

Hyperabrupt Junction Tuning Varactor



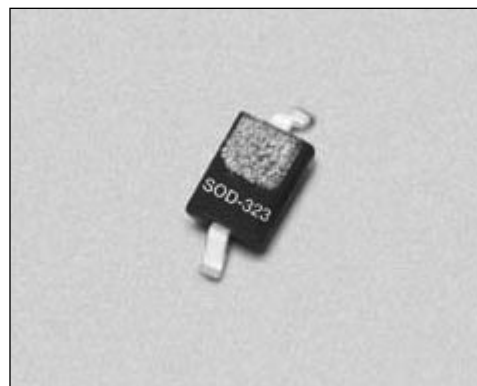
SMV1283-011

Features

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

Description

The SMV1283-011 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.



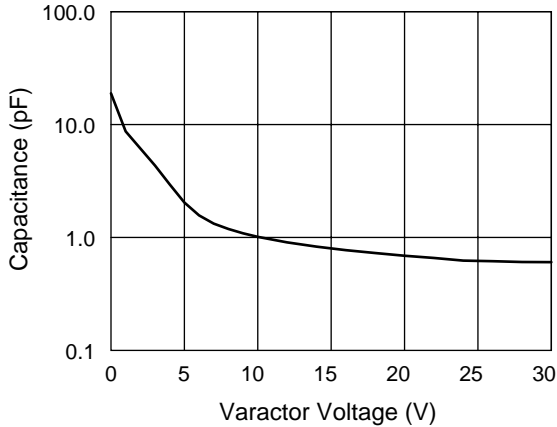
Absolute Maximum Ratings

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)	$V_R = 26$ V			20.00	nA
Capacitance (C_T)	$C_T @ 1$ V, $V_R = 1$ V, $F = 1$ MHz	8.5	9.10	9.70	pF
Capacitance (C_T)	$C_T @ 26$ V, $V_R = 26$ V, $F = 1$ MHz	0.5	0.62	0.75	pF
Capacitance Ratio (C_{TR})	$C_T (1$ V)/ $C_T (26$ V)		14.70		
Series Resistance (R_S)	$V_R = 1$ V, $F = 500$ MHz		2.40		Ω
Breakdown Voltage (V_{BR})	$I_R = 10$ μ A	28.0			V

Typical Performance Data

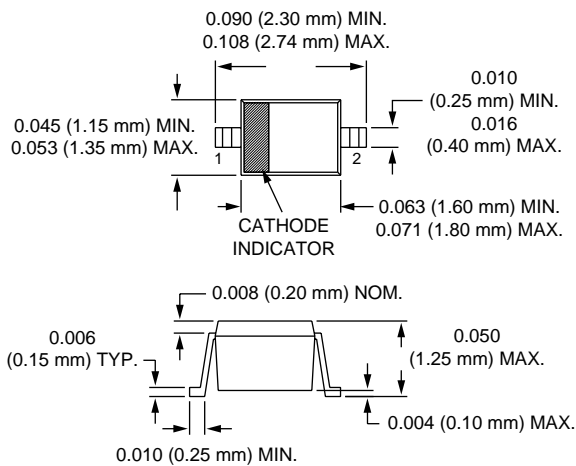


Capacitance vs. Voltage

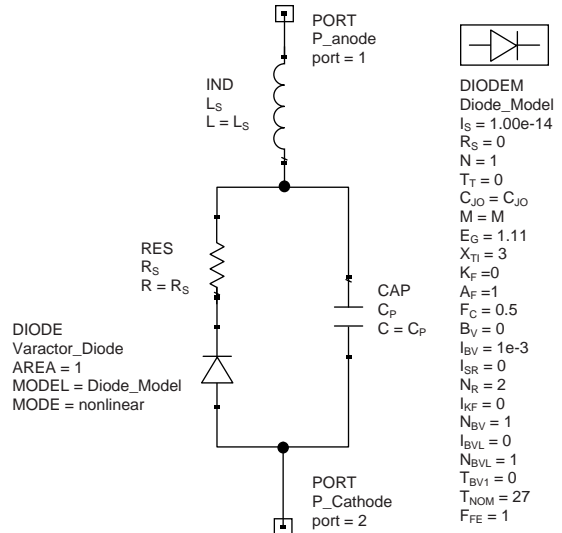
Capacitance vs. Voltage

V _R (V)	C _T (pF)
0	18.8820
1	8.7000
2	6.1400
3	4.3300
4	2.9500
5	2.0400
6	1.5680
7	1.3250
8	1.1880
9	1.0870
10	1.0123
12	0.9040
14	0.8295
16	0.7720
18	0.7280
20	0.6880
22	0.6580
24	0.6230
26	0.6160
28	0.6060
30	0.6040

SOD-323



SPICE Model



Part Number	C _{J0} (pF)	V _J (V)	M	C _P (pF)	R _S (Ω)	L _S (nH)
SMV1283-011	19	3	2.6	0.58	2.4	1.7