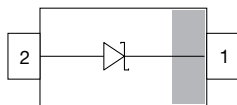


Small Signal Fast Switching Diode



FEATURES

- Silicon epitaxial planar diode
- Fast switching diodes ($t_{rr} \leq 4$ ns)
- 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/doc299912

AUTOMOTIVE
GRADE
Available



RoHS
COMPLIANT

LINKS TO ADDITIONAL RESOURCES



MECHANICAL DATA

Case: SOD-323

Weight: approx. 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

PARTS TABLE

PART	ORDERING CODE	AEC-Q101 QUALIFIED	TYPE MARKING	CIRCUIT CONFIGURATION	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY
1N4151WS	1N4151WS-E3-08	No	5A	Single	3000 (8 mm tape on 7" reel)	15 000
	1N4151WS-HE3_A-08	Yes			10 000 (8 mm tape on 13" reel)	10 000
	1N4151WS-E3-18	No				
	1N4151WS-HE3_A-18	Yes				

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25$ °C, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		V_R	50	V
Repetitive peak reverse voltage		V_{RRM}	75	V
Continuous forward current ⁽¹⁾		I_F	250	mA
Average rectified current half wave rectification with resistive load ⁽¹⁾	$f \geq 50$ Hz	$I_{F(AV)}$	150	mA
Surge current ⁽¹⁾	$t < 1$ s and $T_j = 25$ °C	I_{FSM}	500	mA
Power dissipation ⁽¹⁾		P_{tot}	200	mW

Note

⁽¹⁾ Infinite heatsink

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to lead	Infinite heatsink	R_{thJL}	625	K/W
Junction temperature		T_j	150	°C
Storage temperature range		T_{stg}	-65 to +150	°C
Operating temperature range		T_{op}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 50\text{ mA}$	V_F			1.0	V
Leakage current	$V_R = 50\text{ V}$	I_R			50	nA
	$V_R = 20\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$	I_R			50	μA
Reverse breakdown voltage	$I_R = 5\text{ }\mu\text{A}$ (pulsed)	$V_{(BR)}$	75			V
Diode capacitance	$V_F = V_R = 0\text{ V}$	C_D			1.5	pF
Reverse recovery time	$I_F = 10\text{ mA}, I_R = 10\text{ mA}$ $i_R = 1\text{ mA}$	t_{rr}			4	ns
	$I_F = 10\text{ mA}, I_R = 1\text{ mA}$ $V_R = 6\text{ V}, R_L = 100\text{ }\Omega$	t_{rr}			2	ns

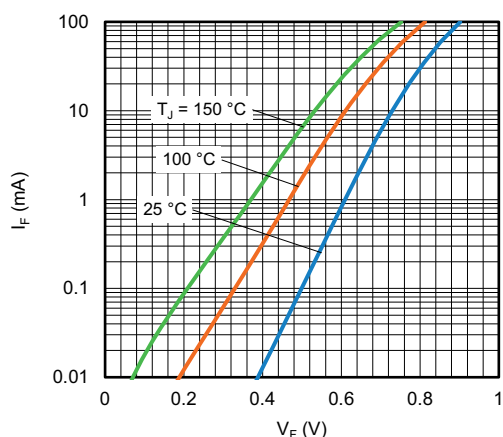
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Typical Forward Current vs. Forward Voltage

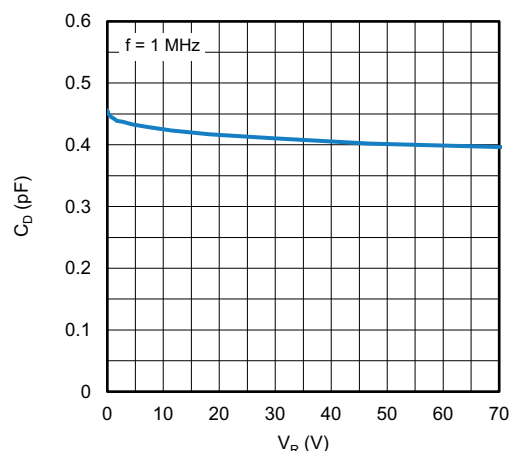


Fig. 3 - Typical Capacitance vs. Reverse Voltage

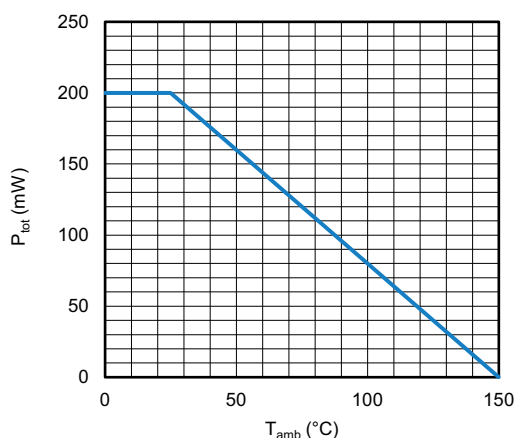


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

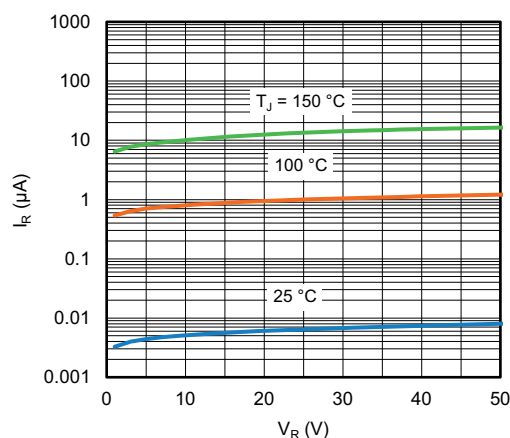
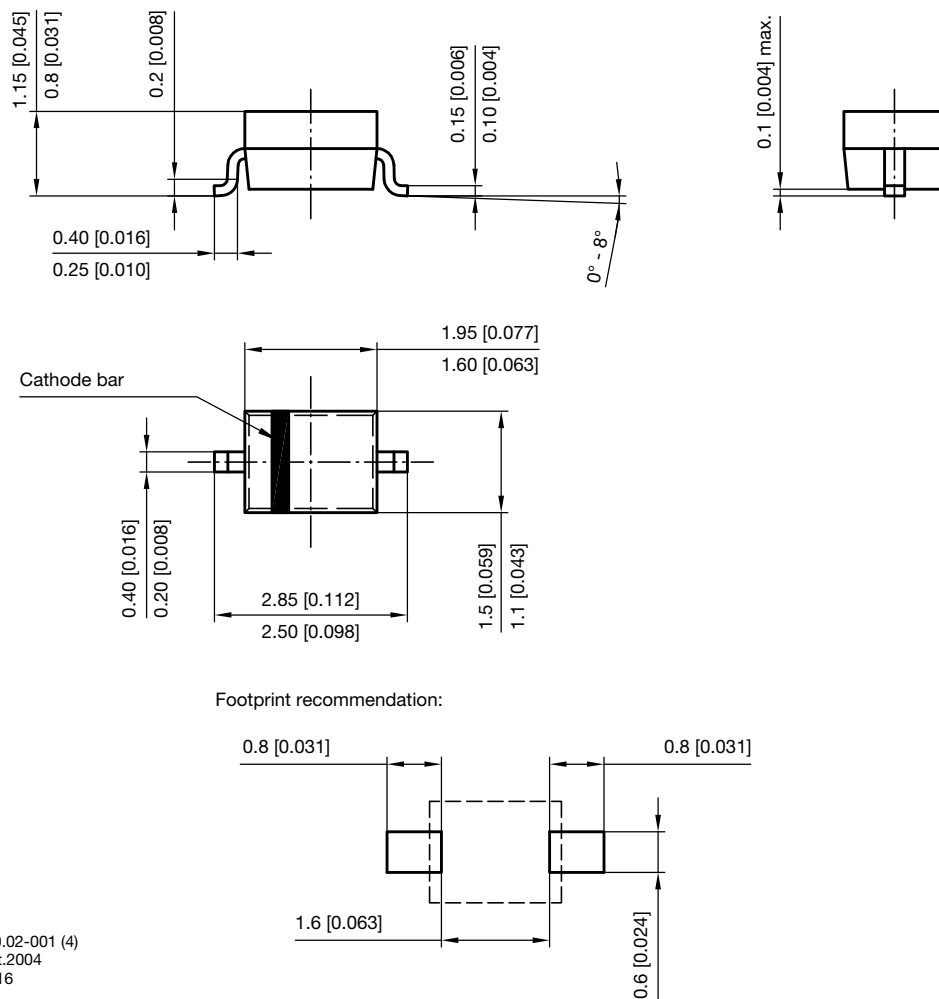


Fig. 4 - Typical Reverse Leakage Current vs. Reverse Voltage



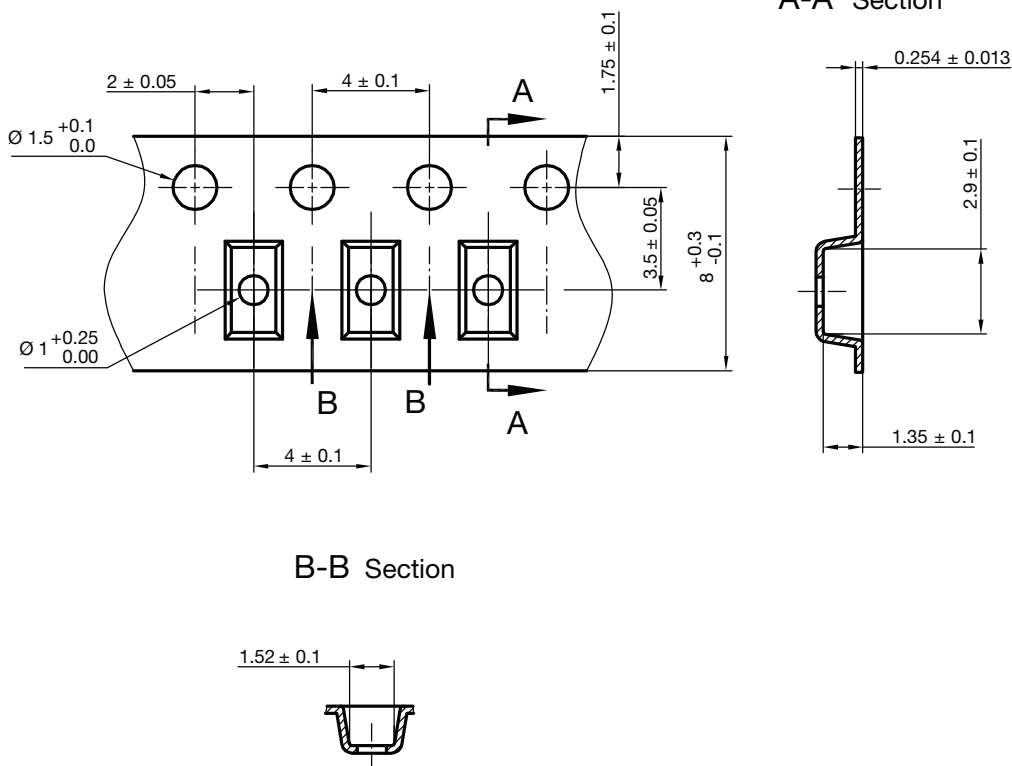
PACKAGE DIMENSIONS in millimeters (inches) **SOD-323**



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Rev. 6 - Date: 23.Sept.2016
22771

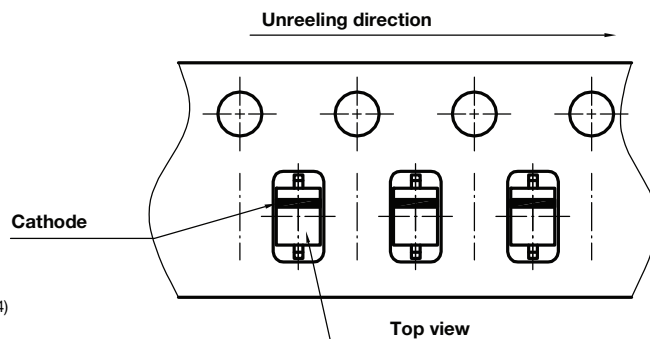


CARRIER TAPE SOD-323



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22824

ORIENTATION IN CARRIER TAPE SOD-323



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22772



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