

## Small Signal Fast Switching Diode



### FEATURES

- Silicon epitaxial planar diode
- Fast switching diode
- This diode is also available in other case styles including the DO-35 case with the type designation 1N4151, and the MiniMELF case with the type designation LL4151.
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

### MECHANICAL DATA

**Case:** SOD-123

**Weight:** approx. 10.3 mg

**Packaging codes/options:**

GS18/10K per 13" reel (8 mm tape), 10K/box

GS08/3K per 7" reel (8 mm tape), 15K/box

PARTS TABLE				
PART	ORDERING CODE	TYPE MARKING	INTERNAL CONSTRUCTION	REMARKS
1N4151W-V	1N4151W-V-GS18 or 1N4151W-V-GS08	A5	Single diode	Tape and reel

ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		$V_R$	50	V
Repetitive peak reverse voltage		$V_{RRM}$	75	V
Average rectified current half wave rectification with resistive load <sup>(1)</sup>	$f \geq 50\text{ Hz}$	$I_{F(AV)}$	150	mA
Surge current	$t < 1\text{ s}$ and $T_j = 25\text{ }^{\circ}\text{C}$	$I_{FSM}$	500	mA
Power dissipation <sup>(1)</sup>		$P_{tot}$	410	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 <sup>(1)</sup>		$R_{thJA}$	450	K/W
Junction temperature		$T_j$	150	$^{\circ}\text{C}$
Storage temperature range		$T_{stg}$	- 65 to + 150	$^{\circ}\text{C}$

#### Note

<sup>(1)</sup> Valid provided that electrodes are kept at ambient temperature.

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> = 50 mA	V <sub>F</sub>			1.0	V
Leakage current	V <sub>R</sub> = 50 V	I <sub>R</sub>			50	nA
	V <sub>R</sub> = 20 V, T <sub>j</sub> = 150 °C	I <sub>R</sub>			50	μA
Reverse breakdown voltage	I <sub>R</sub> = 5 μA (pulsed)	V <sub>(BR)</sub>	75			V
Diode capacitance	V <sub>F</sub> = V <sub>R</sub> = 0 V	C <sub>D</sub>			2	pF
Reverse recovery time	I <sub>F</sub> = 10 mA, I <sub>R</sub> = 10 mA i <sub>R</sub> = 1 mA	t <sub>rr</sub>			4	ns
	I <sub>F</sub> = 10 mA, i <sub>R</sub> = 1 mA V <sub>R</sub> = 6 V, R <sub>L</sub> = 100 Ω	t <sub>rr</sub>			2	ns

**TYPICAL CHARACTERISTICS** (T<sub>amb</sub> = 25 °C, unless otherwise specified)

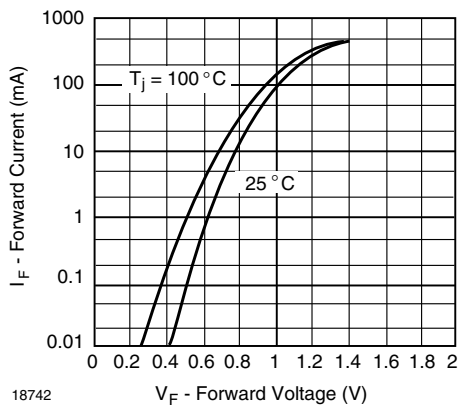


Fig. 1 - Forward Current vs. Forward Voltage

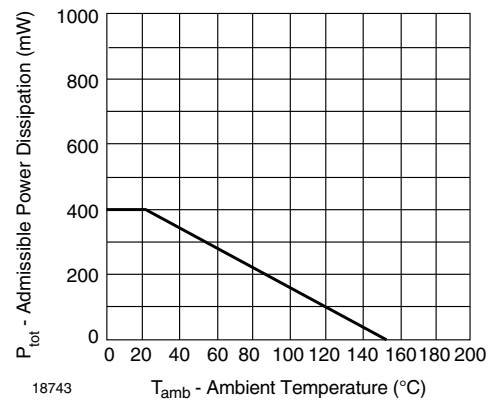


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

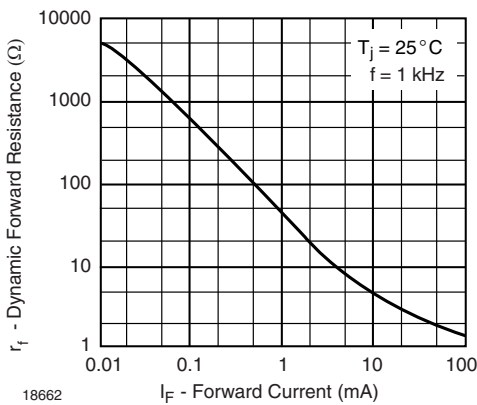


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

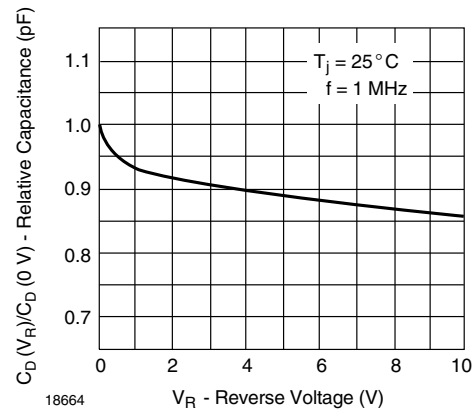


Fig. 4 - Relative Capacitance vs. Reverse Voltage

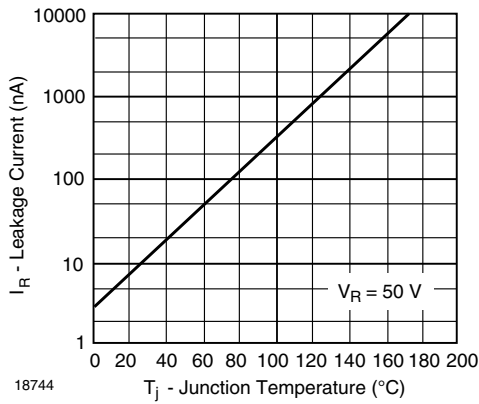


Fig. 5 - Leakage Current vs. Junction Temperature

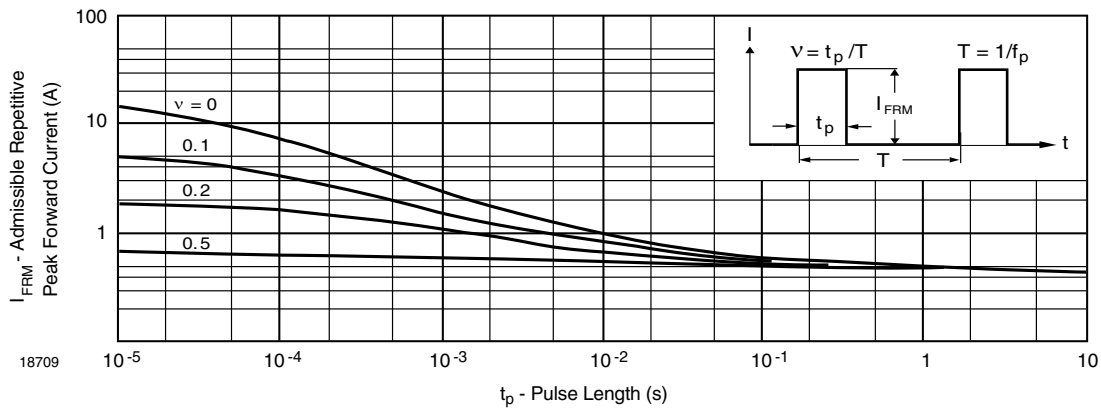
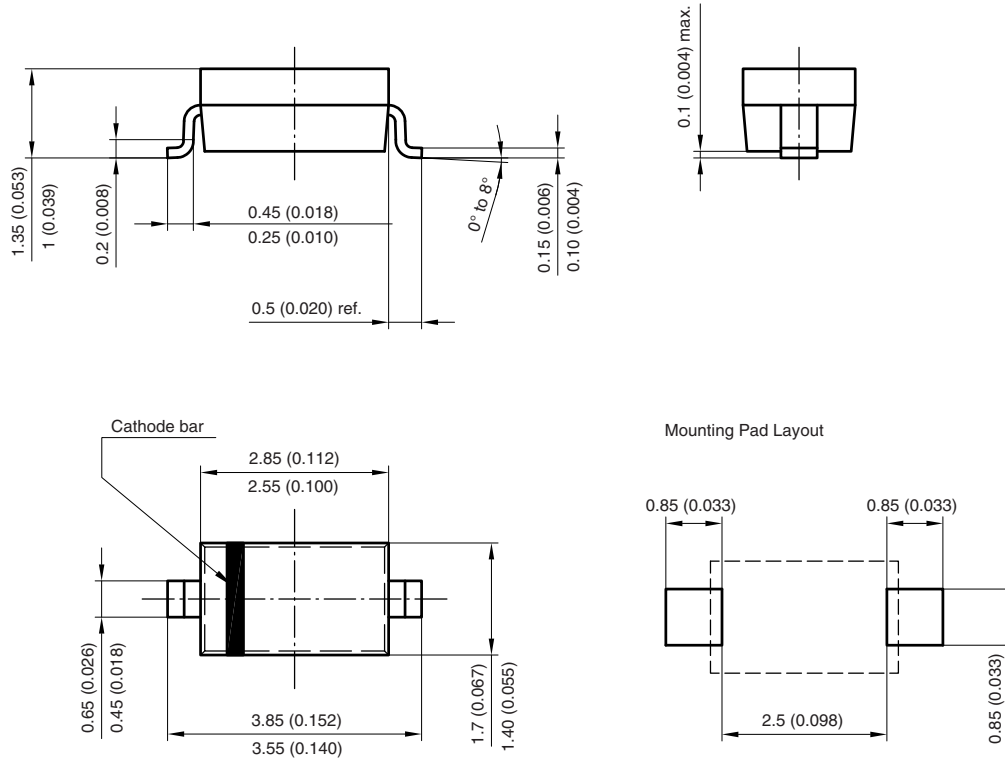


Fig. 6 - Admissible Repetitive Peak Forward Current vs. Pulse Duration



**PACKAGE DIMENSIONS** in millimeters (inches): **SOD-123**



Rev. 4 - Date: 24. Sep. 2009  
Document no.: S8-V-3910.01-001 (4)  
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