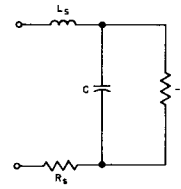
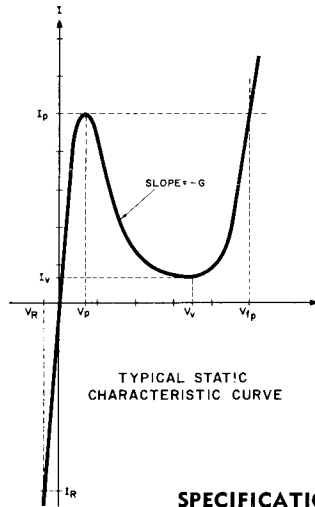


1N3149, 1N3149A

Outline Drawing No. 1

The 1N3149 and 1N3149A are germanium tunnel diodes which make use of the quantum mechanical tunneling phenomenon thereby attaining a unique negative conductance characteristic and very high frequency performance.

These devices are designed for low level switching and small signal applications with frequency capabilities up to 1.5 Kmc. They feature closely controlled peak point current, good temperature stability and extreme resistance to nuclear radiation.



EQUIVALENT CIRCUIT (BIASED IN NEGATIVE CONDUCTANCE REGION)

SPECIFICATIONS

ABSOLUTE MAXIMUM RATINGS: (25°C)

Current

Forward (-55 to +100°C)	50	ma
Reverse (-55 to +100°C)	50	ma

Temperature

Storage	T _{STG}	-55 to +100	°C
Operating Junction	T _J	-55 to +100	°C
Lead Temperature 1/16" ± 1/32"	T _L	260	°C
From Case for 10 seconds			

ELECTRICAL CHARACTERISTICS: (25°C) (1/8" Leads)

		Min.	Typ.	Max.	
Peak Point Current 1N3149	I _p	9.0	10.0	11.0	ma
Peak Point Current 1N3149A	I _p	9.75	10.0	10.25	ma
Valley Point Current	I _v		1.3	2.2	ma
Peak Point Voltage 1N3149A	V _p	50	60	65	mv
Valley Point Voltage	V _v		350		mv
Reverse Voltage (I _R = 10 ma)	V _R			30	mv
Forward Peak Point Current Voltage 1N3149	V _{f_p}	450	500	600	mv
Forward Peak Point Current Voltage 1N3149A	V _{f_p}	450	500	550	mv
Peak Point Current to Valley Point Current Ratio	I _p /I _v		8		
Negative Conductance	-G		60 × 10 ⁻³		mho
Total Capacity 1N3149	C		30	90	pf
Total Capacity 1N3149A	C		25	50	pf
Series Inductance	L _s *		6		nh
Series Resistance	R _s		.25	1.5	ohm

*Inductance will vary 1-12 nh (10⁻⁹ henries) depending on lead length.

