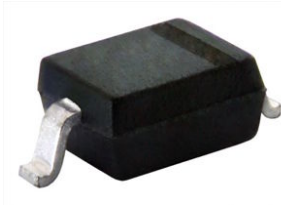




# Small Signal Fast Switching Diode



### FEATURES

- Silicon epitaxial planar diode
- Fast switching diodes
- AEC-Q101 qualified
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS COMPLIANT

### MARKING (example only)



22610

Bar = cathode marking  
XY = type code

### MECHANICAL DATA

Case: SOD-323

Weight: approx. 4.3 mg

#### Packaging codes/options:

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

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

PARTS TABLE				
PART	ORDERING CODE	INTERNAL CONSTRUCTION	TYPE MARKING	REMARKS
1N4148WS	1N4148WS-E3-08 or 1N4148WS-E3-18	Single diode	A2	Tape and reel
	1N4148WS-HE3-08 or 1N4148WS-HE3-18			

ABSOLUTE MAXIMUM RATINGS (T <sub>amb</sub> = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		V <sub>R</sub>	75	V
Repetitive peak reverse voltage		V <sub>RRM</sub>	100	
Average rectified current half wave rectification with resistive load <sup>(1)</sup>	f ≥ 50 Hz	I <sub>F(AV)</sub>	150	mA
Surge forward current	t < 1 s and T <sub>j</sub> = 25 °C	I <sub>FSM</sub>	350	
Power dissipation <sup>(1)</sup>		P <sub>tot</sub>	200	mW

#### Note

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

THERMAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air <sup>(1)</sup>		R <sub>thJA</sub>	650	K/W
Junction temperature		T <sub>j</sub>	150	°C
Storage temperature range		T <sub>stg</sub>	- 65 to + 150	°C
Operating temperature range		T <sub>op</sub>	- 55 to + 150	°C

#### Note

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



ELECTRICAL CHARACTERISTICS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 10\text{ mA}$	$V_F$			1	V
	$I_F = 100\text{ mA}$	$V_F$			1.2	V
Leakage current	$V_R = 20\text{ V}$	$I_R$			25	nA
	$V_R = 75\text{ V}$	$I_R$			5	$\mu\text{A}$
	$V_R = 100\text{ V}$	$I_R$			100	
	$V_R = 20\text{ V}, T_j = 150\text{ }^{\circ}\text{C}$	$I_R$			50	
Diode capacitance	$V_F = V_R = 0\text{ V}$	$C_D$			4	pF
Voltage rise when switching ON	Tested with 50 mA pulses, $t_p = 0.1\text{ }\mu\text{s}$ , rise time $< 30\text{ ns}$ , $f_p = (5\text{ to }100)\text{ kHz}$	$V_{fr}$			2.5	V
Reverse recovery time	$I_F = 10\text{ mA}, I_R = 1\text{ mA}, V_R = 6\text{ V},$ $R_L = 100\text{ }\Omega$	$t_{rr}$			4	ns

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

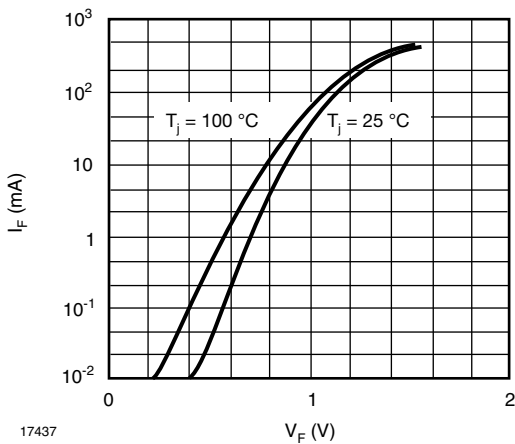


Fig. 1 - Forward Characteristics

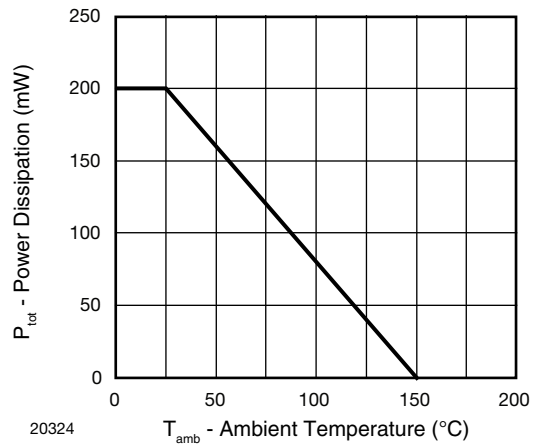


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

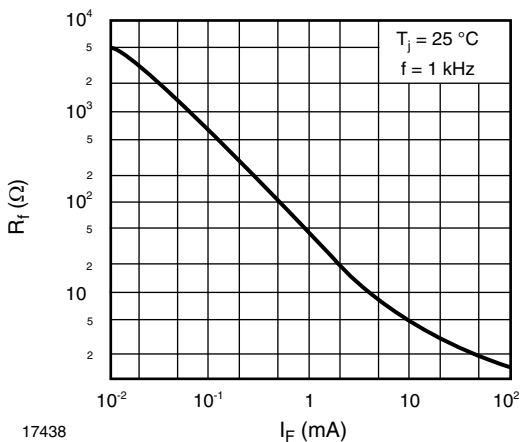


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

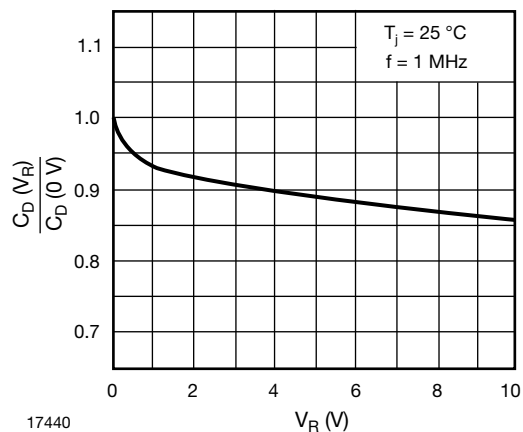


Fig. 4 - Relative Capacitance vs. Reverse Voltage

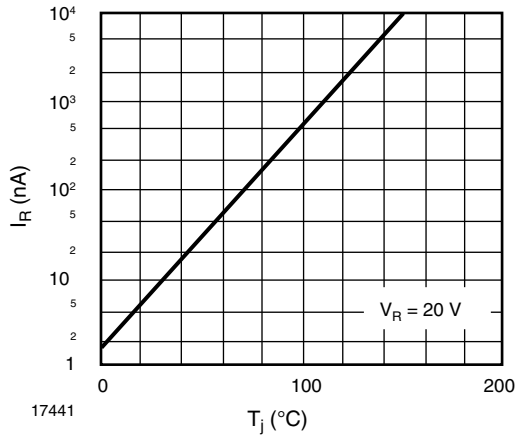


Fig. 5 - Leakage Current vs. Junction Temperature

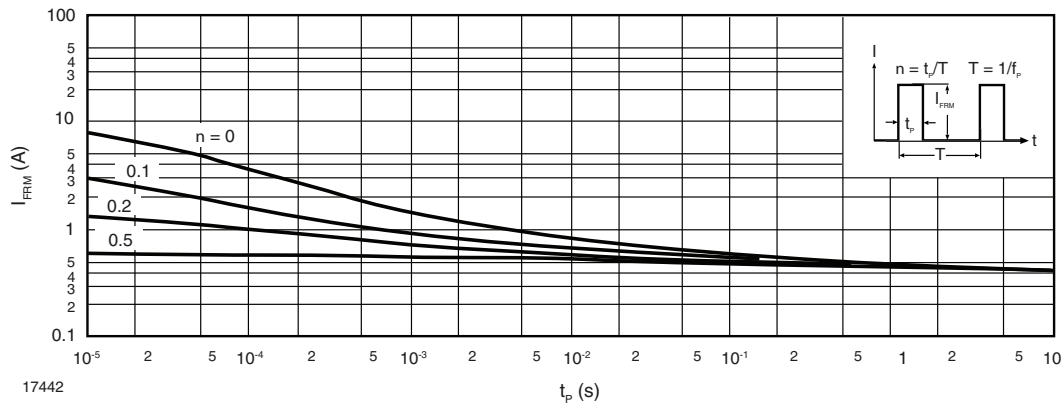
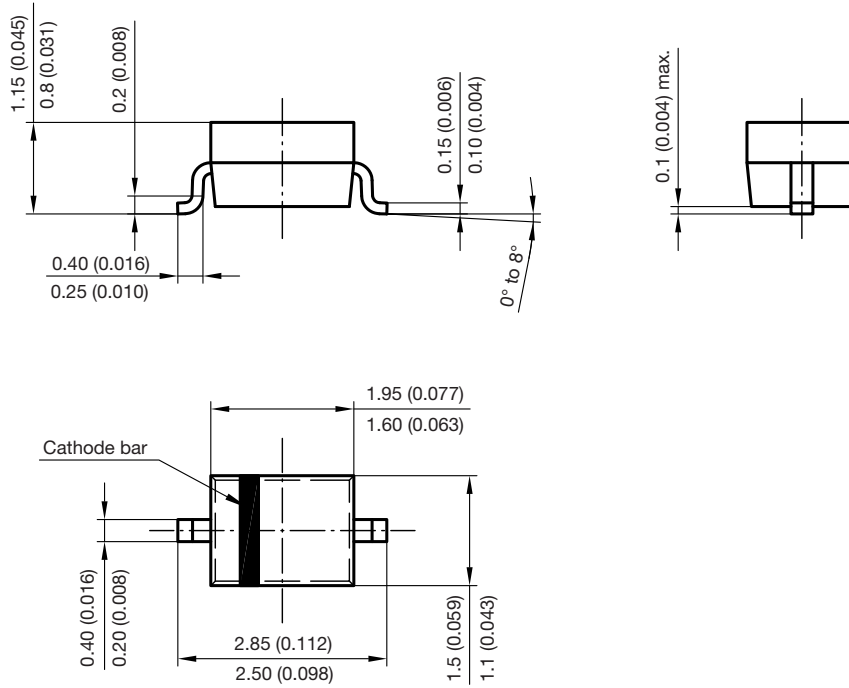


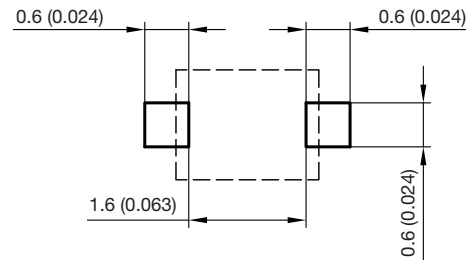
Fig. 6 - Admissible Repetitive Peak Forward Current vs. Pulse Duration



PACKAGE DIMENSIONS in millimeters (inches): SOD-323



Foot print recommendation:



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 17443



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