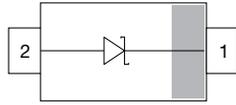


## Small Signal Schottky Diode



### 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](http://www.vishay.com/doc?99912)

 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
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 <sub>amb</sub> = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		V <sub>RRM</sub>	30	V
Forward continuous current <sup>(1)</sup>		I <sub>F</sub>	200	mA
Repetitive peak forward current <sup>(1)</sup>	Duty cycle t <sub>p</sub> / T < 0.5	I <sub>FRM</sub>	300	mA
Surge forward current <sup>(1)</sup>	t <sub>p</sub> = 10 ms	I <sub>FSM</sub>	600	mA
Power dissipation <sup>(1)</sup>		P <sub>tot</sub>	150	mW

**Note**
<sup>(1)</sup> 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 $\mu\text{A}$ pulses	$V_{(BR)}$	30		V
Leakage current <sup>(1)</sup>	$V_R = 25\text{ V}$	$I_R$		2	$\mu\text{A}$
Forward voltage <sup>(1)</sup>	$I_F = 0.1\text{ mA}$	$V_F$		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**

<sup>(1)</sup> 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)

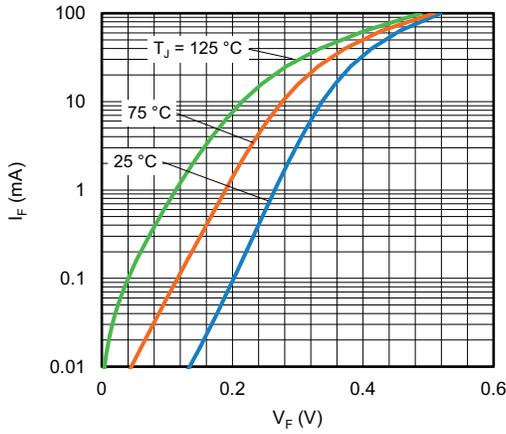


Fig. 1 - Typical Forward Current vs. Forward Voltage

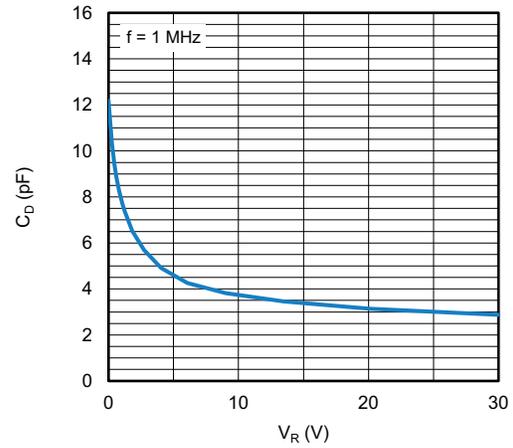


Fig. 3 - Typical Capacitance vs. Reverse Voltage

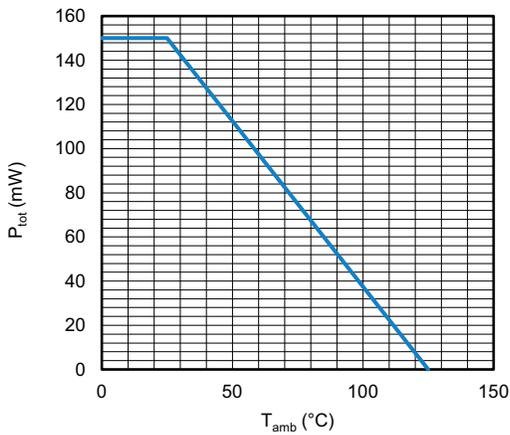


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

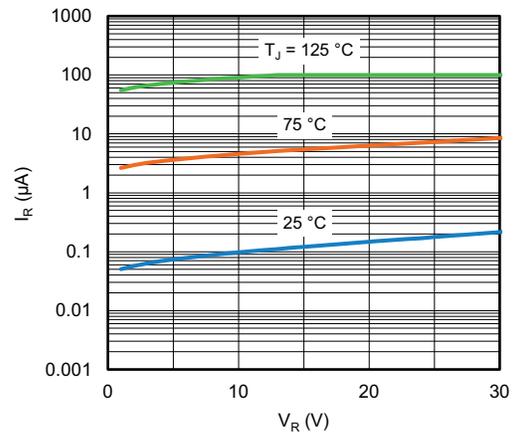
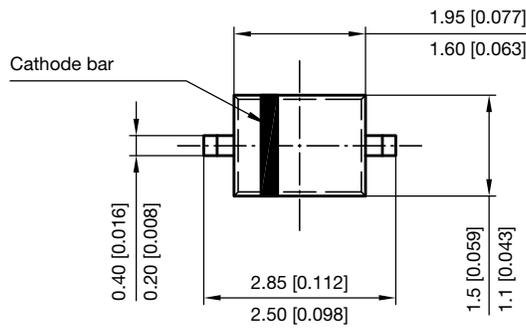
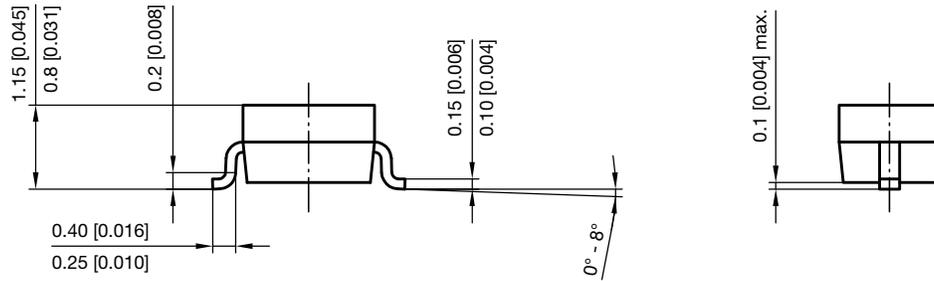


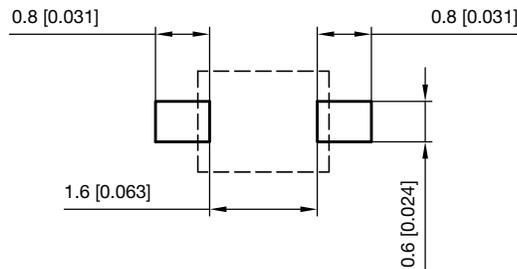
Fig. 4 - Typical Reverse Leakage Current vs. Reverse Voltage



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

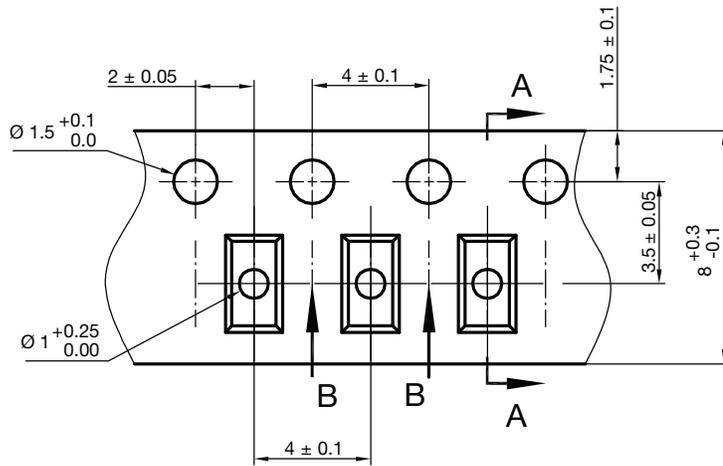


Footprint recommendation:

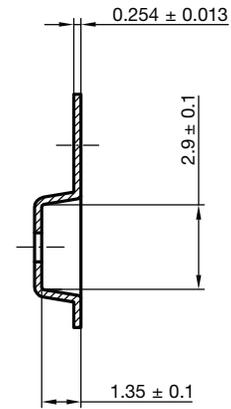


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 Rev. 6 - Date: 23.Sept.2016  
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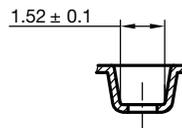
**CARRIER TAPE SOD-323**



A-A Section

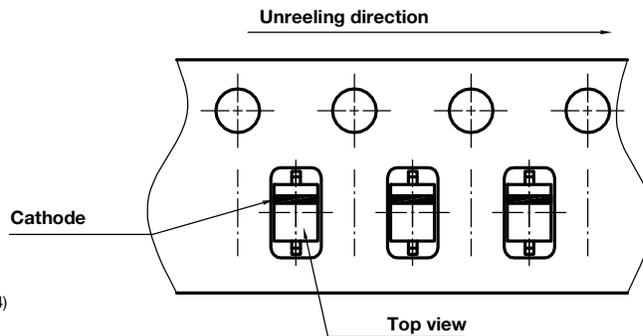


B-B Section



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**ORIENTATION IN CARRIER TAPE SOD-323**



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22772



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