

Fast Switching Diode

Features

- Silicon Epitaxial Planar Diode

Applications

Extreme fast switches

Mechanical Data

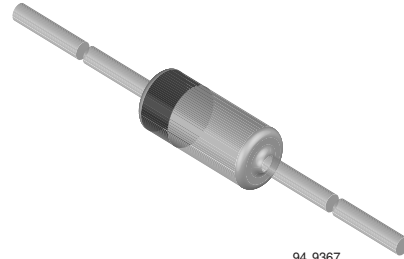
Case: DO-35 Glass Case

Weight: approx. 130 mg

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



94 9367

Parts Table

Part	Ordering code	Marking	Remarks
1N4151	1N4151-TR or 1N4151-TAP	-	Tape and Reel / Ammopack

Absolute Maximum Ratings

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Repetitive peak reverse voltage		V_{RRM}	75	V
Reverse voltage		V_R	50	V
Peak forward surge current	$t_p = 1\text{ }\mu\text{s}$	I_{FSM}	2	A
Repetitive peak forward current		I_{FRM}	500	mA
Forward current		I_F	300	mA
Average forward current	$V_R = 0$	I_{FAV}	150	mA
Power dissipation	$I = 4\text{ mm}$, $T_L = 45\text{ }^{\circ}\text{C}$	P_V	440	mW
	$I = 4\text{ mm}$, $T_L \leq 25\text{ }^{\circ}\text{C}$	P_V	500	mW

Thermal Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Junction ambient	$I = 4\text{ mm}$, $T_L = \text{constant}$	R_{thJA}	350	K/W
Junction temperature		T_j	175	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	- 65 to + 175	$^{\circ}\text{C}$

Electrical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Forward voltage	$I_F = 50\text{ mA}$	V_F		0.88	1	V
Reverse current	$V_R = 50\text{ V}$	I_R		14	50	nA
	$V_R = 50\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$	I_R			50	μA
Breakdown voltage	$I_R = 5\text{ }\mu\text{A}$	$V_{(BR)}$	75			V
Diode capacitance	$V_R = 0, f = 1\text{ MHz}, V_{HF} = 50\text{ mV}$	C_D			2	pF
Reverse recovery time	$I_F = I_R = 10\text{ mA}, i_R = 1\text{ mA}$	t_{rr}			4	ns
	$I_F = 10\text{ mA}, V_R = 6\text{ V}, i_R = 0.1 \times I_R, R_L = 100\text{ }\Omega$	t_{rr}			2	ns

Typical Characteristics ($T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

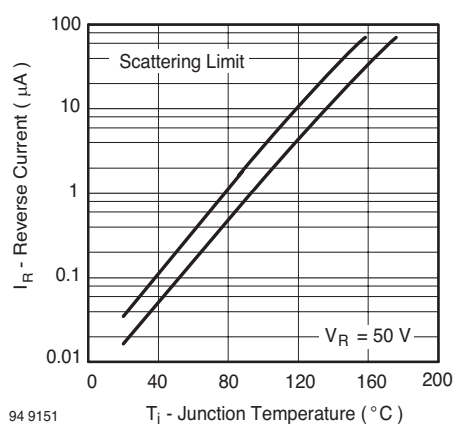


Figure 1. Reverse Current vs. Junction Temperature

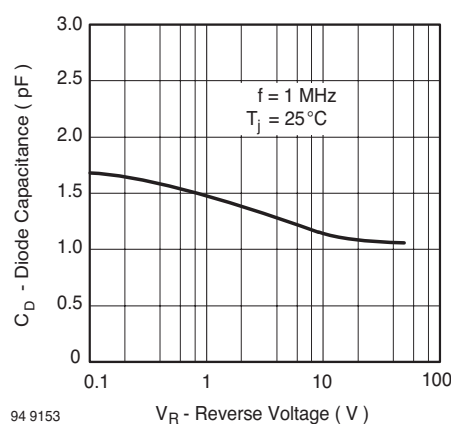


Figure 3. Diode Capacitance vs. Reverse Voltage

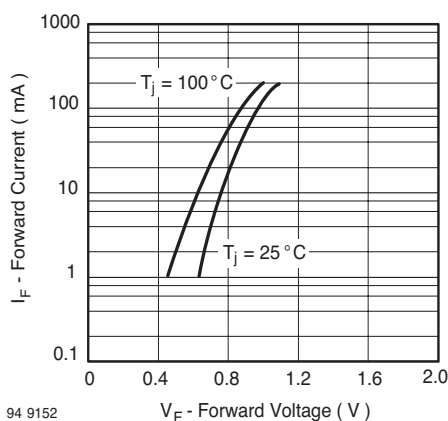
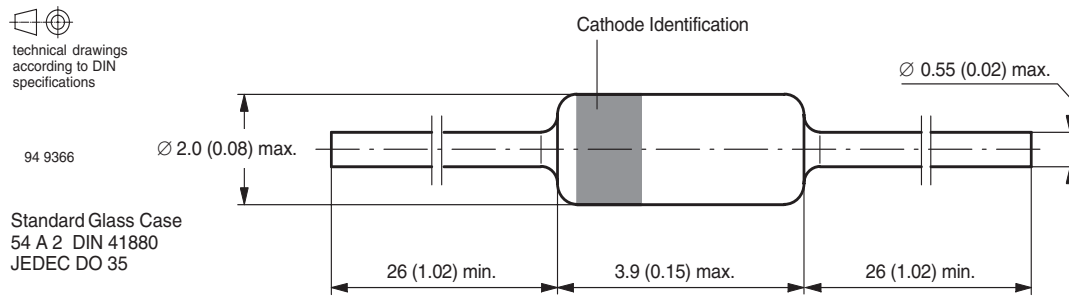


Figure 2. Forward Current vs. Forward Voltage

Package Dimensions in mm (Inches)



Ozone Depleting Substances Policy Statement

It is the policy of **Vishay Semiconductor GmbH** to

1. Meet all present and future national and international statutory requirements.
2. Regularly and continuously improve the performance of our products, processes, distribution and operating systems with respect to their impact on the health and safety of our employees and the public, as well as their impact on the environment.

It is particular concern to control or eliminate releases of those substances into the atmosphere which are known as ozone depleting substances (ODSs).

The Montreal Protocol (1987) and its London Amendments (1990) intend to severely restrict the use of ODSs and forbid their use within the next ten years. Various national and international initiatives are pressing for an earlier ban on these substances.

Vishay Semiconductor GmbH has been able to use its policy of continuous improvements to eliminate the use of ODSs listed in the following documents.

1. Annex A, B and list of transitional substances of the Montreal Protocol and the London Amendments respectively
2. Class I and II ozone depleting substances in the Clean Air Act Amendments of 1990 by the Environmental Protection Agency (EPA) in the USA
3. Council Decision 88/540/EEC and 91/690/EEC Annex A, B and C (transitional substances) respectively.

Vishay Semiconductor GmbH can certify that our semiconductors are not manufactured with ozone depleting substances and do not contain such substances.

**We reserve the right to make changes to improve technical design
and may do so without further notice.**

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