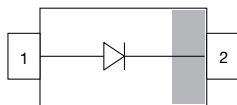


## Small Signal Fast Switching Diode



### FEATURES

- Silicon epitaxial planar diode
- For general purpose and switching
- AEC-Q101 qualified available
- Molding compound meets UL 94 V-0 flammability rating
- Moisture sensitivity level (MSL) 1
- 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)

AUTOMOTIVE  
GRADE  
Available



**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
1N4150W	1N4150W-E3-08	no	AM	Single	3 000 (8 mm tape on 7" reel)	15 000
	1N4150W-HE3_A-08	yes				
	1N4150W-E3-18	no			10 000 (8 mm tape on 13" reel)	10 000
	1N4150W-HE3_A-18	yes				

### ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25^{\circ}\text{C}$ , unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		$V_{RRM}$	50	V
Maximum average forward rectified current <sup>(1)</sup>	$f \geq 50\text{ Hz}$	$I_{F(AV)}$	300	mA
Power dissipation	On FR-4 board with recommended soldering footprint	$P_{tot}$	310	mW
	Infinite heat sink		410	mW

**Note**

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

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air	According to JEDEC <sup>®</sup> 51-3 on FR-4 board with recommended soldering footprint	$R_{thJA}$	400	K/W
Thermal resistance junction to lead	Infinite heat sink	$R_{thJL}$	300	K/W
Maximum 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	$^{\circ}\text{C}$

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 1\text{ mA}$	$V_F$	0.540		0.620	V
	$I_F = 10\text{ mA}$	$V_F$	0.660		0.740	V
	$I_F = 50\text{ mA}$	$V_F$	0.760		0.860	V
	$I_F = 100\text{ mA}$	$V_F$	0.820		0.920	V
	$I_F = 200\text{ mA}$	$V_F$	0.870		1	V
Reverse current	$V_R = 50\text{ V}$	$I_R$			100	nA
	$V_R = 50\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$	$I_R$			100	$\mu\text{A}$
Diode capacitance	$V_R = 0, f = 1\text{ MHz}, V_{HF} = 50\text{ mV}$	$C_D$			2.5	pF
Reverse recovery time	$I_F = I_R = (10\text{ to }100)\text{ mA}$ $i_R = 0.1 \times I_R, R_L = 100\text{ }\Omega$	$t_{rr}$			4	ns

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

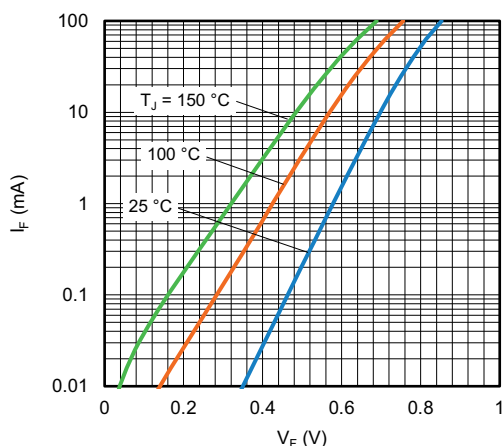


Fig. 1 - Typical Forward Current vs. Forward Voltage

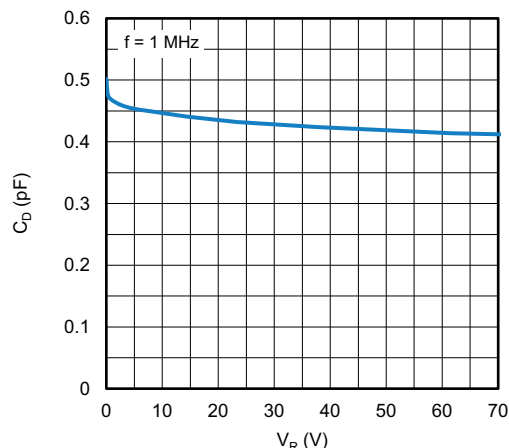


Fig. 3 - Typical Capacitance vs. Reverse Voltage

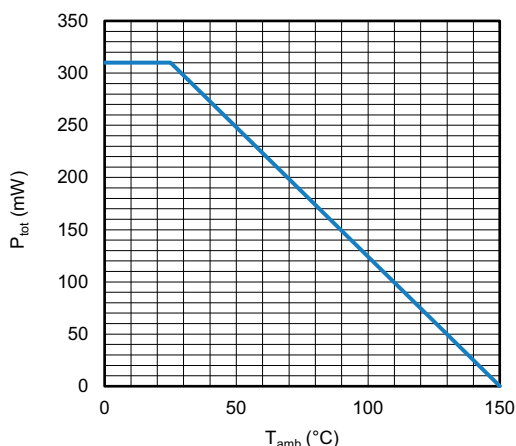


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

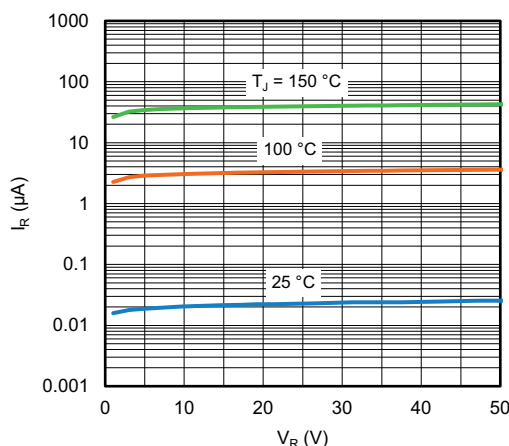
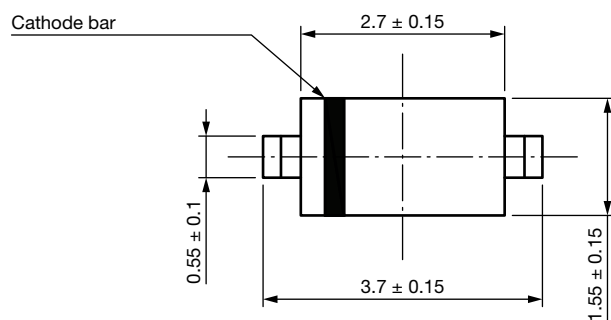
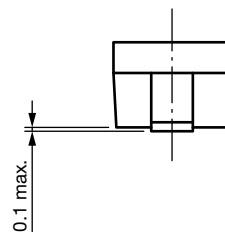
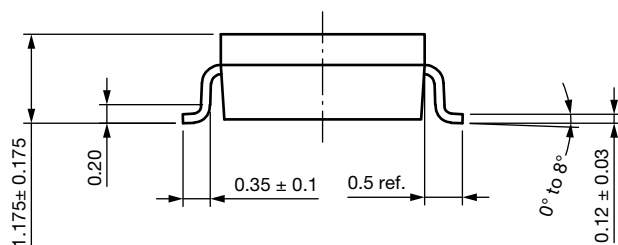


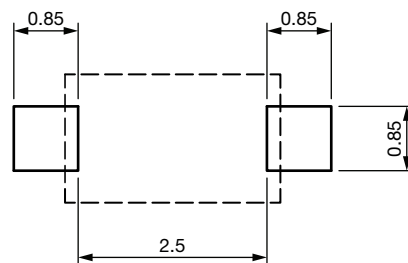
Fig. 4 - Typical Reverse Leakage Current vs. Reverse Voltage



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



Foot print recommendation

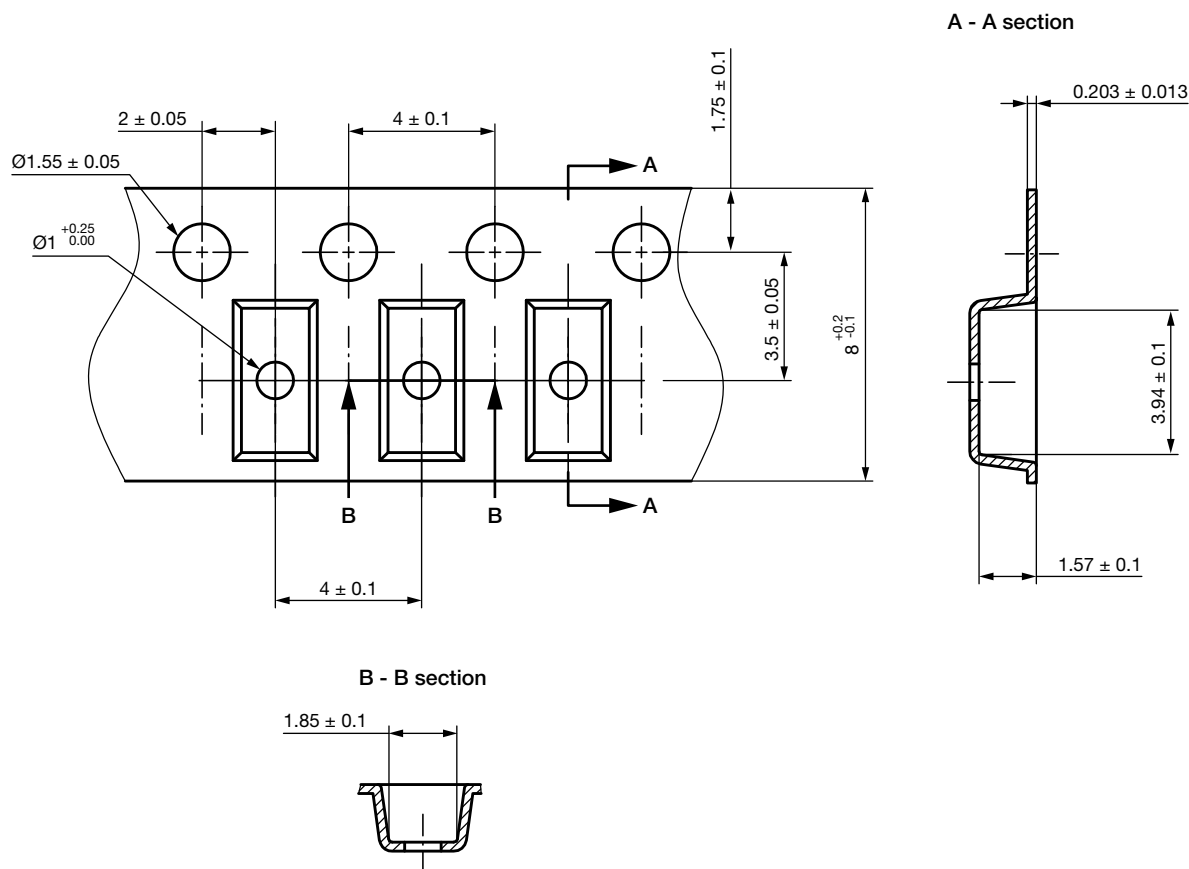


Rev. 01 - Date: 18. Jan. 2022  
Document no.: S8-V-3910.01-003 (4)

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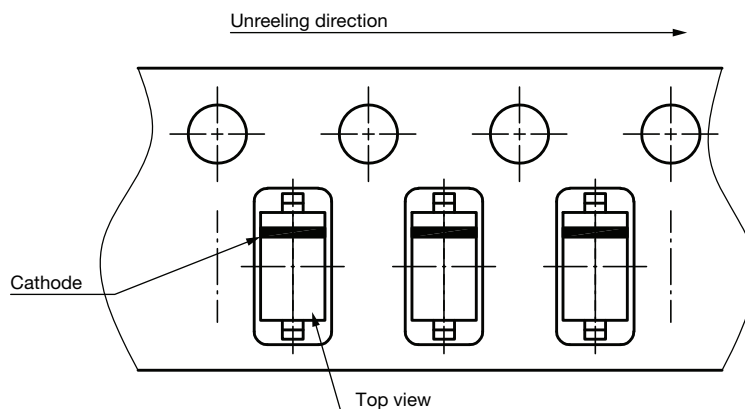
## CARRIER TAPE SOD-123



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

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## ORIENTATION IN CARRIER TAPE SOD-123



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

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