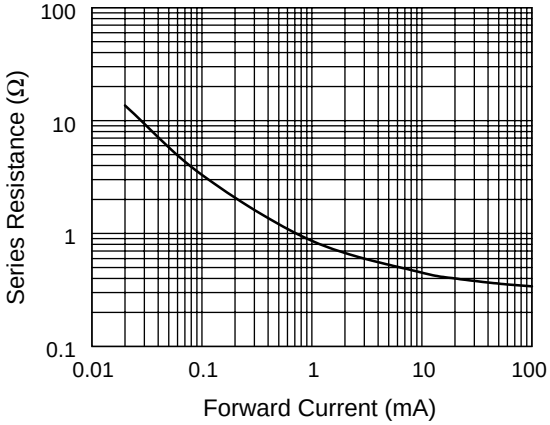
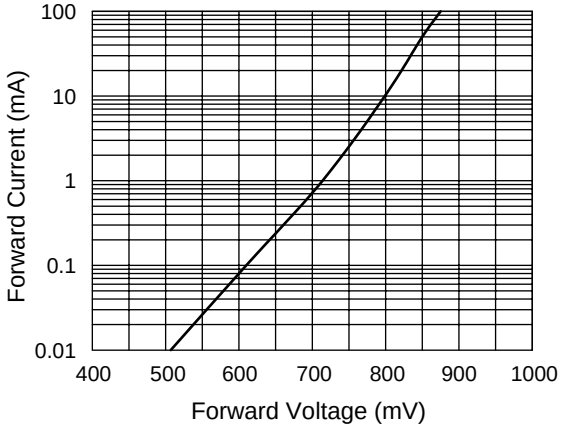
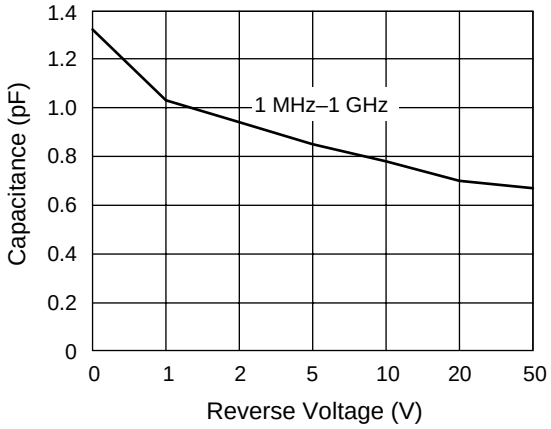
Typical Performance Data



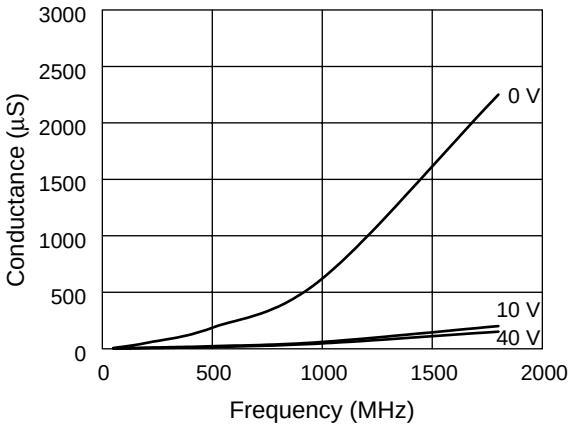
Series Resistance vs. Current @ 100 MHz



DC Characteristic



Capacitance vs. Reverse Voltage



Conductance vs. Frequency and Reverse Voltage

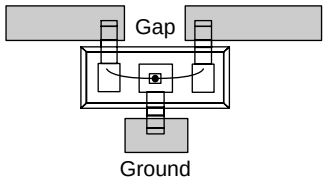
Resistance vs. Temperature @ 500 MHz

I_F (mA)	R -55°C (Ω)	R -15°C (Ω)	R +25°C (Ω)	R +65°C (Ω)	R +100°C (Ω)
0.02	9.500	9.400	9.900	10.500	10.900
0.10	3.000	3.000	3.000	3.300	3.500
0.30	1.500	1.500	1.500	1.600	1.800
0.50	1.100	1.100	1.200	1.200	1.400
1.00	0.922	0.914	0.902	0.963	1.100
10.00	0.568	0.559	0.533	0.563	0.655
20.00	0.532	0.520	0.494	0.521	0.610
100.00	0.483	0.469	0.440	0.464	0.565

SMP1322-007

In the -007 configuration of the SOT-23 package, the package inductance is effectively reduced to 0.4 nH, in comparison to the 1.5 nH value of the standard configuration. This lower inductance will be particularly beneficial when the diodes are used as shunt connected switches at frequencies higher than 500 MHz, where inductance is the primary limitation on maximum switch isolation.

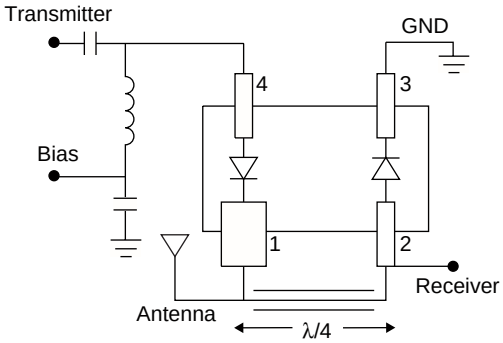
To achieve the effective 0.4 nH, the SOT-23 package must be inserted in the microstrip circuit board with a gap in the trace, as shown in the figure. Because of the polarity of the diode junction, this low inductance feature is only realizable with the cathode connected to ground.



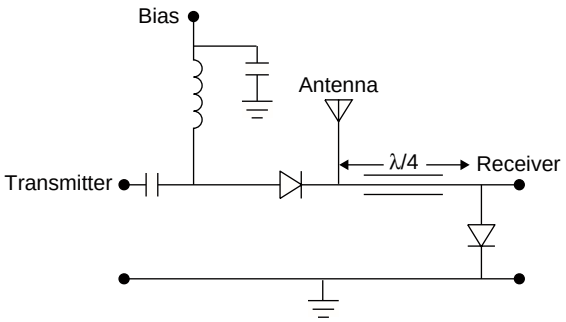
SMP1322-016 SOT-143 T/R Switch

The SMP1322-016 is a low cost PIN diode unconnected pair specifically designed for low current drain antenna T/R switches in hand held wireless suits. In the specifically configured SOT-143 package, the PIN diodes are oriented to enable connection as a λ/4 switch with no external crossover connections.

SMP1322-016 in λ/4 T/R Switch

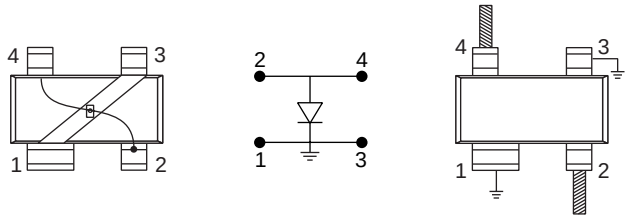


λ/4 T/R Switch



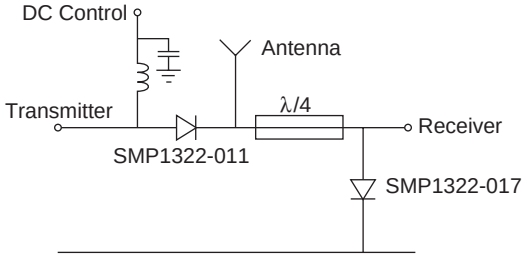
SMP1322-017 SOT-143 Low Inductance PIN Diode

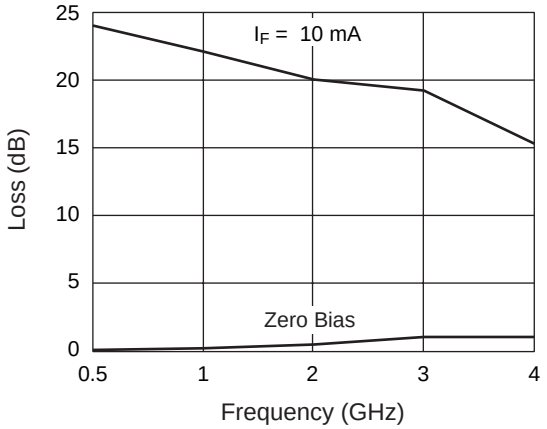
The SMP1322-017 utilizes the SMP1322 PIN diode chip in a customized SOT-143 plastic package designed for high isolation performance in a shunt connected switch. Its effective inductance, based on the 3 GHz isolation, is less than 0.2 nH. This diode is designed to work effectively as a shunt element in SPDT switches, covering the wireless frequencies from 900 MHz to beyond 2 GHz. Excellent performance is achievable when used in a quarter-wave T/R switch with the SMP1322-001 (SOT-23) or SMP1322-011 (SOD-323) PIN diode as the series connected diode.



Lead Configuration **Schematic** **Switch Connection**

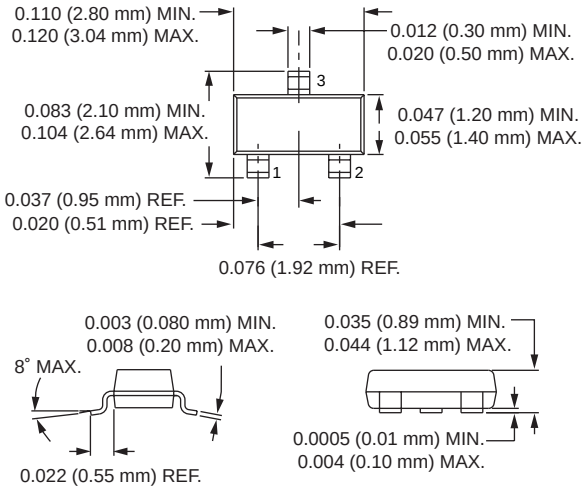
T/R Switch Design



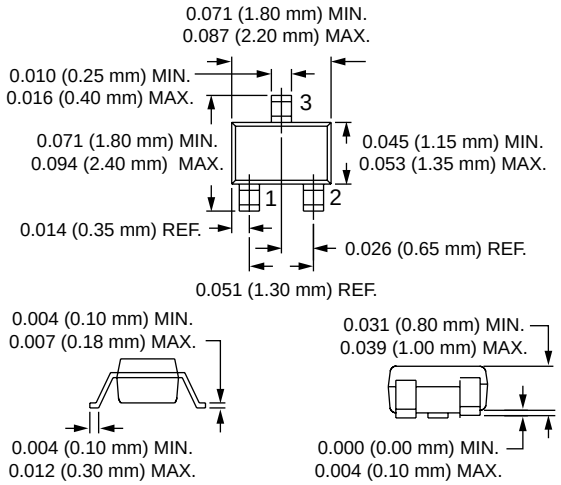


SMP1322-017 Typical SPST Switch Performance

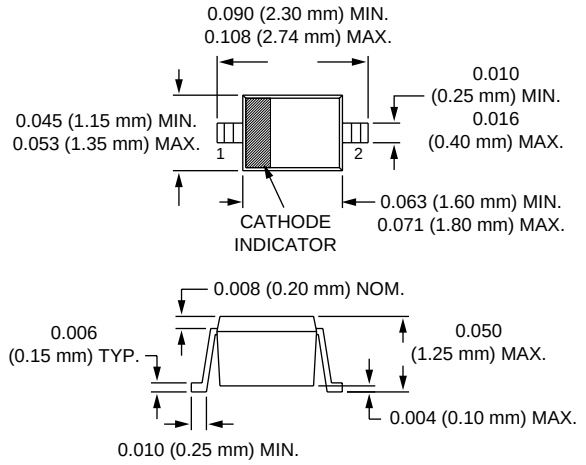
SOT-23



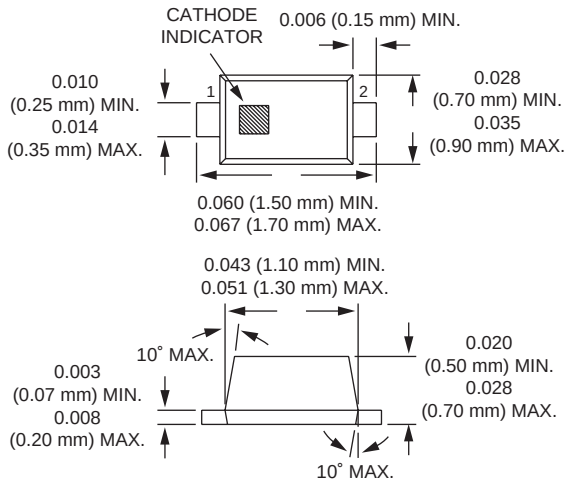
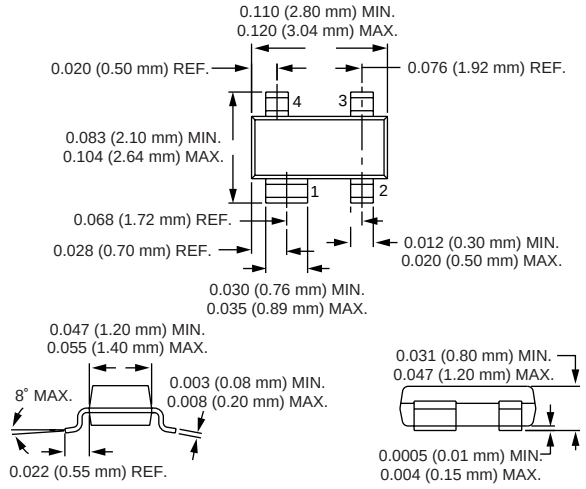
SC-70



SOD-323



SC-79



SOT-143