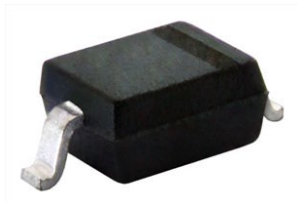




# Small Signal Fast Switching Diode



### FEATURES

- Silicon epitaxial planar diode
- Fast switching diodes
- AEC-Q101 qualified available
- 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

**DESIGN SUPPORT TOOLS** click logo to get started



### 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	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS
1N4448WS	1N4448WS-E3-08 or 1N4448WS-E3-18 1N4448WS-HE3-08 or 1N4448WS-HE3-18	Single	A3	Tape and reel

ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		$V_R$	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 forward current	$t < 1\text{ s}$ and $T_j = 25\text{ }^{\circ}\text{C}$	$I_{FSM}$	350	mA
Power dissipation <sup>(1)</sup>		$P_{tot}$	200	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>		$R_{thJA}$	650	K/W
Junction temperature		$T_j$	150	$^{\circ}\text{C}$
Storage temperature range		$T_{stg}$	-65 to +150	$^{\circ}\text{C}$
Operating temperature range		$T_{op}$	-55 to +150	$^{\circ}\text{C}$

**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	$I_F = 100\text{ mA}$	$V_F$			1	V
	$I_F = 5\text{ mA}$	$V_F$	0.620		0.720	V
Leakage current	$V_R = 20\text{ V}$	$I_R$			25	nA
	$V_R = 75\text{ V}$	$I_R$			5	$\mu\text{A}$
	$V_R = 20\text{ V}, T_j = 150\text{ }^{\circ}\text{C}$	$I_R$			50	$\mu\text{A}$
Diode capacitance	$V_F = V_R = 0\text{ V}$	$C_D$			4	pF
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)

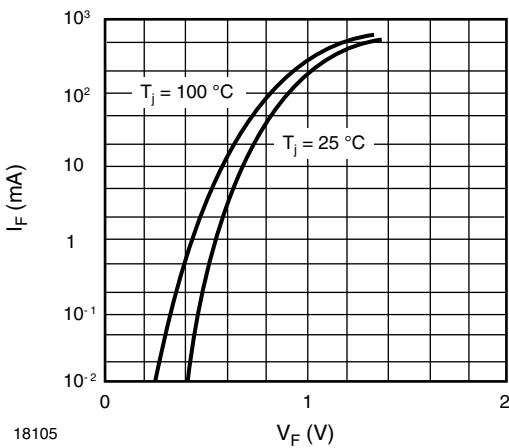


Fig. 1 - Forward Characteristics

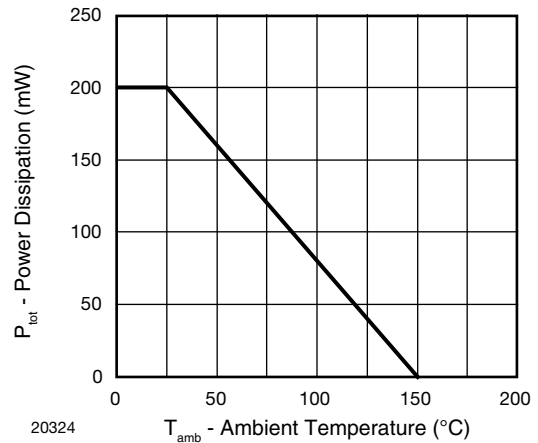


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

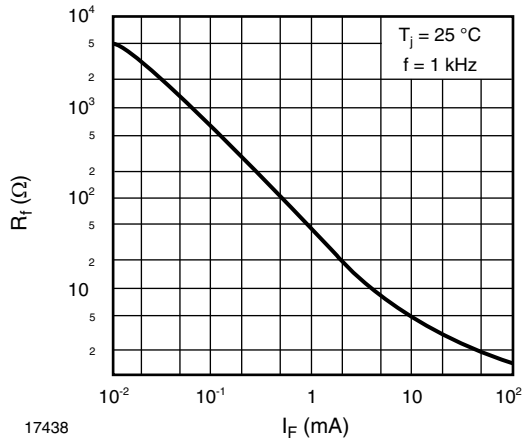


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

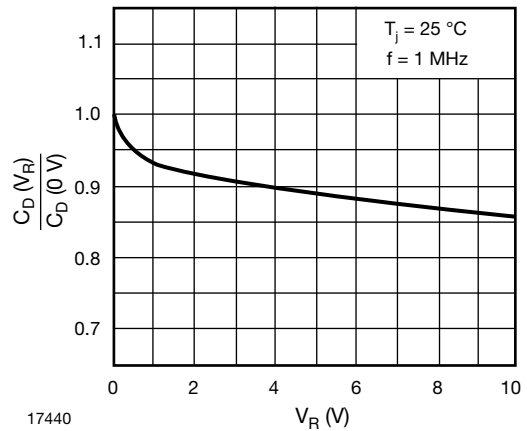


Fig. 4 - Relative Capacitance vs. Reverse Voltage

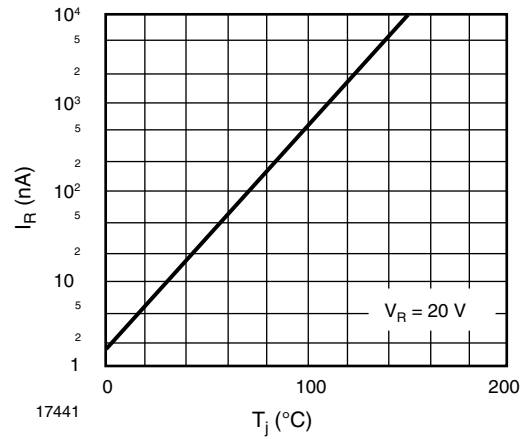


Fig. 5 - Leakage Current vs. Junction Temperature

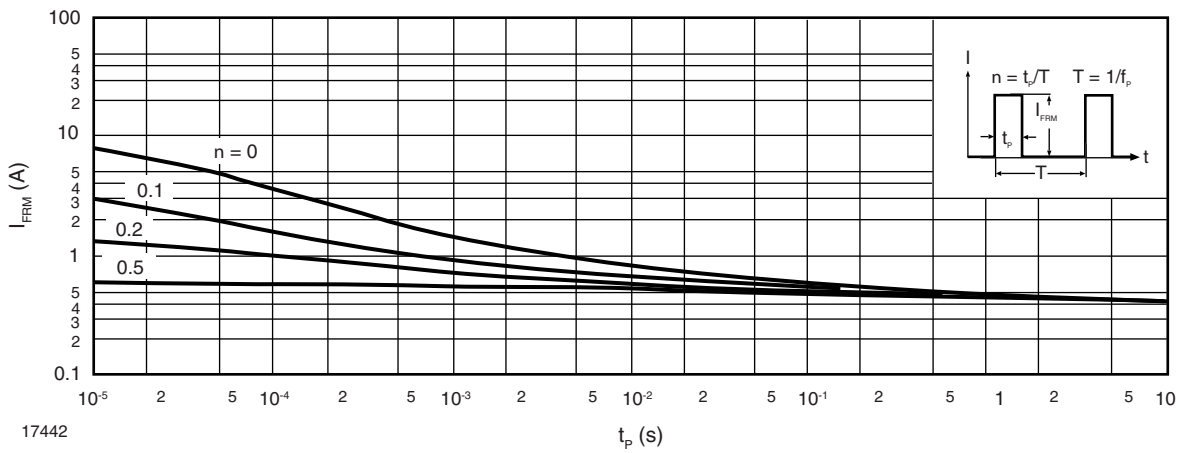
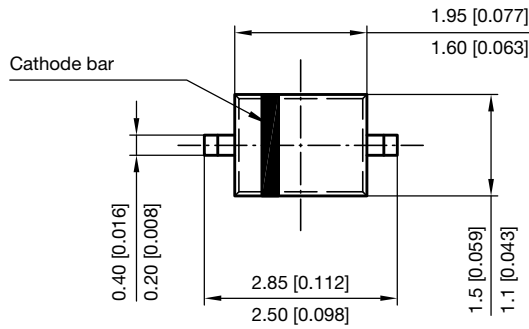
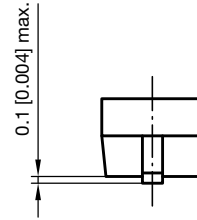
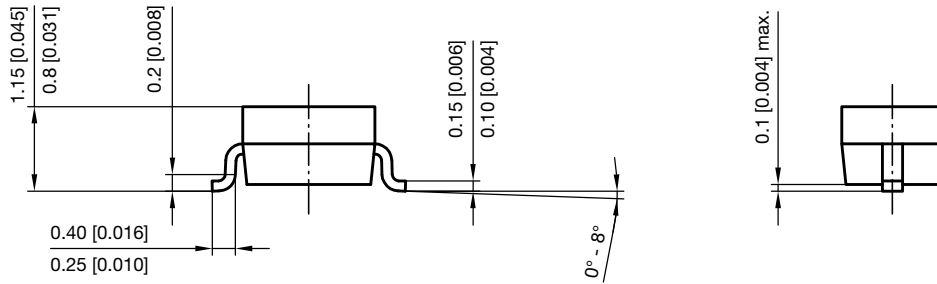


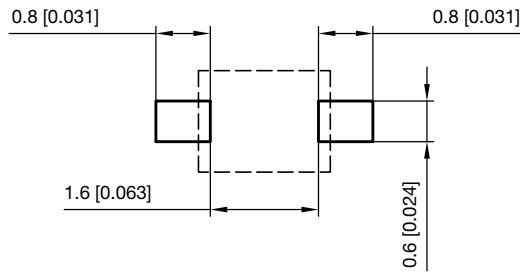
Fig. 6 - Admissible Repetitive Peak Forward Current vs. Pulse Duration



PACKAGE DIMENSIONS in millimeters (inches): SOD-323



Footprint recommendation:



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 17443



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