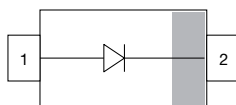


## Small Signal Fast Switching Diode



### FEATURES

- Silicon epitaxial planar diode
- Fast switching diode
- AEC-Q101 qualified available
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3\_A - 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

### LINKS TO ADDITIONAL RESOURCES



3D Models



Models



Marking



Parametric Search



Order Samples

### MECHANICAL DATA

**Case:** SOD-123

**Weight:** approx. 10.6 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	AEC-Q101 QUALIFIED	TYPE MARKING	CIRCUIT CONFIGURATION	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY
1N4448W	1N4448W-E3-08	no	AJ	Single	3000 (8 mm tape on 7" reel)	15 000
	1N4448W-HE3_A-08	yes				
	1N4448W-E3-18	no			10 000 (8 mm tape on 13" reel)	10 000
	1N4448W-HE3_A-18	yes				

### PACKAGE

PACKAGE NAME	WEIGHT	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS
SOD -123	10.6 mg	UL 94 V-0	MSL 1 (according J-STD-020)	Peak temperature max. 260°C

### 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
Continuous forward current <sup>(1)</sup>		$I_F$	300	mA
Average rectified current half wave rectification with resistive load <sup>(1)</sup>	$f \geq 50\text{ Hz}$	$I_{F(AV)}$	250	mA
Surge current <sup>(1)</sup>	$t < 1\text{ s}$ and $T_j = 25\text{ }^{\circ}\text{C}$	$I_{FSM}$	500	mA
Power dissipation <sup>(1)</sup>	On FR-4 board with recommended soldering footprint	$P_{tot}$	280	mW
	Infinite heatsink		380	mW

#### Note

<sup>(1)</sup> Infinite heatsink

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air	According to JEDEC® 51-3 on FR-4 board with recommended soldering footprint	$R_{\text{thJA}}$	440	K/W
Thermal resistance junction to lead	Infinite heatsink	$R_{\text{thJL}}$	330	K/W
Junction temperature		$T_j$	150	$^{\circ}\text{C}$
Storage temperature		$T_{\text{stg}}$	-65 to +150	$^{\circ}\text{C}$
Operating temperature		$T_{\text{op}}$	-55 to +150	$^{\circ}\text{C}$

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

PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 100\text{ mA}$	$V_F$			1	V
	$I_F = 5\text{ mA}$	$V_F$	0.62		0.72	V
Leakage current	$V_R = 20\text{ V}$	$I_R$			25	nA
	$V_R = 75\text{ V}$	$I_R$			2	$\mu\text{A}$
	$V_R = 20\text{ V}$ , $T_J = 150\text{ }^{\circ}\text{C}$	$I_R$			50	$\mu\text{A}$
Capacitance	$V_F = V_R = 0\text{ V}$				1.5	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

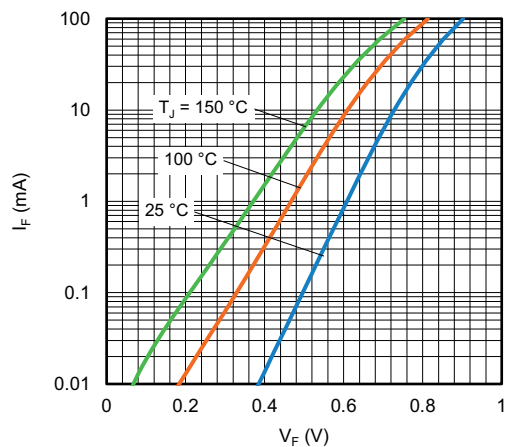
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


Fig. 1 - Typical Forward Current vs. Forward Voltage

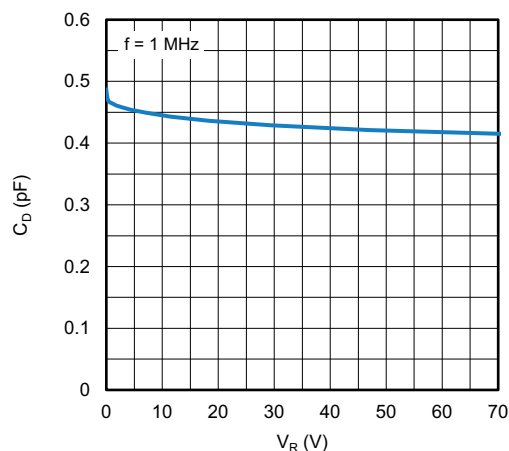


Fig. 3 - Typical Capacitance vs. Reverse Voltage

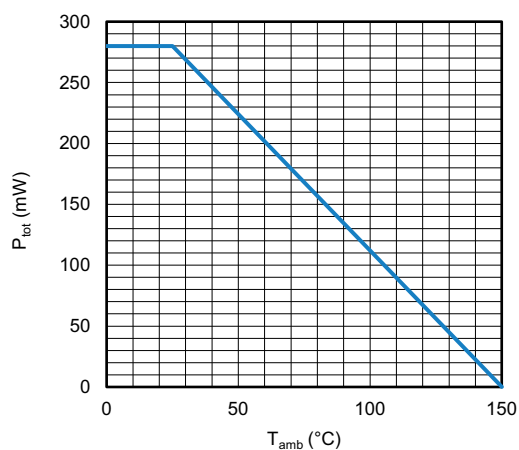


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

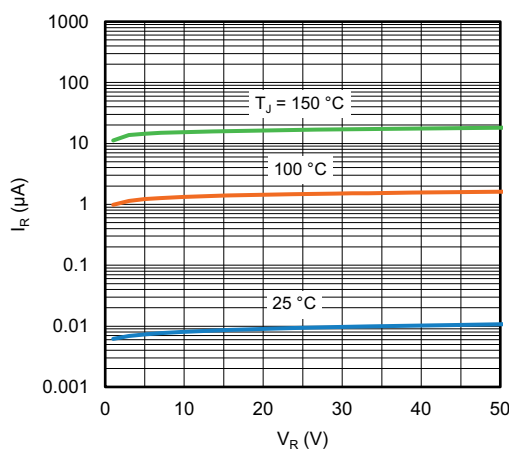
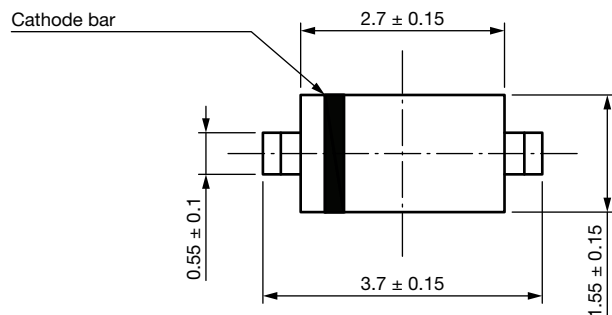
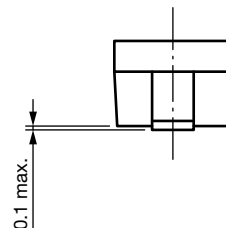
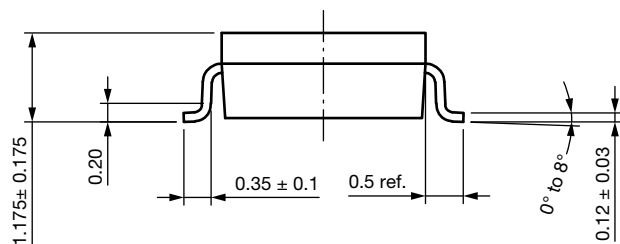


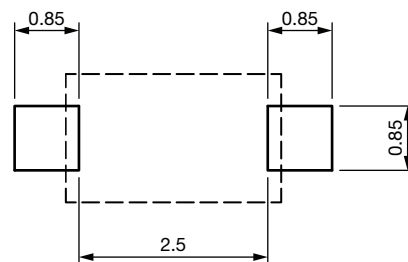
Fig. 4 - Typical Capacitance vs. Reverse Voltage



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



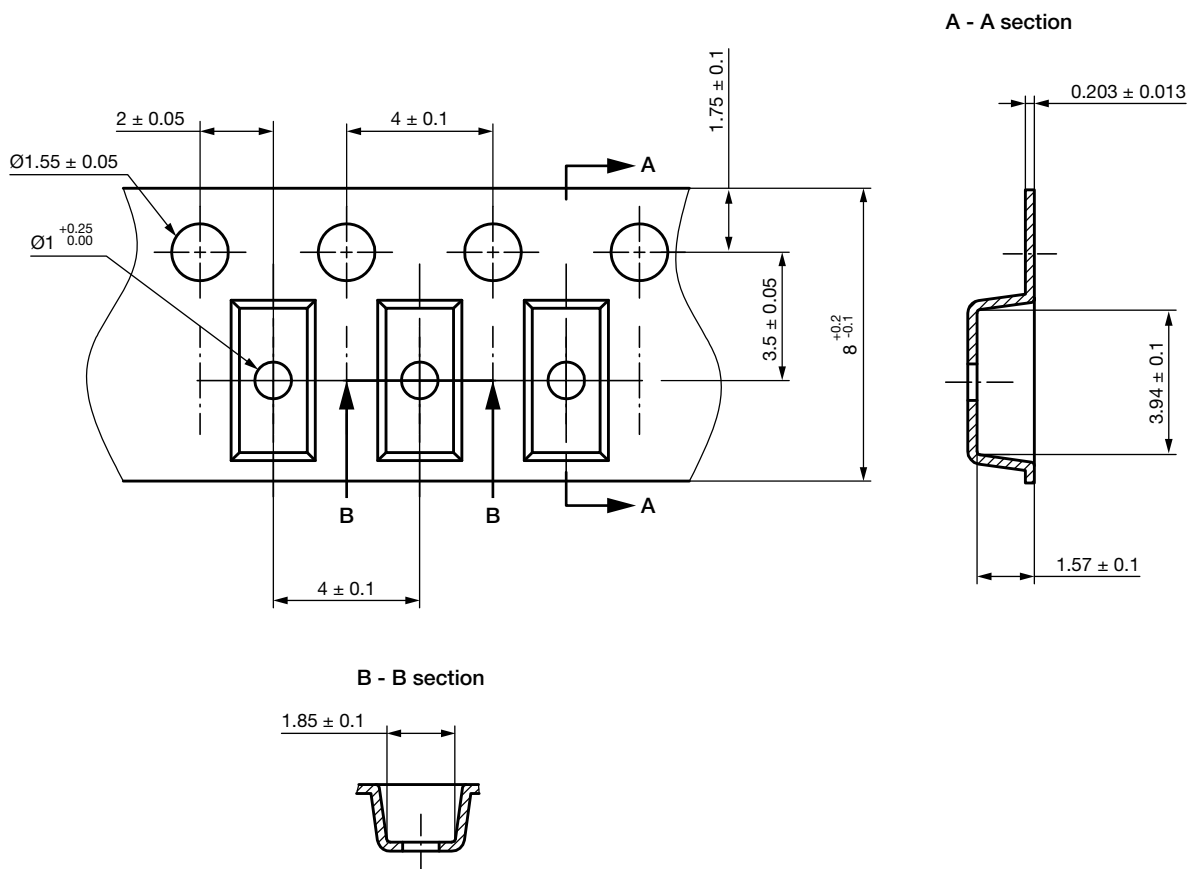
Foot print recommendation



Rev. 01 - Date: 18. Jan. 2022

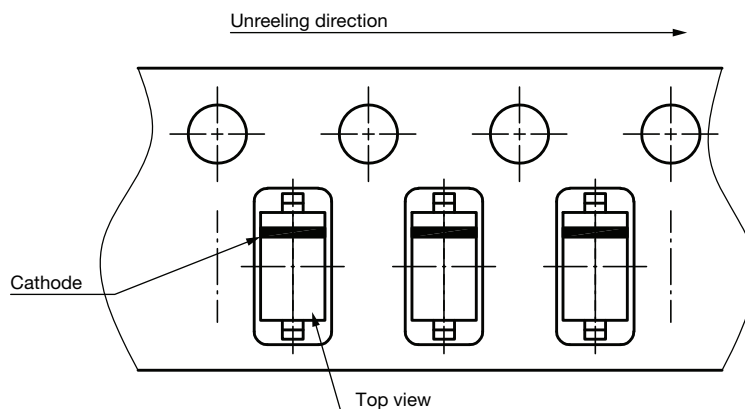
Document no.: S8-V-3910.01-003 (4)

23223

**CARRIER TAPE SOD-123**


Rev. 02 - Date: 21. Jan. 2014  
Document no.: S8-V-3717.10-002 (4)

23224

**ORIENTATION IN CARRIER TAPE SOD-123**


Rev. 02 - Date: 07. Nov. 2022  
Document no.: S8-V-3717.10-003 (4)

23225



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