**General Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part Number</td>
<td>7000AT18A1600</td>
</tr>
<tr>
<td>Frequency (GHz)</td>
<td>6.2 - 8.24</td>
</tr>
<tr>
<td>Avg. Rad Efficiency</td>
<td>92%</td>
</tr>
<tr>
<td>Peak Gain (dBi)</td>
<td>2.0 typ.</td>
</tr>
<tr>
<td>Average Gain (dBi)</td>
<td>-0.5 typ.</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>3 Watts max. (CW)</td>
</tr>
</tbody>
</table>

**Recommended Storage Conditions and Period for unused T&R Product**

- +5 to +35°C
- Humidity 45 - 75% RH
- 18 months max.

**Part Number Explanation**

- **P/N Suffix**
  - Packing Style
    - Bulk (loose): Suffix = S
    - T & R: Suffix = E
    - 100% Tin: Suffix = E or S
  - Evaluation Board: 7000AT18A1600-EB1SMA (see page 2&3 for details)

**Mechanical Dimensions**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
<th>Tolerances</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>0.126 ± 0.008</td>
<td>3.20 ± 0.2</td>
</tr>
<tr>
<td>W</td>
<td>0.063 ± 0.008</td>
<td>1.60 ± 0.2</td>
</tr>
<tr>
<td>T</td>
<td>0.051 + 0.004/-0.008</td>
<td>1.30 + 0.1 / -0.2</td>
</tr>
<tr>
<td>a</td>
<td>0.020 ± 0.012</td>
<td>0.50 ± 0.3</td>
</tr>
</tbody>
</table>

**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>

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https://www.johansontechnology.com
Mounting Considerations 1: Evaluation Board

"No ground" area shall persist through all PCB layers

It is recommended that the designer leave available slots for a "T" (series-shunt-series) network. These particular antenna matching values are used when antenna is mounted on Johanson's evaluation board. The matching values on client's PCB will be different, just leave them empty until final assembly, then tune.

Want to learn how to tune or want us to tune for you? Go to: https://www.johansontechnology.com/ask-a-question

To order a pre-tuned 50Ω EVB with a female SMA connector click here:
https://www.johansontechnology.com/request-a-sample

Reference p/n: 7000AT18A1600-EB1SMA

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Mounting Considerations 1: Electrical Performance @ 25°C

Measured Return Loss

Would you like the antenna layout? Have antenna tuning issues? Please contact us if you have any questions regarding the implementation of this antenna in your PCB's layout. We'll be happy to guide you to maximize the antenna's performance.

Contact our applications engineers at:
https://www.johansontechnology.com/ask-a-question

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Mounting Considerations 1: Antenna Performance

Typical 2D radiation patterns @ 7.0GHz

XZ-plane

YZ-plane

XY-plane

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Need help designing the antenna in? Use our antenna design services!
https://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.

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