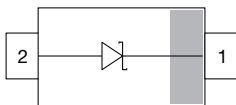
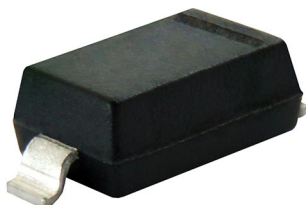


Small Signal Schottky Diode



FEATURES

- These diodes feature very low turn-on voltage and fast switching.
- This device is protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges
- 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

AUTOMOTIVE
GRADE
Available



RoHS
COMPLIANT

LINKS TO ADDITIONAL RESOURCES



3D Models

SPICE

Models



Marking



Parametric
Search



Order Samples

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
BAT54WS	BAT54WS-E3-08	No	4L	Single	3000 (8 mm tape on 7" reel)	15 000
	BAT54WS-HE3_A-08	Yes			10 000 (8 mm tape on 13" reel)	10 000
	BAT54WS-E3-18	No				
	BAT54WS-HE3_A-18	Yes				

PACKAGE

PACKAGE NAME	WEIGHT	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS
SOD-323	4 mg	UL 94 V-0	MSL 1 (according J-STD-020)	Peak temperature max. 260 °C

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		V_{RRM}	30	V
Forward continuous current ⁽¹⁾		I_F	200	mA
Repetitive peak forward current ⁽¹⁾	Duty cycle $t_p / T < 0.5$	I_{FRM}	300	mA
Surge forward current ⁽¹⁾	$t_p = 10\text{ ms}$	I_{FSM}	600	mA
Power dissipation ⁽¹⁾		P_{tot}	150	mW

Note

⁽¹⁾ Infinite heatsink

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction lead	Infinite heatsink	R_{thJL}	650	K/W
Junction temperature		T_j	125	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	-65 to +150	$^{\circ}\text{C}$
Operating temperature range		T_{op}	-55 to +125	$^{\circ}\text{C}$

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

PARAMETER	TEST CONDITION	SYMBOL	MIN.	MAX.	UNIT
Reverse breakdown voltage	Tested with 100 μA pulses	$V_{(BR)}$	30		V
Leakage current ⁽¹⁾	$V_R = 25\text{ V}$	I_R		2	μA
Forward voltage ⁽¹⁾	$I_F = 0.1\text{ mA}$	V_F		240	mV
	$I_F = 1\text{ mA}$	V_F		320	mV
	$I_F = 10\text{ mA}$	V_F		400	mV
	$I_F = 30\text{ mA}$	V_F		500	mV
	$I_F = 100\text{ mA}$	V_F		800	mV
Diode capacitance	$V_R = 1\text{ V}$, $f = 1\text{ MHz}$	C_D		10	pF
Reverse recovery time	$I_F = 10\text{ mA}$, $I_R = 10\text{ mA}$, $i_R = 1\text{ mA}$, $R_L = 100\text{ }\Omega$	t_{rr}		5	ns

Note

⁽¹⁾ Pulse test: $t_p < 300\text{ }\mu\text{s}$, duty cycle $t_p/T < 0.02$

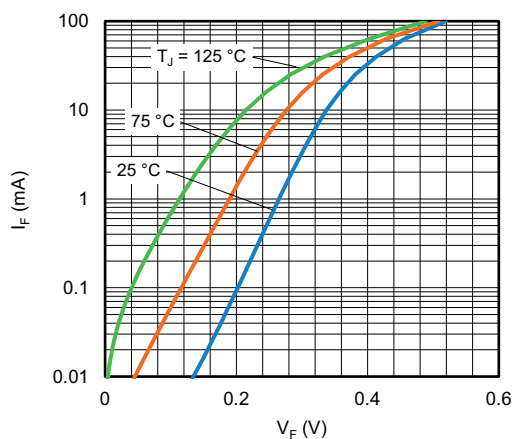
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Typical Forward Current vs. Forward Voltage

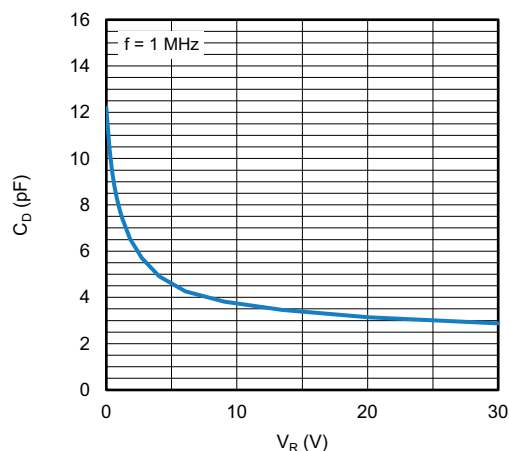


Fig. 3 - Typical Capacitance vs. Reverse Voltage

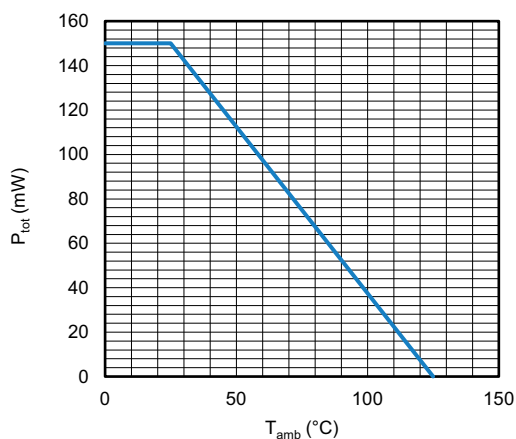


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

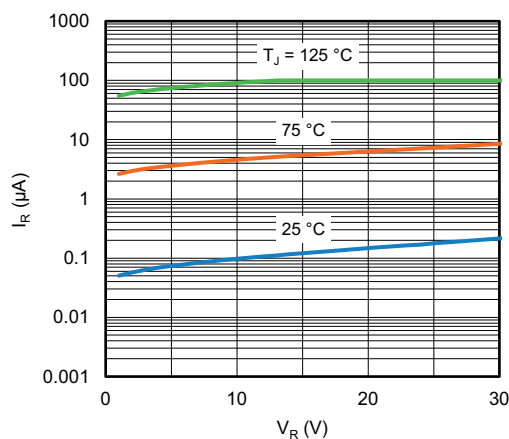
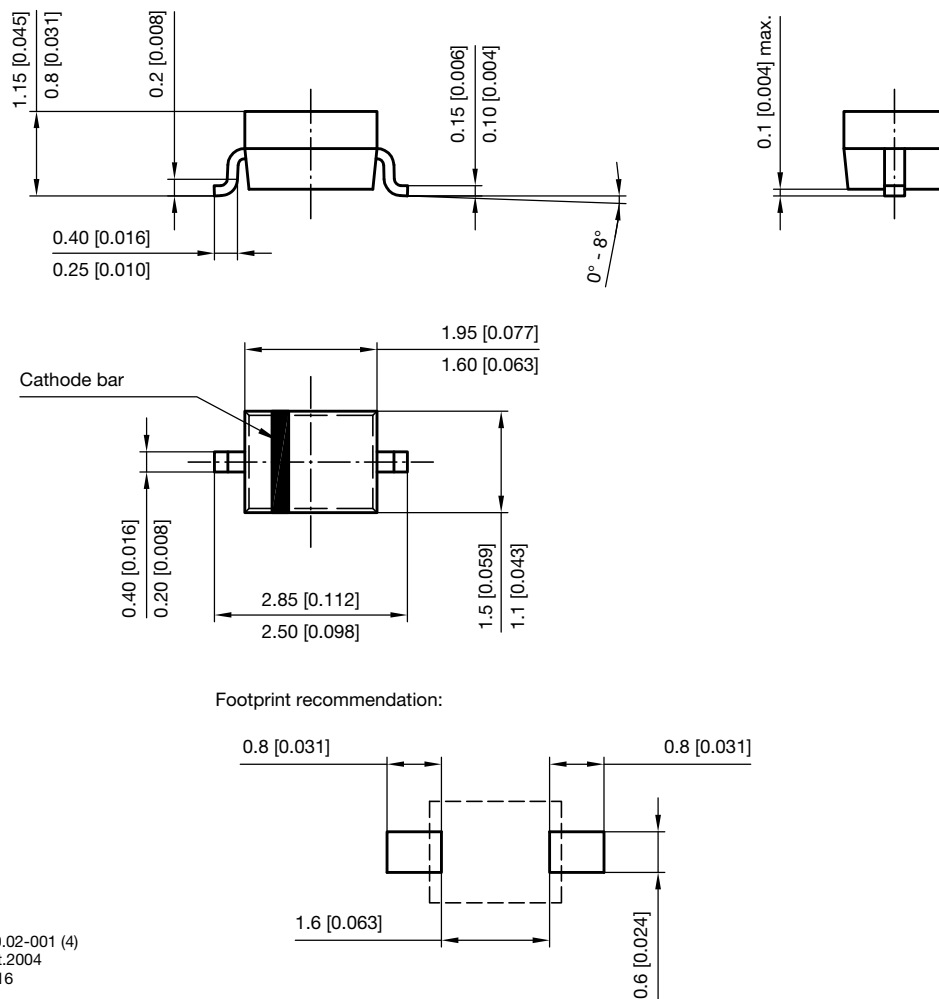


Fig. 4 - Typical Reverse Leakage Current vs. Reverse Voltage



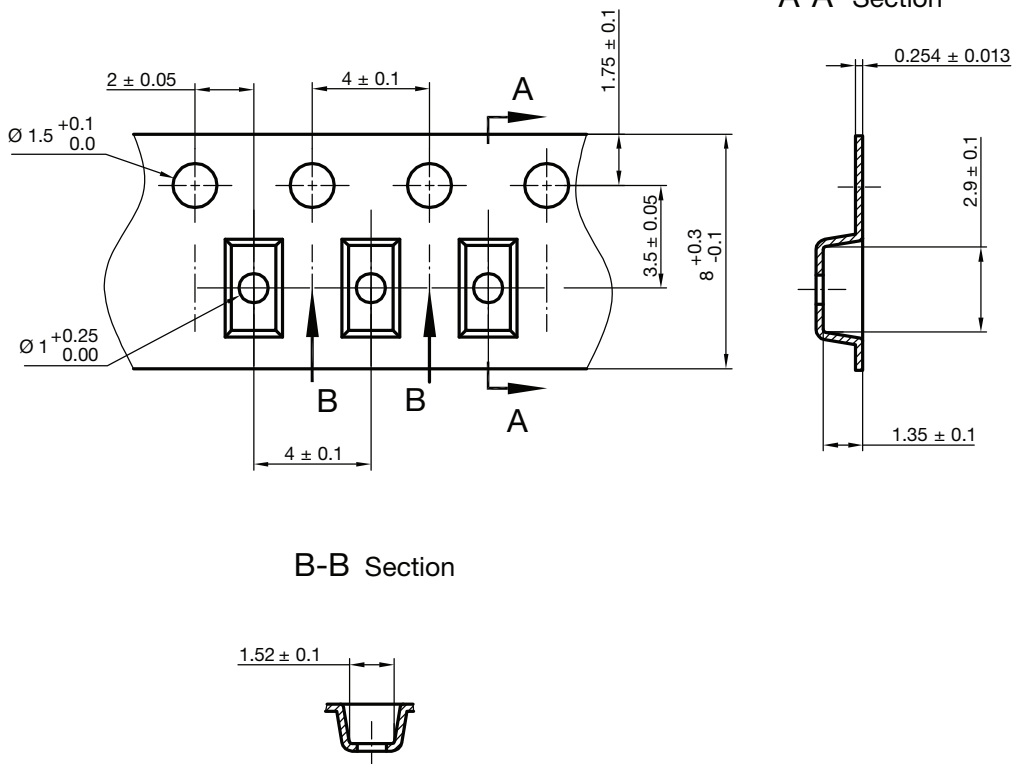
PACKAGE DIMENSIONS in millimeters (inches) **SOD-323**



Document no.: S8-V-3910.02-001 (4)
Created - Date: 24.August.2004
Rev. 6 - Date: 23.Sept.2016
22771

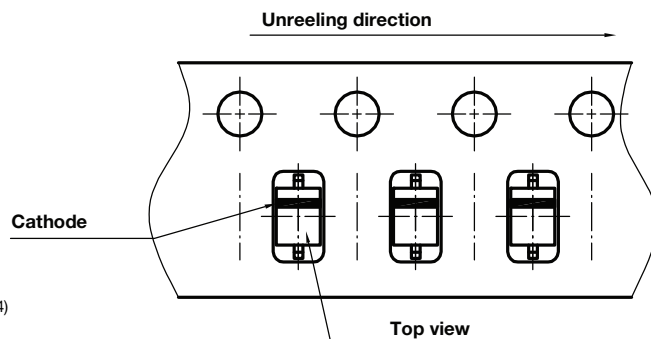


CARRIER TAPE SOD-323



Document no.: S8-V-3717.07-002 (4)
Created - Date: 09. Feb. 2010
22824

ORIENTATION IN CARRIER TAPE SOD-323



Document no.: S8-V-3717.07-003 (4)
Created - Date: 09. Feb. 2010
22772



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