SMV21xx Series

Silicon Abrupt Tuning Varactor Diodes

Rev. V1

Features
- Available over a Broad Range of Junction Capacitance
- Satisfies a Large Number of Broadband Applications thru the VHF Frequency Band
- RoHS* Compliant

Description
The SMV21xx Series tuning varactors are silicon abrupt junction devices. They are designed for RF and Microwave applications in VCO’s, tunable filters, and matching networks. Available in a wide range of capacitance ratio values.

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

| Part Number | Reverse Voltage  \( V_R \)  \\
|-------------|---------------------|
|             | \( V_B \)  \\
|             | \( I_n \)  = 10 mA |
| SMV2101     | 30  \\
| SMV2102     | 30  \\
| SMV2103     | 30  \\
| SMV2104     | 30  \\
| SMV2105     | 30  \\
| SMV2106     | 30  \\
| SMV2107     | 30  \\
| SMV2108     | 30  \\
| SMV2109     | 30  \\
| SMV2110     | 30  \\
| SMV2111     | 30  \\
| SMV2112     | 30  \\
| SMV2113     | 30  \\
| SMV2114     | 30  \\
| SMV2115     | 30  \\

| Capacitance Ratio  \( C_R \)  \\
|---------------------|
| \( C_T/20 \)  \\
| \( C_T/30 \) |
| \( 1 \) MHz |
| \( 1 \) MHz |
| SMV2101     | 2.5  \\
| SMV2102     | 2.5  \\
| SMV2103     | 2.5  \\
| SMV2104     | 2.5  \\
| SMV2105     | 2.5  \\
| SMV2106     | 2.5  \\
| SMV2107     | 2.5  \\
| SMV2108     | 2.5  \\
| SMV2109     | 2.5  \\
| SMV2110     | 2.5  \\
| SMV2111     | 2.5  \\
| SMV2112     | 2.6  \\
| SMV2113     | 2.6  \\
| SMV2114     | 2.6  \\
| SMV2115     | 2.6  \\

| Quality Factor  \( Q \)  \\
|---------------------|
| \( V_R = -4 \) V  \\
| \( 50 \) MHz |
| SMV2101     | 450  \\
| SMV2102     | 450  \\
| SMV2103     | 400  \\
| SMV2104     | 400  \\
| SMV2105     | 400  \\
| SMV2106     | 350  \\
| SMV2107     | 350  \\
| SMV2108     | 300  \\
| SMV2109     | 200  \\
| SMV2110     | 150  \\
| SMV2111     | 150  \\
| SMV2112     | 150  \\
| SMV2113     | 15  \\
| SMV2114     | 100  \\
| SMV2115     | 100  \\

1. Capacitance values given will vary depending upon the desired packaging type. Capacitance tolerance = ±10%.

Absolute Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Absolute Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Dissipation</td>
<td>250 mW</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-55°C to +125°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-65°C to +150°C</td>
</tr>
</tbody>
</table>

ESD & Moisture Sensitivity Level Rating

As are all semiconductors, silicon hyperabrupt tuning varactor diode are susceptible to damage from ESD events. Proper ESD prevention procedures should be followed. The ESD rating for these devices is Class 0 (HBM).


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Silicon Abrupt Tuning Varactor Diodes

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