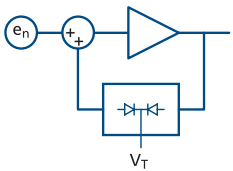
Varactor Diodes for VCO, Phase Shifter and Filtering Applications

Features



- Diverse portfolio, featuring a wide variety of capacitance vs. voltage curves
- Varactor offering includes both abrupt junction and hyperabrupt junction devices
- Individual Varactor diodes feature from low to high tuning ratio, low series resistance and high Q
- Available in a variety of package styles including SOT-23, SC-79, SC-70
  – SC-79 package highlighted in this sample kit
- Available in a variety of configurations, including single, common cathode and common anode
- All available Varactors are lead (Pb)-free, RoHS compliant and Green™

Description

The Easier, Faster Way to Design Quality VCO Solutions

Skyworks Solutions is committed to making your varactor-based designs easier than ever. This sample kit has 10 pieces of some of our most popular Varactor products. Also included is a CD of our data sheets and application notes.

Skyworks has a long history of providing high quality RF components for a diversified set of wireless communications applications. We build GaAs and Silicon discrete devices including amplifiers, switches, attenuators, diodes, power dividers, filters, and more. Our integrated offerings combine discrete components to produce leading-edge products such as mixers, demodulators, variable gain amplifiers, synthesizers, and power amplifier modules.

We have made it easy to order our parts as well. Once you find the right products for your design, simply go to our online store to purchase your prototype volumes.

Innovation to Go™ Select products are now available for purchase online.

To keep up with all of our newest products, visit the Skyworks website at www.skyworksinc.com

For more information on higher volumes, large volume quotes, or technical questions, contact your local sales representative or email us at sales@skyworksinc.com.

Silicon Varactor Diodes in SC-79 Package (1.6 x 0.8 x 0.6 mm)

Hyperabrupt Varactors

Part Number	Key Specifications	Description	Maximum Series Resistance
SMV1129-079LF	19 pF @ 1 V, 12.5 pF @ 3 V	$C_{T1}/C_{T3} = 1.53$	0.4 Ω @ 1 V, f = 500 MHz
SMV1130-079LF	19.3 pF @ 1 V, 12 pF @ 3 V	$C_{T1}/C_{T3} = 1.61$	0.8 Ω @ 1 V, f = 500 MHz
SMV1145-079LF	28.35 pF @ 1 V, 10.6 pF @ 6 V	$C_{T1}/C_{T3} = 1.57$	0.6 Ω @ 3 V, f = 500 MHz
SMV1147-079LF	60.65 pF @ 1 V, 22.6 pF @ 6 V	$C_{T1}/C_{T3} = 1.57$	0.55 Ω @ 3 V, f = 500 MHz
SMV1212-079LF	46 pF @ 1 V, 52.5 pF @ 2.5 V	$C_{T1}/C_{T2.5} = 2$	0.8 Ω Typ. @ 4 V, f = 500 MHz
SMV1213-079LF	22 pF @ 1 V, 9.5 pF @ 2.5 V	$C_{T1}/C_{T2.5} = 2$	1.4 Ω Typ. @ 4 V, f = 500 MHz
SMV1231-079LF	1.5 pF @ 1 V, 1 pF @ 3 V	$C_{T1}/C_{T3} = 1.71$	2.9 Ω @ 3 V, f = 500 MHz
SMV1232-079LF	2.6 pF @ 1 V, 1.5 pF @ 3 V	$C_{T1}/C_{T3} = 1.6$	1.5 Ω @ 3 V, f = 500 MHz
SMV1233-079LF	3.3 pF @ 1 V, 1.8 pF @ 3 V	$C_{T1}/C_{T3} = 1.6$	1.2 Ω @ 3 V, f = 500 MHz
SMV1234-079LF	6.5 pF @ 1 V, 3.6 pF @ 3 V	$C_{T1}/C_{T3} = 1.8$	0.8 Ω @ 3 V, f = 500 MHz
SMV1235-079LF	11.5 pF @ 1 V, 6.4 pF @ 3 V	$C_{T1}/C_{T3} = 1.8$	0.6 Ω @ 3 V, f = 500 MHz
SMV1236-079LF	17 pF @ 1 V, 9.2 pF @ 3 V	$C_{T1}/C_{T3} = 1.8$	0.5 Ω @ 3 V, f = 500 MHz
SMV1247-079LF	4.4 pF @ 1 V, 0.9 pF @ 3 V	$C_{T0.3}/C_{T4.7} = 9.5$	6 Ω @ 3 V, f = 500 MHz
SMV1248-079LF	12.3 pF @ 1 V, 2.6 pF @ 3 V	$C_{T0.3}/C_{T4.7} = 10.8$	3.3 Ω @ 3 V, f = 500 MHz
SMV1249-079LF	18.2 pF @ 1 V, 3.4 pF @ 3 V	$C_{T0.3}/C_{T4.7} = 12.1$	2.2 Ω @ 3 V, f = 500 MHz
SMV1251-079LF	28.1 pF @ 1 V, 5.8 pF @ 3 V	$C_{T0.3}/C_{T4.7} = 12.2$	1.6 Ω @ 3 V, f = 500 MHz
SMV1253-079LF	37.1 pF @ 1 V, 7.8 pF @ 3 V	$C_{T0.3}/C_{T4.7} = 12.3$	1.4 Ω @ 3 V, f = 500 MHz
SMV1255-079LF	43.3 pF @ 1 V, 8.5 pF @ 3 V	$C_{T0.3}/C_{T4.7} = 12.3$	1.3 Ω @ 3 V, f = 500 MHz
SMV1263-079LF	5.1 pF @ 1 V, 2.6 pF @ 2.5 V	$C_{T0.5}/C_{T2.5} = 2.5$	1.2 Ω @ 1 V, f = 900 MHz
SMV1270-079LF	17.8 pF @ 1 V, 8.6 pF @ 2.5 V	$C_{T0.5}/C_{T2.5} = 2.7$	0.7 Ω Typ. @ 1 V, f = 500 MHz
SMV1281-079LF	8.6 pF @ 1 V, 0.7 pF @ 20 V	$C_{T1}/C_{T20} = 12.0$	1.7 Ω Typ.@ 1 V, f = 500 MHz
SMV1705-079LF	18.3 pF @ 1 V, 6.1 pF @ 4 V	$C_{T1}/C_{T4} = 3$	0.32 Ω Typ. @ 1 V, f = 470 MHz
SMV1763-079LF	5.2 pF @ 1 V, 2.6 pF @ 2.5 V	$C_{T0.5}/C_{T2.5} = 2.5$	0.7 Ω @ 1 V, f = 900 MHz
SMV1770-079LF	17.8 pF @ 1 V, 8.6 pF @ 2.5 V	$C_{T0.5}/C_{T2.5} = 2.7$	0.5 Ω @ 1 V, f = 470 MHz
SMV1771-079LF	23 pF @ 1 V, 11 pF @ 2.5 V	$C_{T0.5}/C_{T2.5} = 2.7$	0.5 Ω @ 1 V, f = 470 MHz

Silicon Varactor Diodes in SC-79 Package (1.6 x 0.8 x 0.6 mm)

Hyperabrupt Varactors (continued)

Part Number	Key Specifications	Description	Maximum Series Resistance
SMV1800-079LF	10.4 pF @ 1 V, 2.17 pF @ 8 V	$C_{T0.5}/C_{T28}$ = 14	3 Ω @ 1.5 V, f = 470 MHz
SMV1801-079LF	58 pF @ 1 V, 8 pF @ 8 V	C_{T1}/C_{T28} = 22	1.2 Ω @ 3 V, f = 470 MHz
SMV2019-079LF	1.5 pF @ 1 V, 0.44 pF @ 8 V	C_{T4}/C_{T20} = 2.3	4.8 Ω @ 1 V, f = 1000 MHz

Abrupt Varactors

Part Number	Key Specifications	Description	Maximum Series Resistance
SMV1405-079LF	2.1 pF @ 0.5 V, 1.3 pF @ 4 V	C_{T0}/C_{T30} = 4.1	0.8 Ω @ 4 V, f = 500 MHz
SMV1413-079LF	7.4 pF @ 0.5 V, 4 pF @ 4 V	C_{T0}/C_{T30} = 4.2	0.35 Ω @ 4 V, f = 500 MHz
SMV1430-079LF	0.88 pF @ 1 V, 0.44 pF @ 8 V	C_{T0}/C_{T30} = 3.8	1.6 Ω @ 4 V, f = 500 MHz
SMV1493-079LF	18.7 pF @ 1 V, 11 pF @ 4 V	C_{T1}/C_{T4} = 1.78	0.5 Ω @ 1 V, f = 500 MHz
SMV1494-079LF	39 pF @ 1 V, 23 pF @ 4 V	C_{T1}/C_{T4} = 1.66	0.45 Ω @ 1 V, f = 500 MHz