Multilayer Antenna

For 2400-2484MHz

ANT016008LCS2442MA1

1.6x0.8mm [EIA 0603]*

* Dimensions Code JIS[EIA]
Multilayer Antenna
For 2400-2484MHz
ANT016008LCS2442MA1

**SHAPES AND DIMENSIONS**

![Top view]

![Bottom view]

Terminal functions:
1. Radiator electrode
2. Dummy pad
3. Dummy pad
4. Feed point
5. Dummy pad
6. Dummy pad

Dimensions in mm:
- 0.20±0.10
- 0.63±0.10
- 0.215±0.10
- 0.25±0.10
- 0.20±0.10

**RECOMMENDED LAND PATTERN**

![Pattern 1]

Dimensions in mm:
- 0.21
- 0.70
- 0.90

**SOLDER RESIST PATTERN**

![Pattern 2]

Dimensions in mm:
- 0.11
- 0.60
- 0.73

RoHS Directive Compliant Product: See the following for more details: https://product.tdk.com/info/en/environment/rohs/index.html

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- Before using these products, be sure to request the delivery specifications.
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**ELECTRICAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Item</th>
<th>Frequency Range (MHz)</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>VSWR</td>
<td>2400 to 2484</td>
<td>—</td>
<td>1.60</td>
<td>3.0</td>
</tr>
<tr>
<td>Polarization</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCB size (mm)</td>
<td></td>
<td></td>
<td>50-20</td>
<td></td>
</tr>
<tr>
<td>Antenna keep-out area (mm)</td>
<td></td>
<td></td>
<td>5-3</td>
<td></td>
</tr>
<tr>
<td>Characteristic Impedance (Ω)</td>
<td></td>
<td></td>
<td>50 (Nominal)</td>
<td></td>
</tr>
</tbody>
</table>

- This is typical antenna performance with the standard PCB.

**TEMPERATURE RANGE**

<table>
<thead>
<tr>
<th>Operating temperature (°C)</th>
<th>Storage temperature (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>–40 to +85</td>
<td>–40 to +85</td>
</tr>
</tbody>
</table>

**FREQUENCY CHARACTERISTICS**

**EFFICIENCY AND VSWR**

- Tested antenna has been soldered. Evaluation board size is 50x20x1 mm.
**ANT016008LCS2442MA1**

### RADIATION PATTERNS

#### 2.4GHz BAND

- **Horizontal polarization**
  - **Frequency (MHz):** 2400, 2442, 2484
  - **Average (dBi):** –21.5, –21.5, –21.3
  - **Maximum (dBi):** –18.2, –18.2, –17.2
  - **Minimum (dBi):** –46.0, –40.8, –36.4

- **Vertical polarization**
  - **Frequency (MHz):** 2400, 2442, 2484
  - **Average (dBi):** 0.0, 0.3, –0.2
  - **Maximum (dBi):** 1.3, 1.6, 1.2
  - **Minimum (dBi):** –2.4, –2.2, –3.0

- **Tested antenna has been soldered. Evaluation board size is 50×20×1 mm.**

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ANT016008LCS2442MA1

RECOMMENDED REFLOW PROFILE

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>T2</td>
<td>T3</td>
<td>T4</td>
<td>T5</td>
<td></td>
</tr>
<tr>
<td>150°C</td>
<td>180°C</td>
<td>230°C</td>
<td>247 to 253°C</td>
<td>260°C max.</td>
<td></td>
</tr>
<tr>
<td>60 to 120s</td>
<td>30 to 60s</td>
<td>within 10s</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Soaking Time: t1
Working Time: t2
Soldering Peak Time: t3
ANT016008LCS2442MA1

**PACKAGING STYLE**

**REEL DIMENSIONS**

Dimensions in mm

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.97±0.05</td>
<td>1.8±0.05</td>
<td>8.0±0.2</td>
<td>3.5±0.05</td>
<td>1.75±0.1</td>
<td>4.0±0.1</td>
<td>2.0±0.05</td>
<td>4.0±0.1</td>
<td>1.5±0.1/-0</td>
<td>0.55max</td>
<td>0.25±0.05</td>
</tr>
</tbody>
</table>

**TAPE DIMENSIONS**

Material of carrier tape: PS

Dimensions in mm

**PACKAGE QUANTITY**

| Standard package quantity (pieces/reel) | 4,000 |

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REMINDERS FOR USING THESE PRODUCTS

Before using these products, be sure to request the delivery specifications.

SAFETY REMINDERS

Please pay sufficient attention to the warnings for safe designing when using these products.

REMINDEERS

The products listed on this catalog are intended for use in general electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition.

The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property.

Please understand that we are not responsible for any damage or liability caused by use of the products in any of the applications below or for any other use exceeding the range or conditions set forth in this catalog.

1. Aerospace/Aviation equipment
2. Transportation equipment (cars, electric trains, ships, etc.)
3. Medical equipment
4. Power-generation control equipment
5. Atomic energy-related equipment
6. Seabed equipment
7. Transportation control equipment
8. Public information-processing equipment
9. Military equipment
10. Electric heating apparatus, burning equipment
11. Disaster prevention/crime prevention equipment
12. Safety equipment
13. Other applications that are not considered general-purpose applications

When using this product in general-purpose applications, you are kindly requested to take into consideration securing protection circuit/equipment or providing backup circuits, etc., to ensure higher safety.

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