Multilayer Diplexer
For 1572-1578MHz / 2400-2500MHz

DPX252500DT-5217A1

2.5x2.0mm [EIA 1008]*

* Dimensions Code JIS[EIA]
RF Components

Multilayer Diplexer
For 1572-1578MHz / 2400-2500MHz

DPX252500DT-5217A1

SHAPES AND DIMENSIONS

[Top view]

[Bottom view]

Terminal functions
1. High-band
2. GND
3. Low-band
4. GND
5. GND
6. Common
7. GND
8. GND
9. GND

Dimensions in mm

RECOMMENDED LAND PATTERN

Dimensions in mm

EVALUATION BOARD

Material, Layer    Thickness
Top Resist        0.10mm
Copper Surface Pattern 0.035mm
FR-4
Copper Inner GND  0.018mm
FR-4
Copper Bottom GND 0.018mm

Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

Conformity to RoHS Directive


The products in this catalog are not recommended for new design.

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

### LOW-BAND

<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>Insertion Loss (dB)</td>
<td>1572 to 1578</td>
<td>—</td>
<td>0.37</td>
<td>0.60</td>
</tr>
<tr>
<td></td>
<td>1572 to 1578</td>
<td>—</td>
<td>—</td>
<td>0.80 (+40 to +85°C)</td>
</tr>
<tr>
<td>Return Loss (dB)</td>
<td>1572 to 1578</td>
<td>9.54</td>
<td>23</td>
<td>—</td>
</tr>
<tr>
<td>Attenuation (dB)</td>
<td>2400 to 2500</td>
<td>25</td>
<td>33</td>
<td>—</td>
</tr>
<tr>
<td>Characteristic Impedance (Ω)</td>
<td></td>
<td></td>
<td>50</td>
<td>Nominal</td>
</tr>
</tbody>
</table>

- Ta: +25±5°C

### HIGH-BAND

<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>Insertion Loss (dB)</td>
<td>2400 to 2500</td>
<td>—</td>
<td>2.12</td>
<td>2.70</td>
</tr>
<tr>
<td></td>
<td>2400 to 2500</td>
<td>—</td>
<td>—</td>
<td>3.00 (+40 to +85°C)</td>
</tr>
<tr>
<td>Return Loss (dB)</td>
<td>2400 to 2500</td>
<td>9.54</td>
<td>22</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>700 to 960</td>
<td>35</td>
<td>40</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>1572 to 1578</td>
<td>35</td>
<td>39</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>1710 to 1990</td>
<td>33</td>
<td>37</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>2110 to 2170</td>
<td>25</td>
<td>31</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>4800 to 5000</td>
<td>35</td>
<td>41</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>7200 to 7500</td>
<td>35</td>
<td>54</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>9600 to 10000</td>
<td>25</td>
<td>42</td>
<td>—</td>
</tr>
<tr>
<td>Characteristic Impedance (Ω)</td>
<td></td>
<td></td>
<td>50</td>
<td>Nominal</td>
</tr>
</tbody>
</table>

- Ta: +25±5°C

### 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>
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FREQUENCY CHARACTERISTICS

LOW-BAND

Insertion Loss

Return Loss

Attenuation

HIGH-BAND

Insertion Loss

Return Loss

Attenuation

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**FREQUENCY CHARACTERISTICS**

### COMMON

**Return Loss**

**Isolation**

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**RECOMMENDED REFLOW PROFILE**

<table>
<thead>
<tr>
<th>Preheating</th>
<th>Soldering Critical zone (T3 to T4)</th>
<th>Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp.</td>
<td>Time</td>
<td>Temp.</td>
</tr>
<tr>
<td>T1</td>
<td>T2</td>
<td>t1</td>
</tr>
<tr>
<td>150°C</td>
<td>200°C</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.
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.

⚠️ 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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