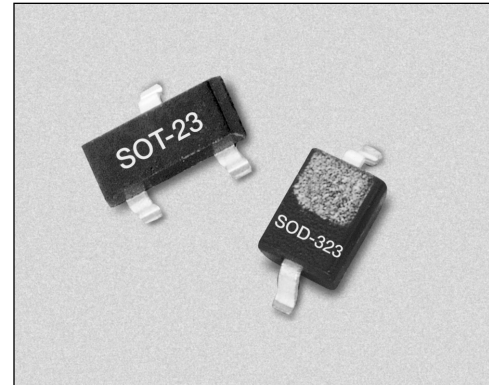


### Features

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



### Description

The SMV1135-011 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

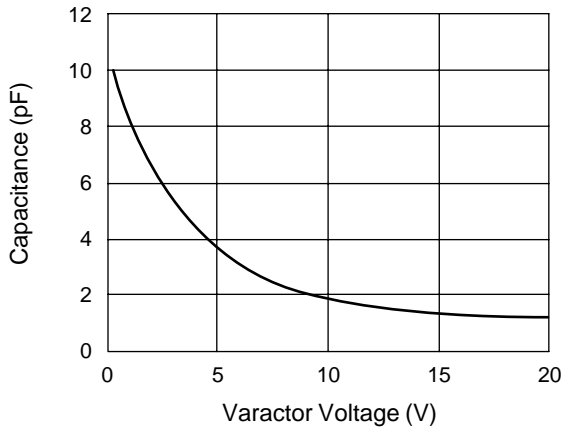
Characteristic	Value
Forward Current ( $I_F$ )	20 mA
Power Dissipation ( $P_D$ )	250 mW
Storage Temperature ( $T_{ST}$ )	-55°C to +150°C
Operating Temperature ( $T_{OP}$ )	-55°C to +125°C

Single	Common Cathode
SOD-323	SOT-23
<b>SMV1135-011</b>	<b>SMV1135-004</b>

### Electrical Specifications at 25°C

Parameter	Condition	Min.	Typ.	Max.	Unit
Reverse Current ( $I_R$ )	$V_R = 21\text{ V}$			20.00	nA
Capacitance ( $C_T$ )	$C_T @ 1\text{ V}, V_R = 1\text{ V}, F = 1\text{ MHz}$	8.20		10.00	pF
Capacitance Ratio ( $C_{TR}$ )	$C_T(1\text{ V})/C_T(3\text{ V})$	1.47		1.76	
Capacitance Ratio ( $C_{TR}$ )	$C_T(1\text{ V})/C_T(9\text{ V})$	3.70		4.50	
Series Resistance ( $R_S$ )	$V_R = 1\text{ V}, F = 500\text{ MHz}$			1.20	$\Omega$
Breakdown Voltage ( $V_{BR}$ )	$I_R = 10\ \mu\text{A}$	28.00			V

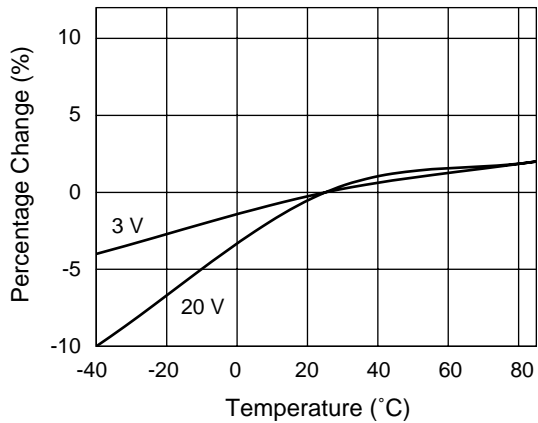
Typical Performance Data



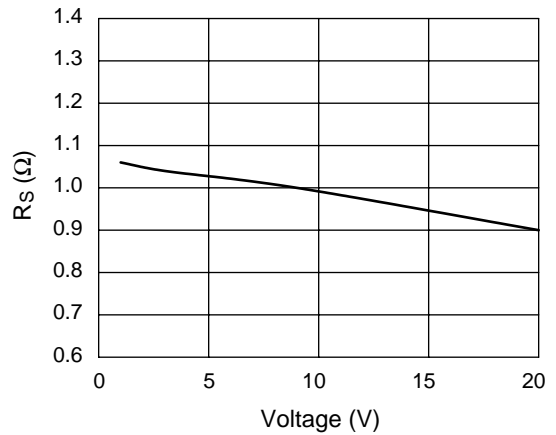
Capacitance vs. Voltage

Capacitance vs. Voltage

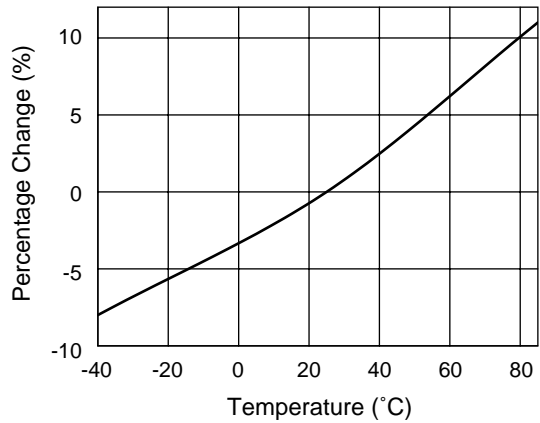
$V_R$ (V)	$C_T$ (pF)
0.5	10.34
1.0	8.69
2.5	5.98
3.0	5.38
6.0	3.11
10.0	1.92
20.0	1.17



Relative Capacitance Change vs. Temperature

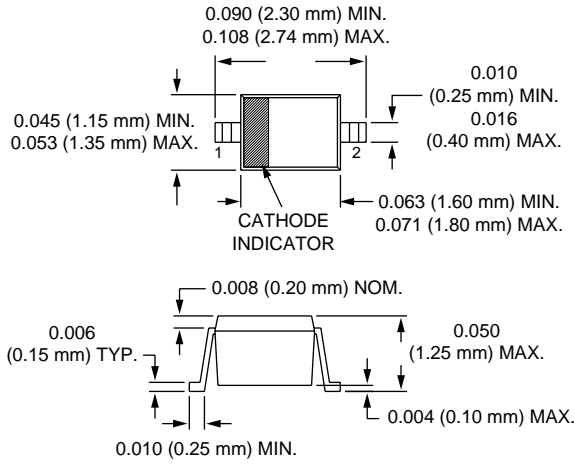


Series Resistance vs. Voltage

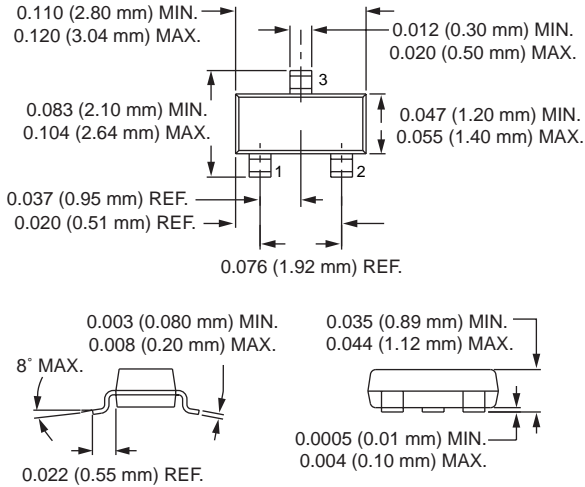


Relative Series Resistance Change vs. Temperature

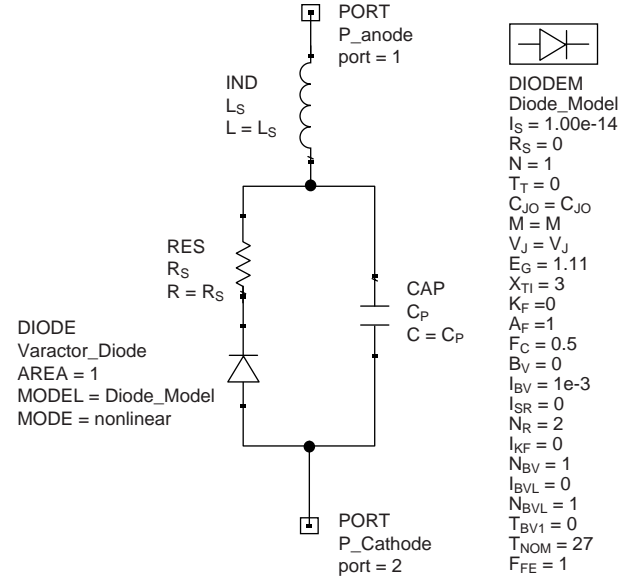
SOD-323



SOT-23



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)
SMV1135-011	10.3	8.6	2.9	0.8	1.2	1.5