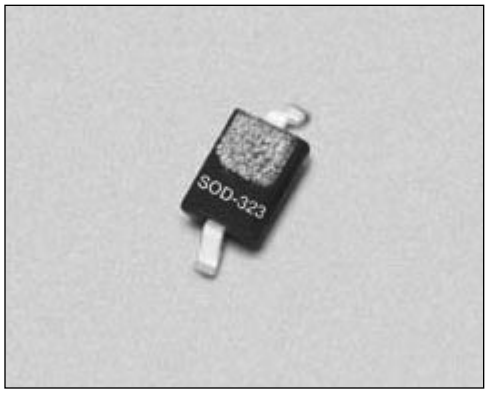
Hyperabrupt Junction Tuning Varactor

Alpha

SMV1245-011

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 SMV1245-011 is a surface mount varactor diode in the SOD-323 plastic package. It is designed for very low series resistance applications such as RF and microwave VCOs.

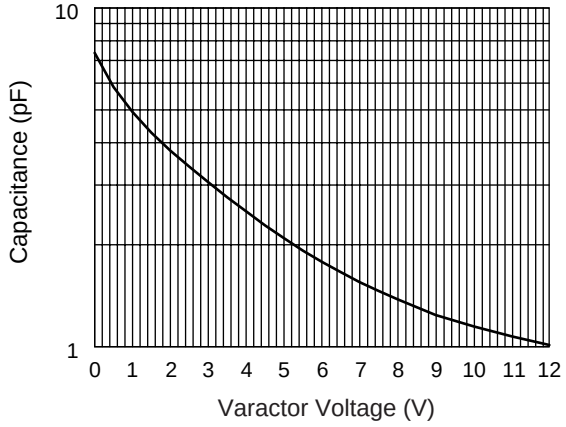
Absolute Maximum Ratings

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

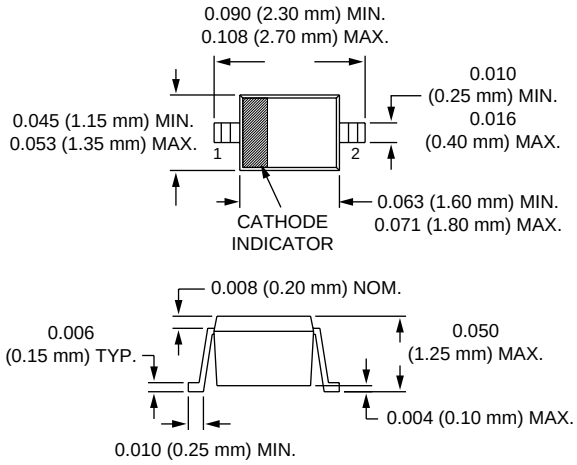
Parameter	Condition	Frequency	Min.	Typ.	Max.	Unit
Breakdown Voltage (V_{BR})	I_R = 10 µA		26.00			V
Reverse Current (I_R)	V_R = 10 V				50.00	nA
Capacitance (C_T)	C_T @ 1 V, V_R = 1 V, F = 1 MHz		4.40		5.40	pF
Capacitance Ratio (C_{TR})	C_T (1 V)/C_T (3 V)		1.47		1.76	
Capacitance Ratio (C_{TR})	C_T (1 V)/C_T (9 V)		3.50		4.20	
Series Resistance (R_S)	V_R = 1 V, F = 500 MHz				2.00	Ω

Typical Performance Data



Capacitance vs. Voltage

SOD-323



Capacitance vs. Voltage

V_R (V)	C_T (pF)
0.0	7.37
0.5	5.84
1.0	4.93
1.5	4.28
2.0	3.79
2.5	3.40
3.0	3.06
3.5	2.76
4.0	2.51
4.5	2.28
5.0	2.09
5.5	1.92
6.0	1.78
6.5	1.66
7.0	1.55
7.5	1.46
8.0	1.38
8.5	1.32
9.0	1.26
9.5	1.20
10.0	1.16
10.5	1.12
11.0	1.08
11.5	1.05
12.0	1.02