Multilayer Triplexer
For 1560-1606MHz / 2400-2500MHz / 4900-5950MHz

TPX205950MT-7004A1

2.0x1.25mm [EIA 0805]*
* Dimensions Code JIS[EIA]
Multilayer Triplexer
For 1560-1606MHz / 2400-2500MHz / 4900-5950MHz

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### SHAPES AND DIMENSIONS

**[Top view]**

- Terminal functions:
  - 1: GND
  - 2: Common port
  - 3: GND
  - 4: High (5.0G) band port
  - 5: GND
  - 6: Middle (2.4G) band port
  - 7: GND
  - 8: Low (1.5G) band port

- Dimensions in mm:
  - 0.30±0.20
  - 0.20±0.20
  - 0.65±0.20
  - 0.30±0.20
  - 0.35±0.20
  - 2.00±0.15
  - 0.20±0.20
  - 0.20±0.15
  - 0.90±0.10
  - 1.25±0.15

**[Bottom view]**

- Dimensions in mm:
  - 0.20±0.20
  - 0.65±0.20
  - 0.30±0.20

**Marking**

- (1) (2) (3)
- (4) (5) (6) (7)
- (8) (4)

### EVALUATION BOARD

- Dimensions in mm:
  - 1.185
  - 1.235
  - 1.00
  - 0.80

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


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

### LOW(1.5G)-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>1560 to 1606</td>
<td>—</td>
<td>0.43</td>
<td>0.65</td>
</tr>
<tr>
<td>Return Loss (dB)</td>
<td>1560 to 1606</td>
<td>—</td>
<td>9.54</td>
<td>22</td>
</tr>
<tr>
<td>Attenuation (dB)</td>
<td>2400 to 2500</td>
<td>13</td>
<td>22</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>4900 to 5950</td>
<td>15</td>
<td>20</td>
<td>—</td>
</tr>
<tr>
<td>Characteristic Impedance (Ω)</td>
<td>50 (Nominal)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Ta: +25±5°C

### MIDDLE(2.4G)-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>0.47</td>
<td>0.80</td>
</tr>
<tr>
<td>Return Loss (dB)</td>
<td>2400 to 2500</td>
<td>—</td>
<td>9.54</td>
<td>17</td>
</tr>
<tr>
<td>Attenuation (dB)</td>
<td>1560 to 1606</td>
<td>13</td>
<td>17</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>4900 to 5950</td>
<td>15</td>
<td>21</td>
<td>—</td>
</tr>
<tr>
<td>Characteristic Impedance (Ω)</td>
<td>50 (Nominal)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Ta: +25±5°C

### HIGH(5.0G)-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>4900 to 5950</td>
<td>—</td>
<td>0.59</td>
<td>0.80</td>
</tr>
<tr>
<td>Return Loss (dB)</td>
<td>4900 to 5950</td>
<td>—</td>
<td>9.54</td>
<td>19</td>
</tr>
<tr>
<td>Attenuation (dB)</td>
<td>1560 to 1606</td>
<td>20</td>
<td>26</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>2400 to 2500</td>
<td>25</td>
<td>32</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>9800 to 11900</td>
<td>20</td>
<td>32</td>
<td>—</td>
</tr>
<tr>
<td>Characteristic Impedance (Ω)</td>
<td>50 (Nominal)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Ta: +25±5°C

### COMMON

<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>Power Handling (W)</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>1</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>

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FREQUENCY CHARACTERISTICS

LOW-BAND

Insertion Loss

Return Loss

Attenuation

MIDDLE-BAND

Insertion Loss

Return Loss

Attenuation

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FREQUENCY CHARACTERISTICS

HIGH-BAND

Insertion Loss

![Insertion Loss Graph]

Return Loss

![Return Loss Graph]

Attenuation

![Attenuation Graph]

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FREQUENCY CHARACTERISTICS

COMMON

Return Loss

Isolation (Low-Mid)

Isolation (Low-High)

Isolation (Mid-High)

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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>150°C</td>
<td>T3</td>
</tr>
<tr>
<td>T2</td>
<td>200°C</td>
<td>t1</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.