**KSV14xx Series**

**Silicon Hyperabrupt Tuning Varactors: High Q Values**

**Features**
- Low Inductance
- Wide Capacitance Swing
- High Q
- Superior Reproducibility
- RoHS* Compliant

**Description**
The KSV14xx series of hyperabrupt tuning varactor diodes offer high Qs. These diodes are excellent for octave tuning up to 800 MHz and for straight-line frequency tuning between 3 and 8 Volt of bias. They achieve high Q values when tuned between 9 and 20 volts.

**Electrical Specifications: \( T_A = +25^\circ C \)**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Total Capacitance ((C_T)) pF</th>
<th>Tuning Ratio ((T_R))</th>
<th>Quality Factor ((Q))</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-1 V, 1 MHz</td>
<td>-2 V, 1 MHz</td>
<td>(C_T) 1 V / 10 V, 1 MHz</td>
</tr>
<tr>
<td></td>
<td>(Min.)</td>
<td>(Max.)</td>
<td>(Min.)</td>
</tr>
<tr>
<td>KSV1401</td>
<td>440</td>
<td>660</td>
<td>—</td>
</tr>
<tr>
<td>KSV1402</td>
<td>—</td>
<td>—</td>
<td>45</td>
</tr>
<tr>
<td>KSV1403</td>
<td>—</td>
<td>—</td>
<td>140</td>
</tr>
<tr>
<td>KSV1404</td>
<td>—</td>
<td>—</td>
<td>96</td>
</tr>
<tr>
<td>KSV1405</td>
<td>—</td>
<td>—</td>
<td>200</td>
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<tr>
<td>KSV1406</td>
<td>—</td>
<td>—</td>
<td>80</td>
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<tr>
<td>KSV1407</td>
<td>—</td>
<td>—</td>
<td>54</td>
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<td>KSV1408</td>
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<td>—</td>
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<td>KSV1409</td>
<td>—</td>
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<td>KSV1410</td>
<td>—</td>
<td>—</td>
<td>17</td>
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<tr>
<td>KSV1411</td>
<td>—</td>
<td>—</td>
<td>12</td>
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<tr>
<td>KSV1412</td>
<td>—</td>
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<td>8</td>
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</tbody>
</table>

**Glass Axial Leaded**
## Absolute Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Absolute Maximum</th>
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</thead>
<tbody>
<tr>
<td>DC Power Dissipation</td>
<td>400 mW</td>
</tr>
<tr>
<td>Reverse Breakdown Voltage</td>
<td>10 µA, 12 V DC min.</td>
</tr>
<tr>
<td>Reverse Leakage Current</td>
<td>V_R = 10 V DC, 0.1 µV DC</td>
</tr>
<tr>
<td>Capacitance Tolerance</td>
<td>+/-20%</td>
</tr>
<tr>
<td>Junction Temperature</td>
<td>+175°C</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-55°C to +150°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-65°C to +200°C</td>
</tr>
</tbody>
</table>

1. Capacitance tolerance suffix A = 10%, suffix B = 5%.
2. To order devices screened to MIL-PRF-19500 JANTX level, Appendix E, table IV add suffix H.