

Hyperabrupt Junction Tuning Varactor



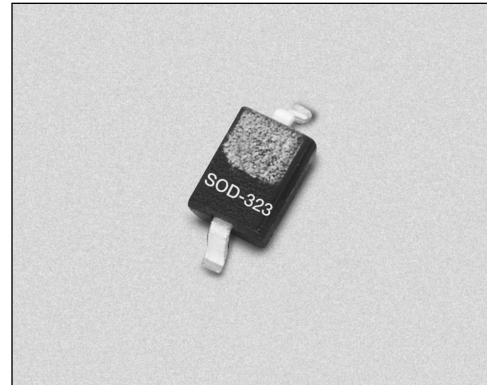
SMV1281-011

Features

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

Description

The SMV1281-011 is a surface mount varactor diode in the SOD-323 plastic package. It is designed for very high capacitance tuning ratio while having low series resistance, which makes this device especially attractive for wideband VCO applications.



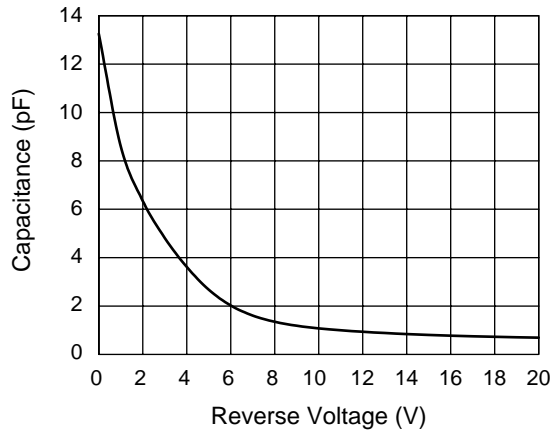
Absolute Maximum Ratings

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)	$V_R = 20$ V			20.0	nA
Capacitance (C_T)	1 V	7.8	8.6	9.5	pF
Capacitance (C_T)	20 V	0.6	0.7	0.8	pF
Capacitance Ratio (C_{TR})	1 V/20 V		12.0		
Series Resistance (R_S)	$V_R = 1$ V, $F = 500$ MHz		1.7		Ω
Breakdown Voltage (V_{BR})	$I_R = 10$ μ A	24.0			V

Typical Performance Data

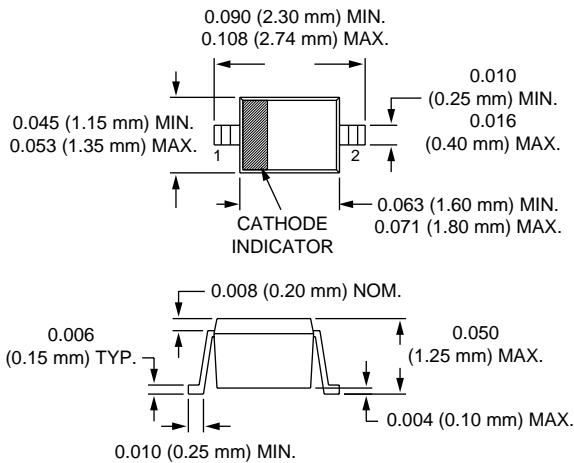


Capacitance vs. Reverse Voltage

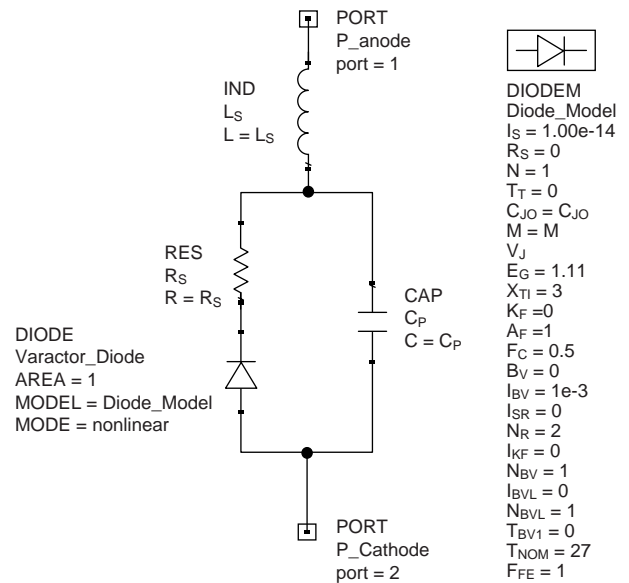
Capacitance vs. Reverse Voltage

V_R (V)	C_T (pF)
0	13.30
1	8.60
2	6.30
3	4.80
4	3.60
5	2.70
6	2.00
7	1.60
8	1.40
9	1.20
10	1.10
11	1.00
12	0.94
13	0.89
14	0.85
15	0.81
16	0.78
17	0.75
18	0.73
19	0.71
20	0.69

SOD-323



SPICE Model



Part Number	C_{JO} (pF)	V_J (V)	M	C_p (pF)	R_s (Ω)	L_s (nH)
SMV1281-011	13	14	6	0.62	1.7	1.2