FEED</td>
</tr>
<tr>
<td>2</td>
<td>NC</td>
</tr>
</tbody>
</table>

Want the layout file? Request it at: www.johansontechnology.com/ask-a-question

“High Frequency Ceramic Solutions”

Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.

www.johansontechnology.com

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

Ver. 3.0
2018 Johanson Technology, Inc. All Rights Reserved
Mounting Considerations 1: Evaluation Board

JTI P/N for Matching Circuit:
- Cap (1.0pF): 500R07S1R02BV4T
- Inductor (2.7nH): L-07C2N7SV6T
- Inductor (3.9nH): L-07C3N9SV6T

To order a pre-tuned 50Ω EVB with a female SMA connector click here: [www.johansontechnology.com/request-a-sample](http://www.johansontechnology.com/request-a-sample)

Reference p/n: 2450AT18A100-EBSMA

Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.

[www.johansontechnology.com](http://www.johansontechnology.com)
4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821
Ver. 3.0 2018 Johanson Technology, Inc. All Rights Reserved
Mounting Considerations 1: Typical Electrical Performance (T=25°C)

Return Loss with matching circuit @ +25°C
VSWR with matching circuit @ +25°C and +125°C

<table>
<thead>
<tr>
<th>m1</th>
<th>freq=2.400GHz</th>
<th>VSWR_25=1.386</th>
</tr>
</thead>
<tbody>
<tr>
<td>m2</td>
<td>freq=2.500GHz</td>
<td>VSWR_25=1.219</td>
</tr>
<tr>
<td>m3</td>
<td>freq=2.400GHz</td>
<td>VSWR_125=1.306</td>
</tr>
<tr>
<td>m4</td>
<td>freq=2.500GHz</td>
<td>VSWR_125=1.332</td>
</tr>
</tbody>
</table>

Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.
Mounting Considerations 1: Antenna Performance

Typical 2D radiation patterns @ 2.44GHz

YZ-plane

XZ-plane

XY-plane

Johansson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.
### Antenna tuning, optimization, and validation services:
www.johansontechnology.com/ipc-antenna-services

### For more antennas and to download measured S-parameters, go to:
www.johansontechnology.com/antennas

### Soldering Information
www.johansontechnology.com/ipcsoldering-profile

### MSL Info
www.johansontechnology.com/msl-rating

### Packaging information
www.johansontechnology.com/tape-reel-packaging

### For layout review contact our Applications Team at:
www.johansontechnology.com/ask-a-question

### RoHS Compliance
www.johansontechnology.com/rohs-compliance

Need help designing the antenna in? Use our antenna design services!
www.johansontechnology.com/ipc-antenna-services
We provide 2 free layout reviews and if you need us to tune and characterize the antenna on your product (inside anechoic chamber) we can do that too. Small lab fee may apply for the latter.