

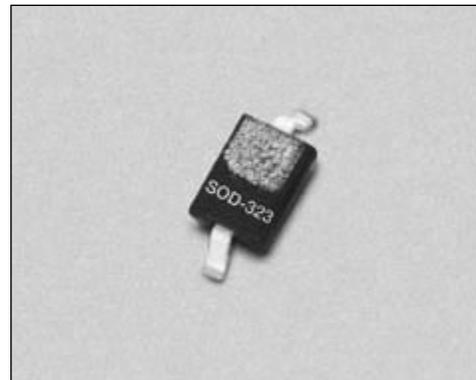
# Hyperabrupt Junction Tuning Varactor



SMV1265-011

## Features

- High Tuning Ratio
- Low Series Resistance
- SOD-323 Package
- Designed for High Volume, Low Cost Applications
- Available in Tape and Reel Packaging



## Description

The SMV1265-011 is a surface mount varactor diode in the SOD-323 package. It is designed for very high capacitance tuning ratio while having low series resistance, which makes this device especially attractive for wide band VCO applications.

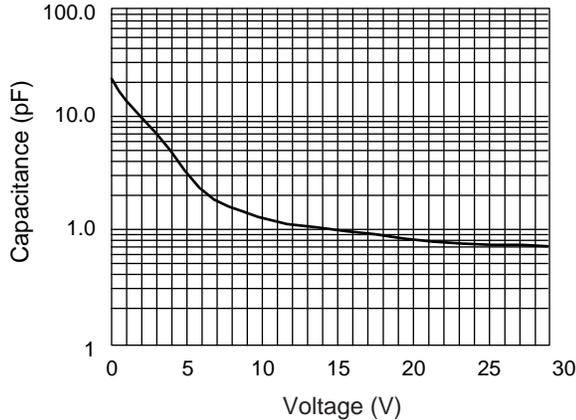
## Absolute Maximum Ratings

Characteristic	Value
Forward Current ( $I_F$ )	20 mA
Power Dissipation ( $P_D$ )	250 mW
Storage Temperature ( $T_{ST}$ )	-55°C to +150°C
Operating Temperature ( $T_{OP}$ )	-55°C to +125°C

## Electrical Specifications at 25°C

Parameter	Condition	Min.	Typ.	Max.	Unit
Reverse Current ( $I_R$ )	$V_R = 26\text{ V}$			20.00	nA
Capacitance ( $C_T$ )	$C_T @ 1\text{ V}, V_R = 1\text{ V}, F = 1\text{ MHz}$	12.50	13.8	14.70	pF
Capacitance ( $C_T$ )	$C_T @ 26\text{ V}, V_R = 26\text{ V}, F = 1\text{ MHz}$	0.58	0.7	0.83	pF
Capacitance Ratio ( $C_{TR}$ )	$C_T (1\text{ V})/C_T (26\text{ V})$	17.70	19.5		
Series Resistance ( $R_S$ )	$V_R = 1\text{ V}, F = 470\text{ MHz}$		2.4		$\Omega$
Breakdown Voltage ( $V_{BR}$ )	$I_R = 10\ \mu\text{A}$	28.00			V

Typical Performance Data

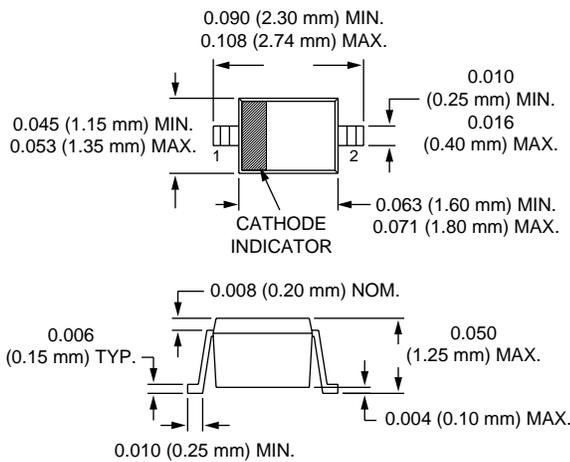


Capacitance vs. Voltage

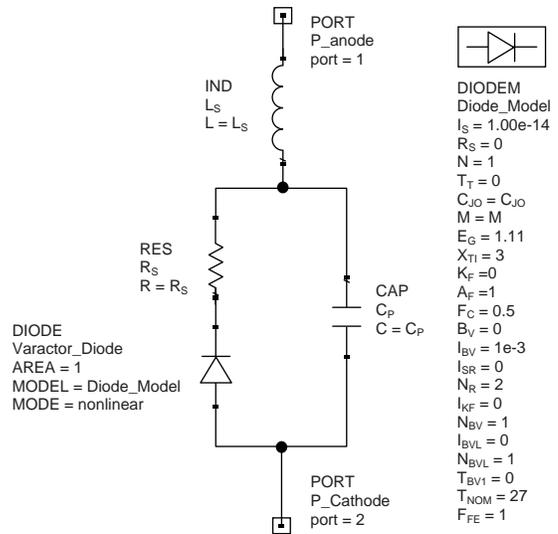
Capacitance vs. Voltage

V <sub>R</sub> (V)	C <sub>T</sub> (pF)
0.0	22.47
0.5	17.41
1.0	14.26
2.0	10.23
3.0	7.40
4.0	5.15
5.0	3.38
6.0	2.37
7.0	1.86
8.0	1.61
9.0	1.45
10.0	1.30
12.0	1.12
14.0	1.05
16.0	0.97
18.0	0.91
20.0	0.83
22.0	0.78
24.0	0.75
26.0	0.73
28.0	0.73
30.0	0.71

SOD-323



SPICE Model



Part Number	C <sub>J0</sub> (pF)	V <sub>J</sub> (V)	M	C <sub>P</sub> (pF)	R <sub>S</sub> (Ω)	L <sub>S</sub> (nH)
SMV1265-011	22.5	30	13	0.71	2.4	1.7