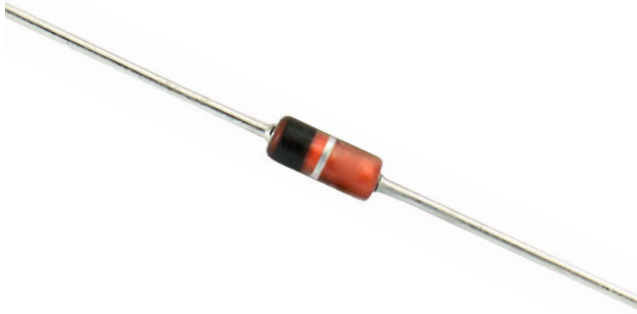


## Small Signal Fast Switching Diodes



### FEATURES

- Silicon epitaxial planar diode
- Material categorization:  
for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**

### APPLICATIONS

- Fast switches

### LINKS TO ADDITIONAL RESOURCES


[3D Models](#)

[Marking](#)

[Parametric Search](#)

[Order Samples](#)

### MECHANICAL DATA

**Case:** DO-35

**Weight:** approx. 125 mg

**Cathode band color:** black

**Packaging codes/options:**

TR/10K per 14" reel (52 mm tape), 50K/box

TAP/10K per ammpack (52 mm tape), 50K/box

### PARTS TABLE

PART	ORDERING CODE	TYPE MARKING	CIRCUIT CONFIGURATION	REMARKS
1N4454	1N4454-TR or 1N4454-TAP	1N4454	Single	Tape and reel / ammpack

### ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		$V_{RRM}$	100	V
Reverse voltage		$V_R$	75	V
Peak forward surge current	$t_p < 1\text{ s}$	$I_{FSM}$	500	mA
Forward continuous current		$I_F$	300	mA
Average forward current	$V_R = 0$	$I_{FAV}$	150	mA
Power dissipation	$l = 4\text{ mm}, T_L \leq 25\text{ }^{\circ}\text{C}$	$P_{tot}$	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	$l = 4\text{ mm}, T_L = \text{constant}$	$R_{thJA}$	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	$I_F = 10\text{ mA}$	$V_F$			1000	mV
Reverse current	$V_R = 50\text{ V}$	$I_R$			100	nA
	$V_R = 75\text{ V}$	$I_R$			5	$\mu\text{A}$
Breakdown voltage	$I_R = 100\text{ }\mu\text{A}$ (pulses)	$V_{(BR)}$	75			V
Diode capacitance	$V_R = 0\text{ V}$ , $f = 1\text{ MHz}$ , $V_{HF} = 50\text{ mV}$	$C_D$			2	pF
Reverse recovery time	$I_F = 10\text{ mA}$ , $V_R = 6\text{ V}$ , $i_R = 0.1 \times I_R$ , $R_L = 100\text{ }\Omega$	$t_{rr}$			4	ns

**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

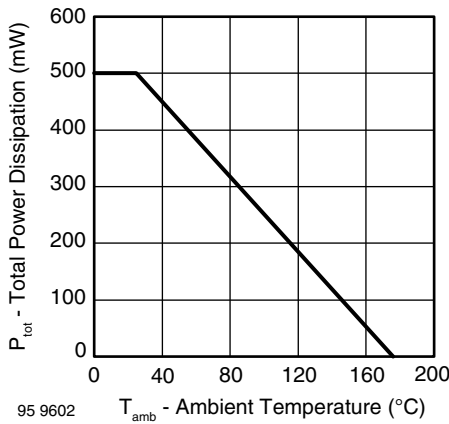


Fig. 1 - Total Power Dissipation vs. Ambient Temperature

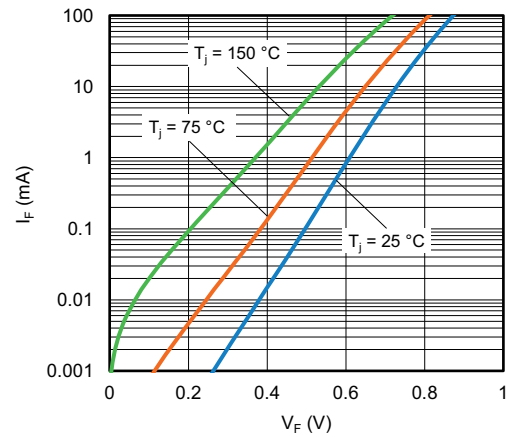


Fig. 3 - Forward Current  $I_F$  vs. Forward Voltage  $V_F$

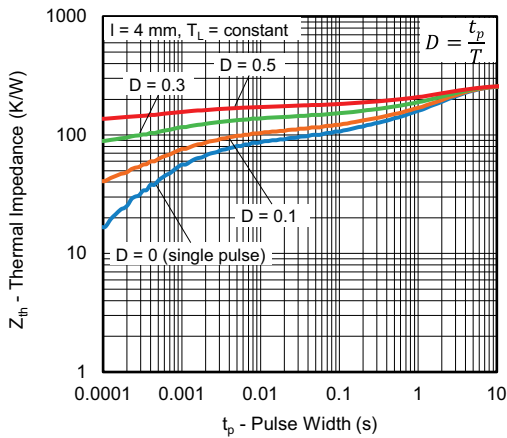
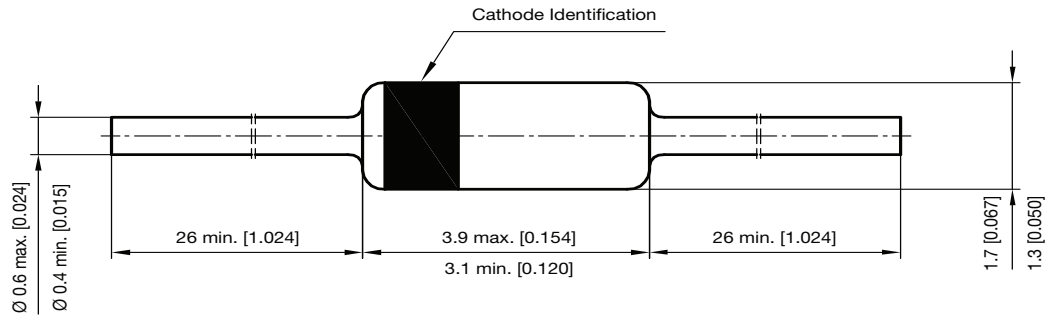


Fig. 2 - Typical Thermal Response



**PACKAGE DIMENSIONS** in millimeters (inches): **DO-35**



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