PASSIVE FILTERS - BANDPASS

KT Series

Bessel
Frequency Range from 500 Hz to 200 MHz
Application-Specific Designs

<table>
<thead>
<tr>
<th>SERIES NUMBER</th>
<th>NUMBER OF POLE PAIRS (ELEMENTS)</th>
<th>INSERTION LOSS at f₀</th>
<th>BANDWIDTH SELECTION -3dBc % f₀</th>
<th>STOPBAND ATTENUATION dBc MINIMUM</th>
<th>STOPBAND FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CENTER FREQUENCY – 500 Hz to 200 MHz – specify any f₀ within that range</td>
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<tr>
<td>KT2</td>
<td>2 (4)</td>
<td>5.0 - 3.1</td>
<td>3 to 5</td>
<td>-25</td>
<td>0.85 x f₀</td>
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<tr>
<td></td>
<td></td>
<td>3.1 - 1.6</td>
<td>&gt; 5 to 10</td>
<td>-25</td>
<td>0.50 x f₀</td>
</tr>
<tr>
<td>KT3</td>
<td>3 (6)</td>
<td>6.0 - 3.7</td>
<td>3 to 5</td>
<td>-30</td>
<td>0.75 x f₀</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.7 - 1.9</td>
<td>&gt; 5 to 10</td>
<td>-30</td>
<td>0.50 x f₀</td>
</tr>
<tr>
<td>KT4</td>
<td>4 (8)</td>
<td>7.3 - 4.5</td>
<td>3 to 5</td>
<td>-40</td>
<td>0.75 x f₀</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4.5 - 2.3</td>
<td>&gt; 5 to 10</td>
<td>-40</td>
<td>0.40 x f₀</td>
</tr>
<tr>
<td>KT5</td>
<td>5 (10)</td>
<td>8.2 - 4.9</td>
<td>3 to 5</td>
<td>-50</td>
<td>0.75 x f₀</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4.9 - 2.5</td>
<td>&gt; 5 to 10</td>
<td>-50</td>
<td>0.35 x f₀</td>
</tr>
<tr>
<td>KT6</td>
<td>6 (12)</td>
<td>8.9 - 5.6</td>
<td>3 to 5</td>
<td>-50</td>
<td>0.80 x f₀</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.6 - 2.8</td>
<td>&gt; 5 to 10</td>
<td>-50</td>
<td>0.53 x f₀</td>
</tr>
</tbody>
</table>

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.

For RoHS compliant, add “R” to part number. Example: KT4R-144K-4.32K-50-3264
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.

NOTES:
• Operating Temperature Range: 0°C to +70°C
• Number of Pole Pairs (Elements): 2-6 (4-12)
• VSWR at f₀: 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 KT 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 | 500 Hz - 10 kHz

STOPBAND FREQUENCY CALCULATIONS:
Using part number KT4-144K-4.32K-50-3264, we know that the filter is a 4 pole Bessel bandpass filter. Scroll down to series number KT4. Moving to the right we select the 3% bandwidth range. Moving to the right again we find the stopband specification listed as -40dBc minimum at 0.75 x f₀ and 1.22 x f₀. Thus, the -40dBc frequencies are at 108 kHz (0.75 x 144 kHz) and at 175.68 kHz (1.22 x 144 kHz), respectively.

PART NUMBER DERIVATION:
KT4 *(R) -144K -4.32K 50 3264
1 2 3 4 5 6 7
1) Series, KT
2) Number of poles, 4
3) “R” RoHS compliant. Allow for longer lead time.
4) The Center Frequency, f₀
5) The -3dBc passband bandwidth. It may also be specified as a percentage of f₀. Thus, instead of 4.32 kHz, use 3P.
6) Terminations
7) Case selection from the case selection guide.