

## Small Signal Fast Switching Diode



### FEATURES

- Silicon epitaxial planar diode
- Fast switching diode
- AEC-Q101 qualified
- Base P/N-G3 - green, commercial grade
- Material categorization:  
For definitions of compliance please see  
[www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

### MECHANICAL DATA

**Case:** SOD-123

**Weight:** approx. 9.4 mg

**Packaging codes/options:**

18/10K per 13" reel (8 mm tape), 10K/box

08/3K per 7" reel (8 mm tape), 15K/box

<b>PARTS TABLE</b>				
PART	ORDERING CODE	INTERNAL CONSTRUCTION	TYPE MARKING	REMARKS
1N4448W-G	1N4448W-G3-08 or 1N4448W-G3-18	Single diode	AJ	Tape and reel

<b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_{amb} = 25 \text{ }^{\circ}\text{C}$ , unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		$V_R$	75	V
Repetitive peak reverse voltage		$V_{RRM}$	100	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>		$P_{tot}$	500	mW

<b>THERMAL CHARACTERISTICS</b> ( $T_{amb} = 25 \text{ }^{\circ}\text{C}$ , unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air <sup>(1)</sup>		$R_{thJA}$	350	K/W
Junction temperature		$T_j$	150	$^{\circ}\text{C}$
Storage temperature		$T_{stg}$	- 65 to + 150	$^{\circ}\text{C}$
Operating temperature		$T_{op}$	- 55 to + 150	$^{\circ}\text{C}$

#### Note

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

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25$ °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 5$ mA	$V_F$	0.62		0.72	V
	$I_F = 100$ mA	$V_F$			1	V
Leakage current	$V_R = 20$ V	$I_R$			25	nA
	$V_R = 75$ V	$I_R$			5	µA
	$V_R = 20$ V, $T_J = 150$ °C	$I_R$			50	µA
Capacitance	$V_F = V_R = 0$ V				4	pF
Reverse recovery time	$I_F = 10$ mA, $I_R = 1$ mA, $V_R = 6$ V, $R_L = 100$ Ω	$t_{rr}$			4	ns

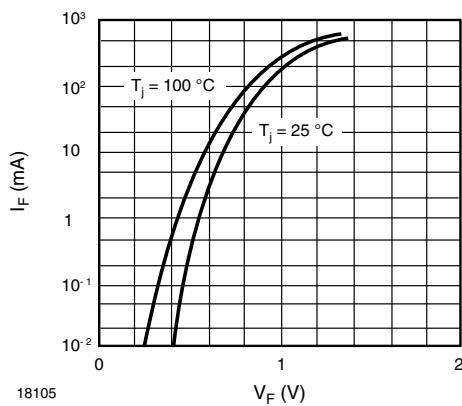
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25$  °C, unless otherwise specified)


Fig. 1 - Forward Characteristics

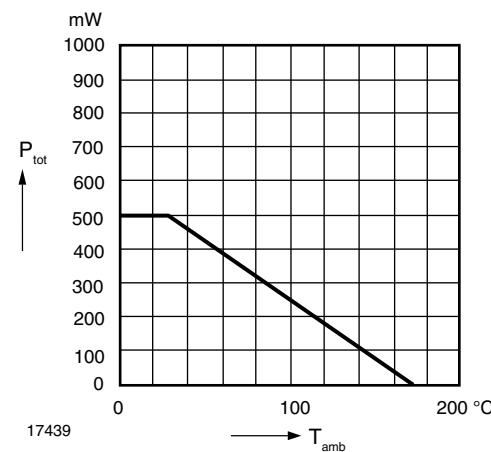


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

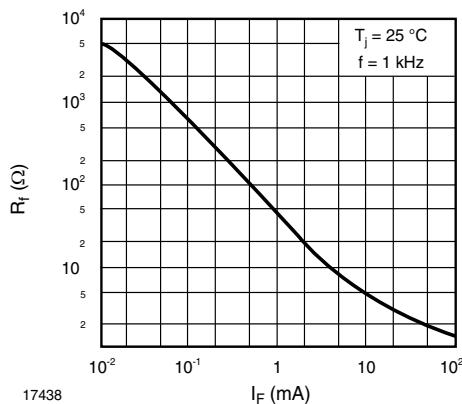


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

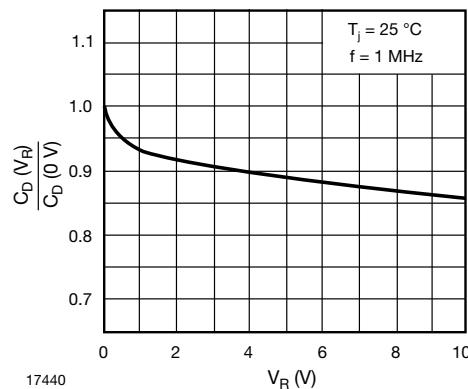


Fig. 4 - Relative Capacitance vs. Reverse Voltage

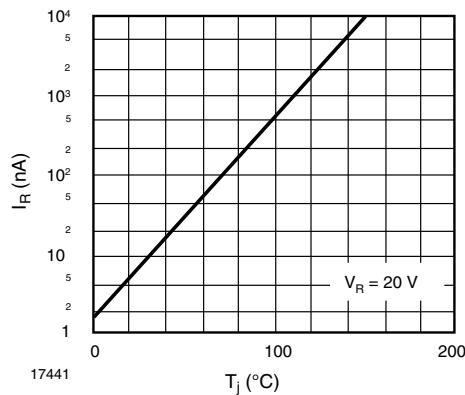


Fig. 5 - Leakage Current vs. Junction Temperature

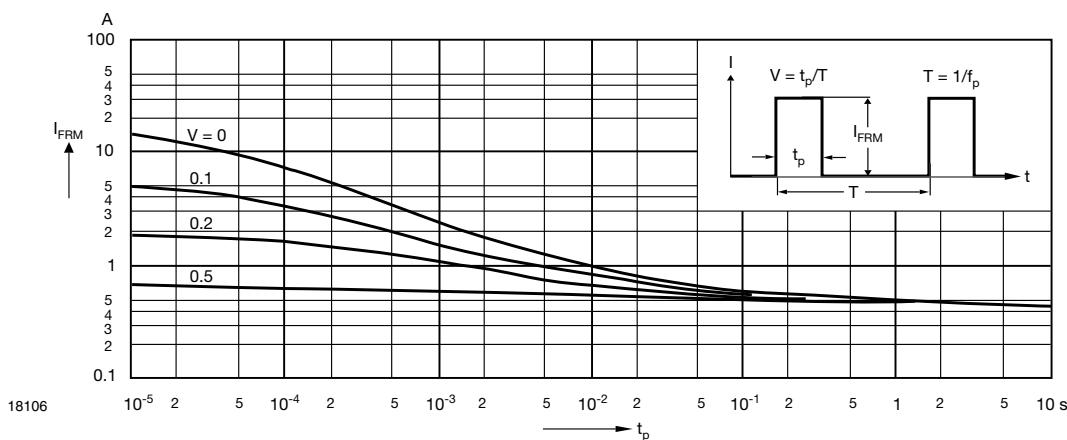
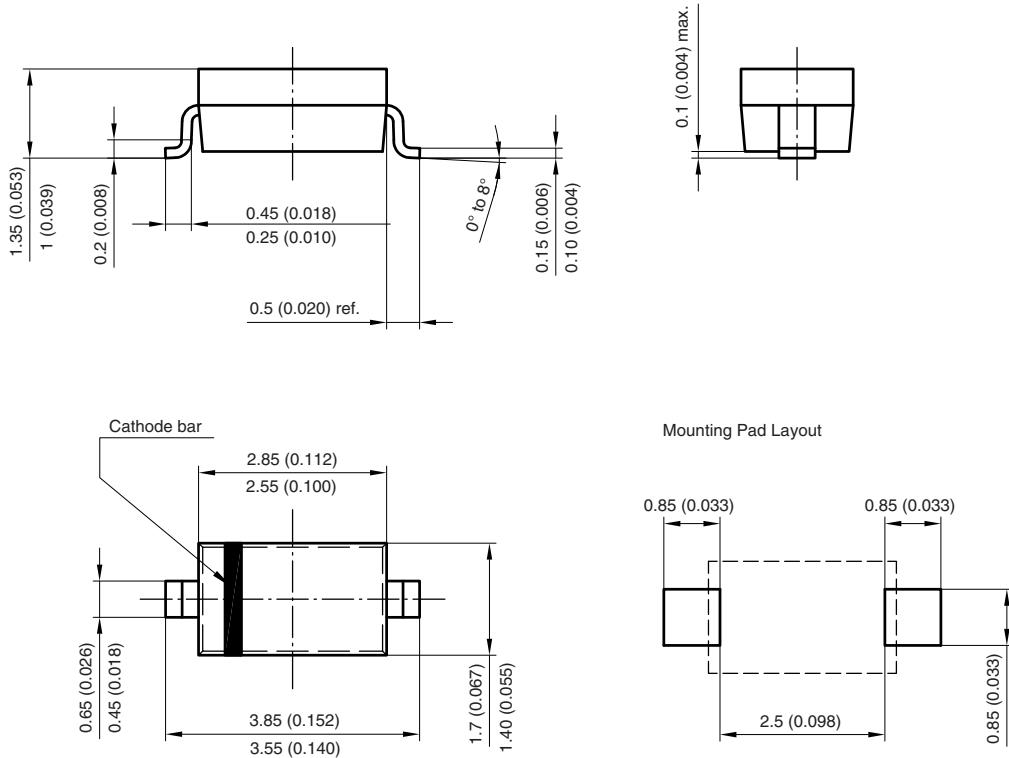


Fig. 6 - Admissible Repetitive Peak Forward Current vs. Pulse Duration

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


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