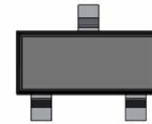


Features

- High Capacitance Ratios
- Linear Tuning Between 2 and 8 Volts
- Available over a Broad Range of Junction Capacitance
- Satisfies a Large Number of Broadband Applications thru the VHF Frequency Band
- RoHS* Compliant



Chip



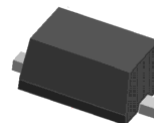
SOT-23



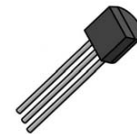
SOD-323

Description

The SMV14xx 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.



SOD-523



TO-92

Electrical Specifications: $T_C = +25^\circ\text{C}$

| Part Number | Reverse Voltage | Total Capacitance ¹ | | | | Capacitance Ratio | | Quality Factor |
|-------------|------------------------|------------------------------------|------|------------------------------------|------|--|--|------------------------------------|
| | V_B | C_T | | C_T | | C_R | | Q |
| | $I_R = 10 \mu\text{A}$ | $V_R = 1 \text{ V}, 1 \text{ MHz}$ | | $V_R = 2 \text{ V}, 1 \text{ MHz}$ | | $C_{T1} \text{ V} / C_{T10} \text{ V}$ | $C_{T2} \text{ V} / C_{T10} \text{ V}$ | $V_R = 2 \text{ V}, 1 \text{ MHz}$ |
| | Min. | Min. | Max. | Min. | Max. | Min. | | Min. |
| SMV1401 | 12 | 440 | 660 | — | — | 14:1 | — | 200 |
| SMV1402 | 12 | — | — | 45 | 69 | — | 10:1 | 200 |
| SMV1403 | 12 | — | — | 140 | 210 | — | 10:1 | 200 |
| SMV1404 | 12 | — | — | 96 | 144 | — | 10:1 | 200 |
| SMV1405 | 12 | — | — | 200 | 300 | — | 10:1 | 200 |
| SMV1406 | 12 | — | — | 80 | 120 | — | 10:1 | 200 |
| SMV1407 | 12 | — | — | 54 | 82 | — | 10:1 | 200 |
| SMV1408 | 12 | — | — | 37 | 57 | — | 10:1 | 200 |
| SMV1409 | 12 | — | — | 26 | 40 | — | 10:1 | 200 |
| SMV1410 | 12 | — | — | 17 | 27 | — | 9.5:1 | 200 |
| SMV1411 | 12 | — | — | 12 | 18 | — | 8.5:1 | 200 |
| SMV1412 | 12 | — | — | 8 | 12 | — | 7.5:1 | 200 |

1. C_T value given in chip form and will vary depending upon the desired packaging type.

Absolute Maximum Ratings

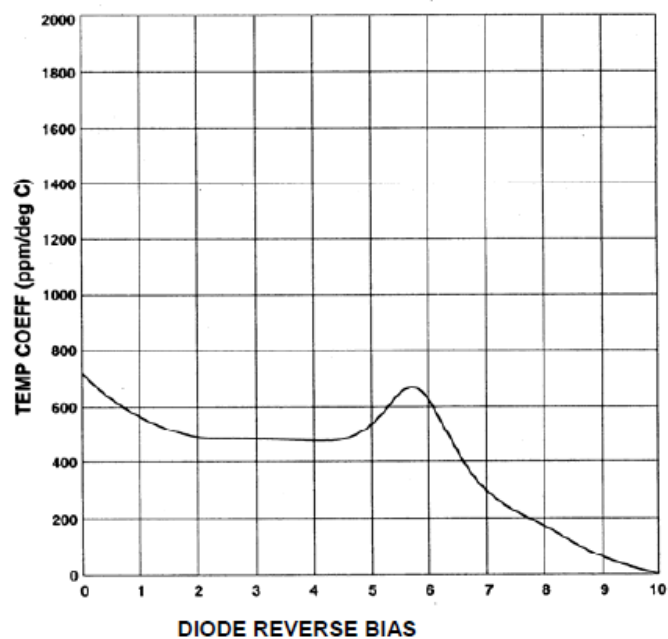
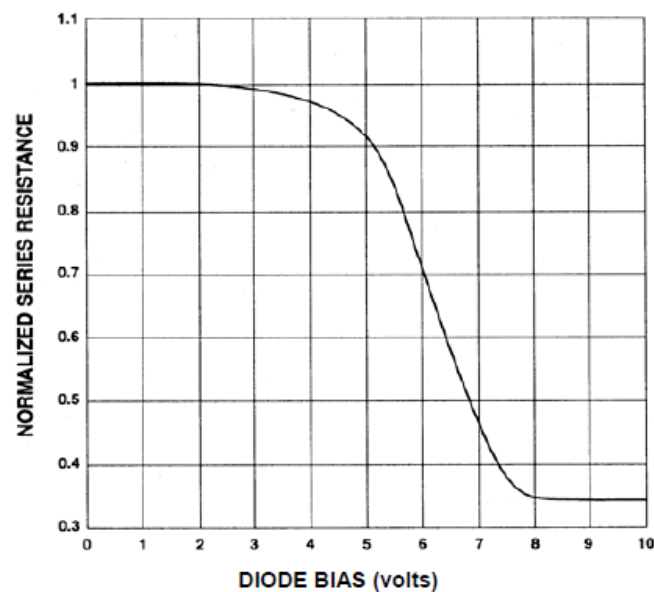
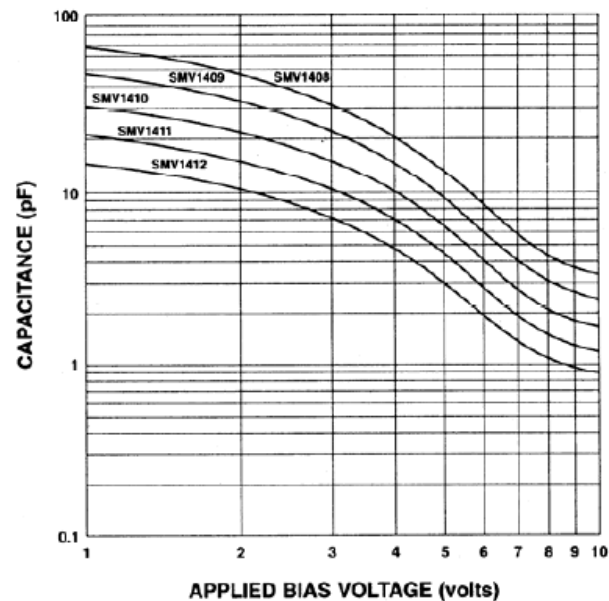
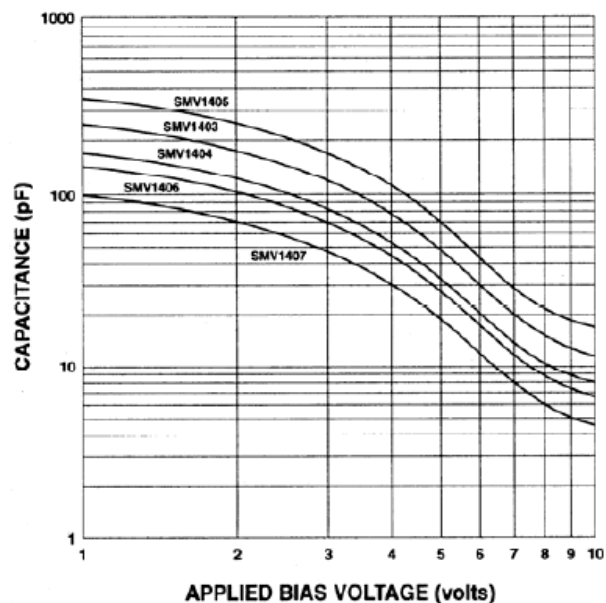
| Parameter | Absolute Maximum |
|-----------------------|---|
| Power Dissipation | 250 mW |
| Operating Temperature | -55°C to $+125^\circ\text{C}$ |
| Storage Temperature | -65°C to $+200^\circ\text{C}$ |

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).

1 * Restrictions on Hazardous Substances, European Union Directive 2011/65/EU.

Typical Performance Curves



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