**ITF TECHNOLOGY**

The ITF LGA Filter is based on thin-film multilayer technology. The technology provides a miniature part with excellent high frequency performance and rugged construction for reliable automatic assembly.

The ITF Filter is offered in a variety of frequency bands compatible with various types of high frequency wireless systems.

**FEATURES**

- Small size: 1206
- Frequency: 512MHz
- Characteristic impedance: 50Ω
- Operating/Storage temp: -40°C to +85°C
- Low profile
- Rugged construction
- Taped and reeled
- RoHS compliant

**APPLICATIONS**

- Mobile communications
- Satellite TV receivers
- GPS
- Vehicle location systems
- Wireless LAN's

**HOW TO ORDER**

<table>
<thead>
<tr>
<th>LP</th>
<th>1206</th>
<th>A</th>
<th>XXXX</th>
<th>B</th>
<th>N</th>
<th>TR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Frequency MHz</td>
<td>Sub- Type</td>
<td>Termination</td>
<td>Taped &amp; Reeled</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FINAL QUALITY INSPECTION**

Finished parts are 100% tested for electrical parameters and visual/mechanical characteristics. Each production lot is evaluated on a sample basis for:

- Static Humidity: 85°C, 85% RH, 160 hours
- Endurance: 125°C, I<sub>mean</sub>, 4 hours

**TERMINATION**

Nickel/Lead free Solder coating (Sn100) compatible with automatic soldering technologies: reflow, wave soldering, vapor phase and manual.

**POWER RATING**

3W RF Continuous

**DIMENSIONS (BOTTOM VIEW)**

<table>
<thead>
<tr>
<th>mm (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
</tr>
<tr>
<td>W</td>
</tr>
<tr>
<td>T</td>
</tr>
<tr>
<td>A</td>
</tr>
<tr>
<td>B</td>
</tr>
<tr>
<td>H, S</td>
</tr>
</tbody>
</table>

**TERMINALS (TOP VIEW)**

**RECOMMENDED PAD LAYOUT DIMENSIONS:**

<table>
<thead>
<tr>
<th>mm (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.70 (0.028)</td>
</tr>
<tr>
<td>0.60 (0.024)</td>
</tr>
<tr>
<td>1.80 (0.071)</td>
</tr>
</tbody>
</table>
## TERMINALS (TOP VIEW)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Unit</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>( f_c )</td>
<td>512</td>
<td>MHz</td>
<td></td>
</tr>
<tr>
<td>Rejection @ 900MHz</td>
<td>-35</td>
<td>dB</td>
<td>Min. (720MHz to 2GHz)</td>
</tr>
<tr>
<td>Insertion Loss</td>
<td>0.8</td>
<td>dB</td>
<td>Max.</td>
</tr>
<tr>
<td>VSWR</td>
<td>2.3:1</td>
<td></td>
<td>Max. (all ports)</td>
</tr>
<tr>
<td>Power Handling</td>
<td>3</td>
<td>W</td>
<td>Continuous</td>
</tr>
<tr>
<td>Impedance</td>
<td>50</td>
<td>Ohm</td>
<td></td>
</tr>
<tr>
<td>Operating Temp.</td>
<td>-40 to +85</td>
<td>^\circ C</td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>1206</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## TYPICAL ELECTRICAL PERFORMANCE

![Graph showing typical electrical performance](image)

- \( m_1 \) freq = 512 MHz, \( S_{21} = -0.78 \text{ dB} \)
- \( m_2 \) freq = 720 MHz, \( S_{21} = -39 \text{ dB} \)
Thin-Film RF/Microwave Filters
1206 High Performance Low Pass 12W
LP1206A0600ANTR – LGA Termination

ITF TECHNOLOGY
The ITF LGA Filter is based on thin-film multilayer technology. The technology provides a miniature part with excellent high frequency performance and rugged construction for reliable automatic assembly.

The ITF Filter is offered in a variety of frequency bands compatible with various types of high frequency wireless systems.

FEATURES:
• Small size: 1206
• Frequency: 600MHz
• Characteristic impedance: 50Ω
• Operating / Storage temp: -40°C ÷ +85°C
• Low profile
• Rugged construction
• Taped and reel ed
• RoHS compliant

APPLICATIONS:
• Mobile communications
• Satellite TV receivers
• GPS
• Vehicle location systems
• Wireless LAN’s

PART NUMBER CODE:
LP 1206 A XXXX ANTR
Frequency (MHz)

FINAL QUALITY INSPECTION:
Finished parts are 100% tested for electrical parameters and visual/mechanical characteristics. Each production lot is evaluated on a sample basis for:
• Static Humidity: 85°C, 85% RH, 160 hours
• Endurance : 125°C, Ir, 4 hours

TERMINATION:
Nickel/Lead free Solder coating (Sn100) compatible with automatic soldering technologies: reflow, wave soldering, vapor phase and manual.

DIMENSIONS:
(BOTTOM VIEW)

TERMINALS (TOP VIEW)

Orientation
Marking

RECOMMENDED PAD LAYOUT: (mm)

POWER RATING:
12W continuous

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082420
Thin-Film RF/Microwave Filters
1206 High Performance Low Pass 12W
LP1206A0600ANTR – LGA Termination

ELECTRICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Unit</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fc</td>
<td>600</td>
<td>MHz</td>
<td></td>
</tr>
<tr>
<td>Rejection</td>
<td>-40</td>
<td>dB</td>
<td>Min. @ 900MHz</td>
</tr>
<tr>
<td>Rejection</td>
<td>-40</td>
<td>dB</td>
<td>Typ. 900MHz to 3.1GHz</td>
</tr>
<tr>
<td>I.Loss @ 600MHz</td>
<td>-0.8</td>
<td>dB</td>
<td>Max.</td>
</tr>
<tr>
<td>R.Loss @ 600MHz</td>
<td>-20</td>
<td>dB</td>
<td>typ.</td>
</tr>
<tr>
<td>Power Handling</td>
<td>12</td>
<td>W</td>
<td>RF cont.</td>
</tr>
<tr>
<td>Impedance</td>
<td>50</td>
<td>Ohm</td>
<td></td>
</tr>
<tr>
<td>Operating Temp.</td>
<td>-40 to +85</td>
<td>degC</td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>1206</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TYPICAL ELECTRICAL PERFORMANCE
Thin-Film RF/Microwave Filters
1206 High Performance Low Pass 12W
LP1206A0700ANTR – LGA Termination

ITF TECHNOLOGY
The ITF LGA Filter is based on thin-film multilayer technology. The technology provides a miniature part with excellent high frequency performance and rugged construction for reliable automatic assembly.
The ITF Filter is offered in a variety of frequency bands compatible with various types of high frequency wireless systems.

FEATURES
• Small size: 1206
• Frequency: 700MHz
• Characteristic impedance: 50Ω
• Operating/Storage temp: -40°C to +85°C
• Low profile
• Rugged construction
• Taped and reeled
• RoHS compliant

APPLICATIONS
• Mobile communications
• Satellite TV receivers
• GPS
• Vehicle location systems
• Wireless LAN’s

HOW TO ORDER
LP 1206 A XXXX B N TR
Type Frequency Sub-Type Termination Taped & Reeled

FINAL QUALITY INSPECTION
Finished parts are 100% tested for electrical parameters and visual/mechanical characteristics. Each production lot is evaluated on a sample basis for:
• Static Humidity: 85°C, 85% RH, 160 hours
• Endurance: 125°C, IR, 4 hours

TERMINATION
Nickel/Lead free Solder coating (Sn100) compatible with automatic soldering technologies: reflow, wave soldering, vapor phase and manual.

POWER RATING
3W RF Continuous

ORIENTATION IN TAPE

TERMINALS (TOP VIEW)

RECOMMENDED PAD LAYOUT DIMENSIONS:

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**TERMINALS (TOP VIEW)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Unit</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fc</td>
<td>700</td>
<td>MHz</td>
<td></td>
</tr>
<tr>
<td>Rejection @ 900MHz</td>
<td>-35</td>
<td>dB</td>
<td>Min. (900MHz to 2GHz)</td>
</tr>
<tr>
<td>Insertion Loss</td>
<td>0.9</td>
<td>dB</td>
<td>Max.</td>
</tr>
<tr>
<td>VSWR</td>
<td>2.3:1</td>
<td></td>
<td>Max. (all ports)</td>
</tr>
<tr>
<td>Power Handling</td>
<td>3</td>
<td>W</td>
<td>Continuous</td>
</tr>
<tr>
<td>Impedance</td>
<td>50</td>
<td>Ohm</td>
<td></td>
</tr>
<tr>
<td>Operating Temp.</td>
<td>-40 to +85</td>
<td>°C</td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>1206</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TYPICAL ELECTRICAL PERFORMANCE**

- **m1**: Frequency = 700.0MHz, $S_{21} = -0.8$dB
- **m2**: Frequency = 900.0MHz, $S_{21} = -39.5$dB
ITF TECHNOLOGY
The ITF LGA Filter is based on thin-film multilayer technology. The technology provides a miniature part with excellent high frequency performance and rugged construction for reliable automatic assembly.
The ITF Filter is offered in a variety of frequency bands compatible with various types of high frequency wireless systems.

FEATURES:
• Small size: 1206
• Frequency: 725MHz
• Characteristic impedance: 50Ω
• Operating / Storage temp: -40°C ÷ +85°C
• Low profile
• Rugged construction
• Taped and reeled
• RoHS compliant

APPLICATIONS:
• Mobile communications
• Satellite TV receivers
• GPS
• Vehicle location systems
• Wireless LAN's

PART NUMBER CODE:
LP 1206 A XXXX ANTR
Frequency
(MHz)

FINAL QUALITY INSPECTION:
Finished parts are 100% tested for electrical parameters and visual/mechanical characteristics. Each production lot is evaluated on a sample basis for:
• Static Humidity: 85°C, 85% RH, 160 hours
• Endurance : 125°C, Ir, 4 hours

TERMINATION:
Nickel/Lead free Solder coating (Sn100) compatible with automatic soldering technologies: reflow, wave soldering, vapor phase and manual.

POWER RATING:
12W continuous

DIMENSIONS:
(BOTTOM VIEW)

mm (inches)

| L    | 3.10±0.10 (0.122±0.004) |
| W    | 1.60±0.10 (0.063±0.004) |
| T    | 0.60±0.30 (0.024±0.012) |
| A    | 0.39±0.10 0.015±0.004 |
| B    | 0.33±0.10 0.013±0.004 |
| H, S | 0.05±0.05 (0.002±0.002) |

TERMINALS (TOP VIEW)

OUT          GND
IN          GND

Orientation
Marking

RECOMMENDED PAD LAYOUT:
(mm)

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Thin-Film RF/Microwave Filters
1206 High Performance Low Pass 12W
LP1206A0720ANTR – LGA Termination

ELECTRICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Unit</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fc</td>
<td>720</td>
<td>MHz</td>
<td></td>
</tr>
<tr>
<td>Rejection @875MHz</td>
<td>-15</td>
<td>dB</td>
<td>Min. @875-2500MHz</td>
</tr>
<tr>
<td>Insertion Loss</td>
<td>1.2</td>
<td>dB</td>
<td>Max.</td>
</tr>
<tr>
<td>VSWR</td>
<td>1.4:1</td>
<td>dB</td>
<td>typ.</td>
</tr>
<tr>
<td>Power Handling</td>
<td>12</td>
<td>W</td>
<td>RF cont.</td>
</tr>
<tr>
<td>Impedance</td>
<td>50</td>
<td>Ohm</td>
<td></td>
</tr>
<tr>
<td>Operating Temp.</td>
<td>-40 to +85</td>
<td>degC</td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>1206</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TYPICAL ELECTRICAL PERFORMANCE
The ITF LGA Filter is based on thin-film multilayer technology. The technology provides a miniature part with excellent high frequency performance and rugged construction for reliable automatic assembly. The ITF Filter is offered in a variety of frequency bands compatible with various types of high frequency wireless systems.

FEATURES:
- Small size: 1206
- Frequency: 6000MHz
- Characteristic impedance: 50Ω
- Operating / Storage temp: -40°C ÷ +100°C
- Low profile
- Rugged construction
- Taped and reeled
- RoHS compliant

APPLICATIONS:
- Mobile communications
- Satellite TV receivers
- GPS
- Vehicle location systems
- Wireless LANs

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- Endurance: 125°C, IR, 4 hours

TERMINATION:
Nickel/Lead-Free Solder coating (Sn100) compatible with automatic soldering technologies: reflow, wave soldering, vapor phase and manual.

PART NUMBER CODE:
LP 1206 A XXXX ANTR
Frequency (MHz)

POWER RATING:
12W continuous
### ELECTRICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Unit</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fc</td>
<td>6000</td>
<td>MHz</td>
<td></td>
</tr>
<tr>
<td>Rejection</td>
<td>-35</td>
<td>dB</td>
<td>Min. 8.4-18GHz</td>
</tr>
<tr>
<td>Insertion Loss</td>
<td>-0.6</td>
<td>dB</td>
<td>Max. (6GHz)</td>
</tr>
<tr>
<td>R.Loss 0-6GHz</td>
<td>-20</td>
<td>dB</td>
<td></td>
</tr>
<tr>
<td>Power Handling</td>
<td>12</td>
<td>W</td>
<td>RF Continuous</td>
</tr>
<tr>
<td>Impedance</td>
<td>50</td>
<td>Ohm</td>
<td></td>
</tr>
<tr>
<td>Operating Temp.</td>
<td>-40 to +100</td>
<td>degC</td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>1206</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### S11 and S21 Graph

- **S11**: Measured from input to output
- **S21**: Measured from output to input

- **[dB]** vs **[GHz]**

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