# LE Series

*Elliptical Function – Anti-Aliasing*

**Frequency Range from 1 kHz to 200 MHz**

**Application-Specific Designs**

<table>
<thead>
<tr>
<th>SERIES NUMBER</th>
<th>NUMBER OF POLES</th>
<th>INSERTION LOSS at 0.1 x f&lt;sub&gt;-3dBc&lt;/sub&gt; dB MAXIMUM</th>
<th>ATTENUATION dBc MINIMUM</th>
<th>STOPBAND FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE7415</td>
<td>7</td>
<td>0.5</td>
<td>-60</td>
<td>1.05 x f&lt;sub&gt;-3dBc&lt;/sub&gt;</td>
</tr>
<tr>
<td>LE7640</td>
<td>7</td>
<td>0.5</td>
<td>-80</td>
<td>1.10 x f&lt;sub&gt;-3dBc&lt;/sub&gt;</td>
</tr>
<tr>
<td>LE7890</td>
<td>7</td>
<td>0.5</td>
<td>-60</td>
<td>1.15 x f&lt;sub&gt;-3dBc&lt;/sub&gt;</td>
</tr>
<tr>
<td>LE9410</td>
<td>9</td>
<td>0.5</td>
<td>-60</td>
<td>1.20 x f&lt;sub&gt;-3dBc&lt;/sub&gt;</td>
</tr>
<tr>
<td>LE9615</td>
<td>9</td>
<td>0.5</td>
<td>-80</td>
<td>1.25 x f&lt;sub&gt;-3dBc&lt;/sub&gt;</td>
</tr>
<tr>
<td>LE9840</td>
<td>9</td>
<td>0.5</td>
<td>-60</td>
<td>1.30 x f&lt;sub&gt;-3dBc&lt;/sub&gt;</td>
</tr>
<tr>
<td>LE1141</td>
<td>11</td>
<td>0.5</td>
<td>-40</td>
<td>1.05 x f&lt;sub&gt;-3dBc&lt;/sub&gt;</td>
</tr>
<tr>
<td>LE1161</td>
<td>11</td>
<td>0.5</td>
<td>-60</td>
<td>1.10 x f&lt;sub&gt;-3dBc&lt;/sub&gt;</td>
</tr>
<tr>
<td>LE1182</td>
<td>11</td>
<td>0.5</td>
<td>-80</td>
<td>1.20 x f&lt;sub&gt;-3dBc&lt;/sub&gt;</td>
</tr>
</tbody>
</table>

**FREQUENCY -3dBc – 1 kHz to 200 MHz – specify any f within that range**

**NOTES:**
- Operating Temperature Range: 0°C to +70°C
- Number of Poles: 7, 9 or 11
- VSWR: 1.5:1 Typical
- Input Power: 20 mW
- Case Type: Refer to Case Selection Guide
- Case Options: PCB, SMT, BNC or SMA
- Normalized Response: Refer to Graphs
- Product Info: Refer to LE Series

**TERMINATIONS:**

- 50 Ω: 100 MHz - 200 MHz
- 50 Ω or 75 Ω: 300 kHz - 100 MHz
- 1 kΩ - 50 Ω: 10 kHz - 300 kHz
- 10 kΩ - 1 kΩ: 1 kHz - 10 kHz

**STOPBAND FREQUENCY CALCULATIONS:**

Using part number LE1182-100M-50-720A, we know that the filter is an 11 pole Elliptical Function – Anti-Aliasing lowpass filter. Scroll down to series number LE1182. Moving to the right we find the stopband specification listed as -80dBc minimum at 1.20 x f<sub>-3dBc</sub>. Thus, the -80dBc frequency is at 120 MHz (1.20 x 100 MHz).

**PART NUMBER DERIVATION:**

LE1182 *(T) **(R) -100M -50 -720A

1) Series, LE1182 (which has 11 poles)
2) The "T" option specifies a filter with low THD for ADC/DAC testing. When selected the minimum THD is > -80dBc, -96dBc typical.
3) "R" RoHS compliant. Allow for longer lead time.
4) f<sub>-3dBc</sub>
5) Terminations
6) Case selection from the case selection guide.

For RoHS compliant, add “R” to part number. Example: LE1182R-100M-50-720A

TTE designates a component RoHS-compliant by adding “R” (RoHS) within the part number. These RoHS components meet the ≤ 0.1% lead requirement and they are compatible with 260°C soldering processes.

Note: TTE’s products are made in the USA. Application-specific designs are made to order. Typical delivery is 2 weeks. Expedited lead time of 3-5 days is available on many products.