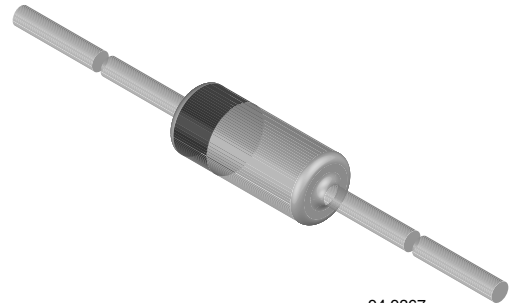


## Small Signal Fast Switching Diodes

### Features

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



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### Applications

- Extreme fast switches

### 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
1N4154	1N4154-TR or 1N4154-TAP	1N4154	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		$V_{RRM}$	35	V
Reverse voltage		$V_R$	25	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 continuous current		$I_F$	300	mA
Average forward current	$V_R = 0$	$I_{FAV}$	150	mA
Power dissipation	$I = 4\text{ mm}, T_L = 45\text{ }^{\circ}\text{C}$	$P_{tot}$	440	mW
	$I = 4\text{ mm}, T_L \leq 25\text{ }^{\circ}\text{C}$	$P_{tot}$	500	mW

### Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air	$I = 4\text{ mm}, T_L = \text{constant}$	$R_{thJA}$	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<sub>amb</sub> = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Min.	Typ.	Max.	Unit
Forward voltage	I <sub>F</sub> = 30 mA	V <sub>F</sub>		880	1000	mV
Reverse current	V <sub>R</sub> = 25 V	I <sub>R</sub>		9	100	nA
	V <sub>R</sub> = 25 V, T <sub>j</sub> = 150 °C	I <sub>R</sub>			100	μA
Breakdown voltage	I <sub>R</sub> = 5 μA, t <sub>p</sub> /T = 0.01, t <sub>p</sub> = 0.3 ms	V <sub>(BR)</sub>	35			V
Diode capacitance	V <sub>R</sub> = 0, f = 1 MHz, V <sub>HF</sub> = 50 mV	C <sub>D</sub>			4	pF
Reverse recovery time	I <sub>F</sub> = I <sub>R</sub> = 10 mA, i <sub>R</sub> = 1 mA	t <sub>rr</sub>			4	ns
	I <sub>F</sub> = 10 mA, V <sub>R</sub> = 6 V, i <sub>R</sub> = 0.1 x I <sub>R</sub> , R <sub>L</sub> = 100 Ω	t <sub>rr</sub>			2	ns

### Typical Characteristics

T<sub>amb</sub> = 25 °C, unless otherwise specified

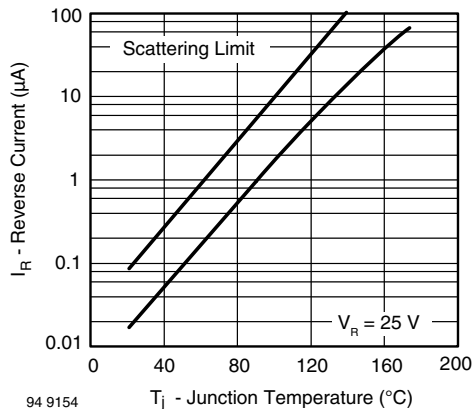


Figure 1. Reverse Current vs. Junction Temperature

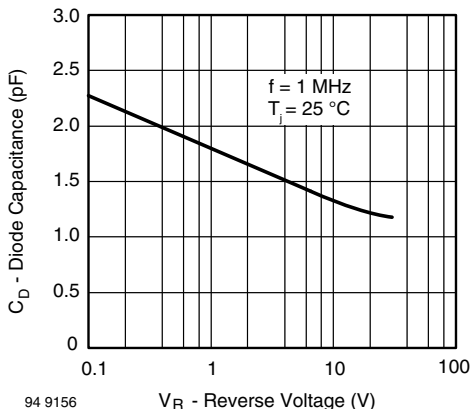


Figure 3. Diode Capacitance vs. Reverse Voltage

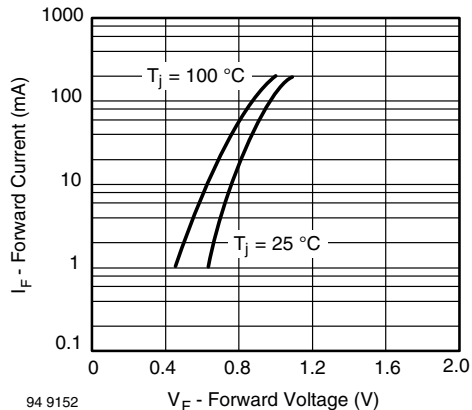
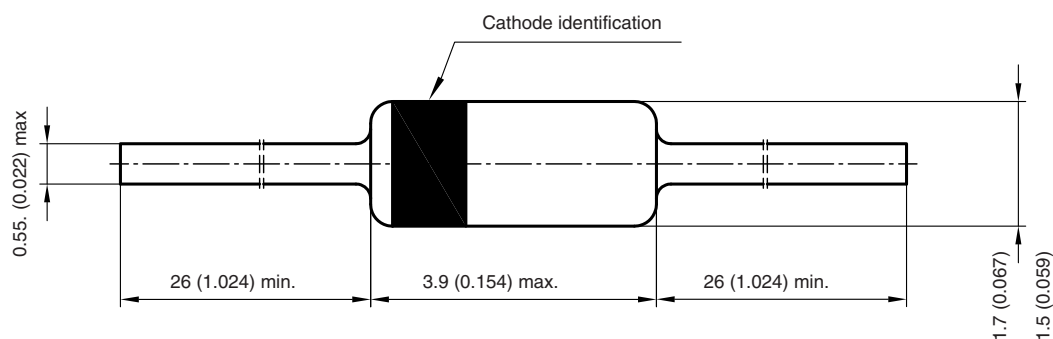


Figure 2. Forward Current vs. Forward Voltage

## Package Dimensions in millimeters (inches): DO-35



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