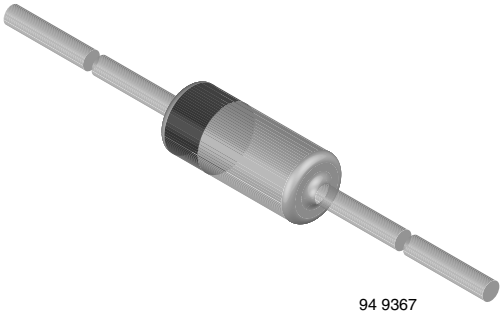
Small Signal Fast Switching Diodes

Features

- Silicon Epitaxial Planar Diode
- Low forward voltage drop
- AEC-Q101 qualified
- High forward current capability
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition

RoHS COMPLIANT
HALOGEN FREE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Applications

- High speed switch and general purpose use in computer and industrial applications

Mechanical Data

Case: DO-35
Weight: approx. 125 mg
Cathode band color: black

Packaging codes/options:
TR/10 k per 13" reel (52 mm tape), 50 k/box
TAP/10 k per Ammopack (52 mm tape), 50 k/box

Parts Table

Part	Ordering code	Type Marking	Remarks
1N4150	1N4150-TR or 1N4150-TAP	1N4150	Tape and Reel/Ammopack

Absolute Maximum Ratings

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Repetitive peak reverse voltage		V_{RRM}	50	V
Reverse voltage		V_R	50	V
Peak forward surge current	t_p = 1 µs	I_{FSM}	4	A
Average peak forward current		I_{FRM}	600	mA
Forward continuous current		I_F	300	mA
Average forward current	V_R = 0	I_{FAV}	150	mA
Power dissipation	l = 4 mm, T_L = 45 °C	P_{tot}	440	mW
	l = 4 mm, T_L ≤ 25 °C	P_{tot}	500	mW

Thermal Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air	l = 4 mm, T_L = constant	R_{thJA}	350	K/W
Junction temperature		T_j	175	°C
Storage temperature range		T_{stg}	- 65 to + 175	°C

Electrical Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Min.	Typ.	Max.	Unit
Forward voltage	I_F = 1 mA	V_F	540		620	mV
	I_F = 10 mA	V_F	660		740	mV
	I_F = 50 mA	V_F	760		860	mV
	I_F = 100 mA	V_F	820		920	mV
	I_F = 200 mA	V_F	870		1000	mV
Reverse current	V_R = 50 V	I_R			100	nA
	V_R = 50 V, T_j = 150 °C	I_R			100	µA
Diode capacitance	V_R = 0, f = 1 MHz, V_{HF} = 50 mV	C_D			2.5	pF
Reverse recovery time	$I_F = I_R$ = (10 to 100) mA, i_R = 0.1 x I_R, R_L = 100 Ω	t_{rr}			4	ns

Typical Characteristics

T_{amb} = 25 °C, unless otherwise specified

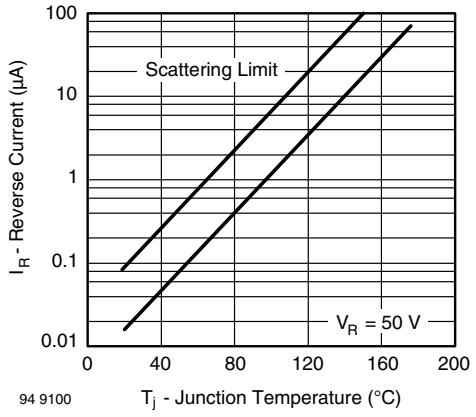


Figure 1. Reverse Current vs. Junction Temperature

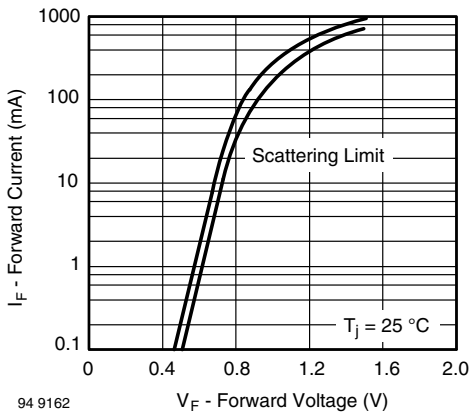
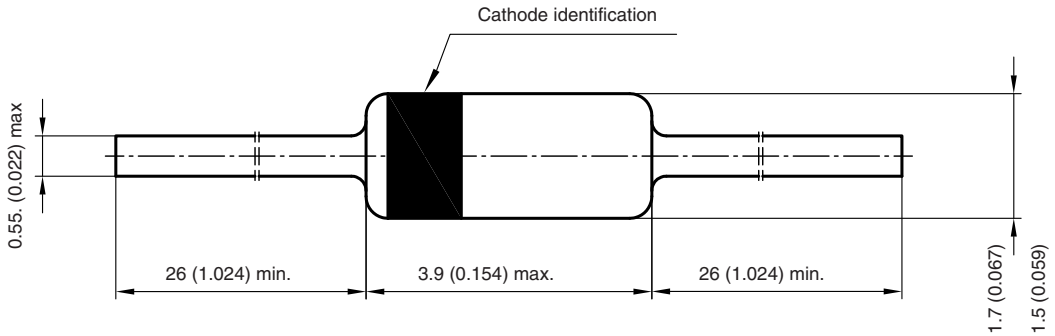


Figure 2. Forward Current vs. Forward Voltage

Package Dimensions in mm (inches): DO-35



Rev. 6 - Date: 29. January 2007
Document no.: 6.560-5004.02-4
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