Multilayer Balun
For 2400–2500MHz

HHM1711D1

1.6x0.8mm [EIA 0603]*
* Dimensions Code JIS[EIA]

⚠️ Caution

The products in this catalog will be or have been stopped production

<table>
<thead>
<tr>
<th>Discontinue Issue Date</th>
<th>Jun. 3, 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Purchase Order Date</td>
<td>Mar. 31, 2023</td>
</tr>
<tr>
<td>Last Shipment Date</td>
<td>Mar. 31, 2024</td>
</tr>
</tbody>
</table>

Please refer to our Web site about replacement information.
Multilayer Balun
For 2400–2500MHz

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Recomended Land Pattern

Dimensions in mm

Unbalanced port
GND or DC feed
RF GND
Balanced port
Balanced port
GND
N.C.

Terminal functions

(1)( 2)( 3)
(6)( 5)( 4)

Marking

Dimensions in mm

Conformity to RoHS Directive


The products will or have been stopped production.
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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>Unbalanced Port Characteristic Impedance (Ω)</td>
<td>2400 to 2500</td>
<td>50</td>
<td>10</td>
<td>—</td>
</tr>
<tr>
<td>Balanced Port Characteristic Impedance (Ω)</td>
<td>2400 to 2500</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Return Loss at Unbalanced Port (dB)</td>
<td>2400 to 2500</td>
<td>10</td>
<td>10</td>
<td>—</td>
</tr>
<tr>
<td>Phase Balance (deg.)</td>
<td>2400 to 2500</td>
<td>170</td>
<td>170</td>
<td>—</td>
</tr>
<tr>
<td>Amplitude Balance (dB)</td>
<td>2400 to 2500</td>
<td>—2.0</td>
<td>—2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Insertion Loss (dB)</td>
<td>2400 to 2500</td>
<td>—</td>
<td>—</td>
<td>1.2</td>
</tr>
</tbody>
</table>

**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>

All specifications are subject to change without notice. Before using these products, be sure to request the delivery specifications.
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**FREQUENCY CHARACTERISTICS**

**INSERTION LOSS**

- Frequency (MHz): 2100, 2200, 2300, 2400, 2500, 2600, 2700, 2800
- Insertion Loss (dB): 0.0

**AMPLITUDE BALANCE**

- Frequency (MHz): 2100, 2200, 2300, 2400, 2500, 2600, 2700, 2800
- Amplitude Balance (dB): -4, -3, -2, -1, 0

**RETURN LOSS**

- Frequency (MHz): 2100, 2200, 2300, 2400, 2500, 2600, 2700, 2800
- Return Loss (dB): 15

**PHASE BALANCE**

- Frequency (MHz): 2100, 2200, 2300, 2400, 2500, 2600, 2700, 2800
- Phase Balance (deg.): 155

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**RECOMMENDED REFLOW PROFILE**

- **Preheating**
- **Soldering**
  - Critical zone (T3 to T4)
  - Peak

<table>
<thead>
<tr>
<th>Preheating</th>
<th>Soldering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp.</td>
<td>Time</td>
</tr>
<tr>
<td>T1</td>
<td>T2</td>
</tr>
<tr>
<td>150°C</td>
<td>200°C</td>
</tr>
<tr>
<td>t1</td>
<td>t2</td>
</tr>
<tr>
<td>60 to 120sec</td>
<td>60 to 120sec</td>
</tr>
</tbody>
</table>

* t3 : Time within 5°C of actual peak temperature

The maximum number of reflow is 3.

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REMINDERS FOR USING THESE PRODUCTS

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SAFETY REMINDERS

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

⚠️ REMINDERS

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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