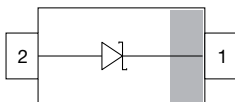




Small Signal Schottky Diode



FEATURES

- These diodes feature very low turn-on voltage and fast switching. These devices are protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges
- For general purpose applications
- AEC-Q101 qualified available
- Molding compound meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level (MSL) 1
- Base P/N-G3 - RoHS-compliant, commercial grade
- Base P/N-HG3_A - RoHS-compliant, AEC-Q101 qualified (part number available on request)
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

AUTOMOTIVE
GRADE
AvailableRoHS
COMPLIANT
HALOGEN
FREE
GREEN
(5-2008)

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
BAT42WS	BAT42WS-G3-08	No	L1	Single	3000 (8 mm tape on 7" reel)	15 000
	BAT42WS-HG3_A-08	Yes				
	BAT42WS-G3-18	No			10 000 (8 mm tape on 13" reel)	10 000
	BAT42WS-HG3_A-18	Yes				
BAT43WS	BAT43WS-G3-08	No	L6	Single	3000 (8 mm tape on 7" reel)	15 000
	BAT43WS-HG3_A-08	Yes				
	BAT43WS-G3-18	No			10 000 (8 mm tape on 13" reel)	10 000
	BAT43WS-HG3_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⁾		I_{FRM}	500	mA
Surge forward current ⁽¹⁾	Duty cycle $t_p / T < 0.5$	I_{FSM}	4	A
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
Maximum 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	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	$I_R = 100\text{ }\mu\text{A}$ (pulsed)		$V_{(BR)}$	30			V
Leakage current ⁽¹⁾	$V_R = 25\text{ V}$		I_R			0.5	μA
	$V_R = 25\text{ V}$, $T_j = 100\text{ }^{\circ}\text{C}$		I_R			100	μA
Forward voltage ⁽¹⁾	$I_F = 200\text{ mA}$		V_F			1000	mV
	$I_F = 10\text{ mA}$	BAT42WS	V_F			400	mV
	$I_F = 50\text{ mA}$	BAT42WS	V_F			650	mV
	$I_F = 2\text{ mA}$	BAT43WS	V_F	260		330	mV
	$I_F = 15\text{ mA}$	BAT43WS	V_F			450	mV
Diode capacitance	$V_R = 1\text{ V}$, $f = 1\text{ MHz}$		C_D		7		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; $t_p \leq 300\text{ }\mu\text{s}$, duty cycle $t_p/T < 0.02$



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

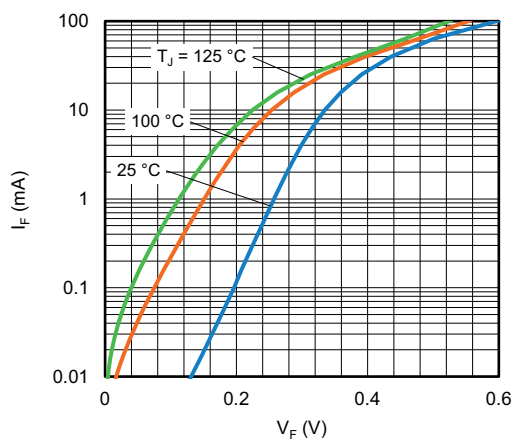


Fig. 1 - Typical Forward Current vs. Forward Voltage

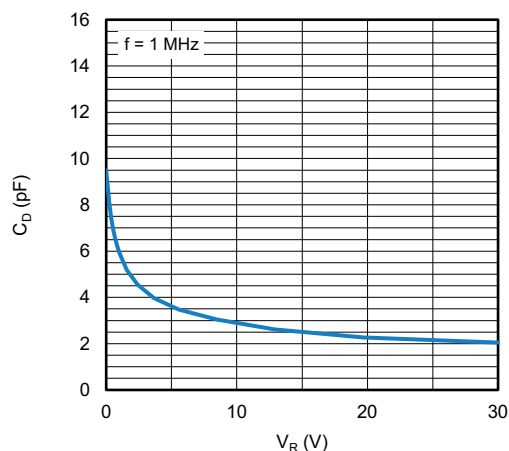


Fig. 3 - Typical Capacitance vs. Reverse Voltage

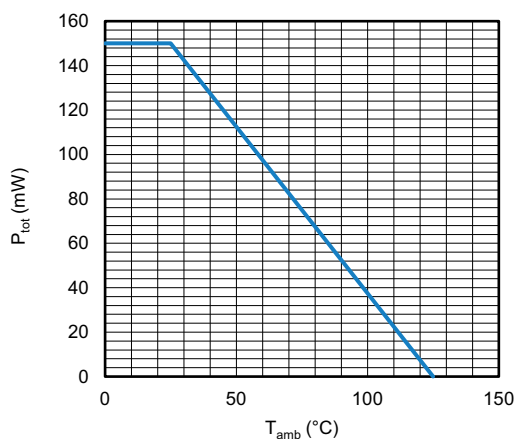


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

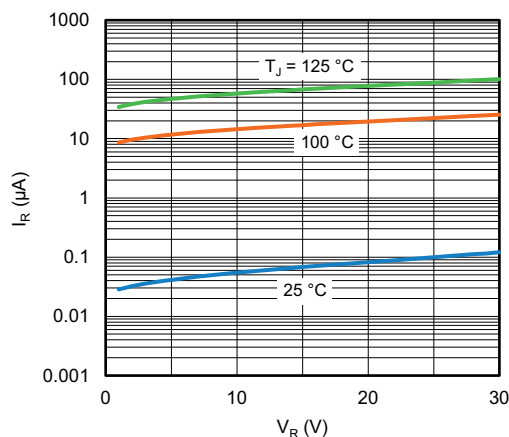
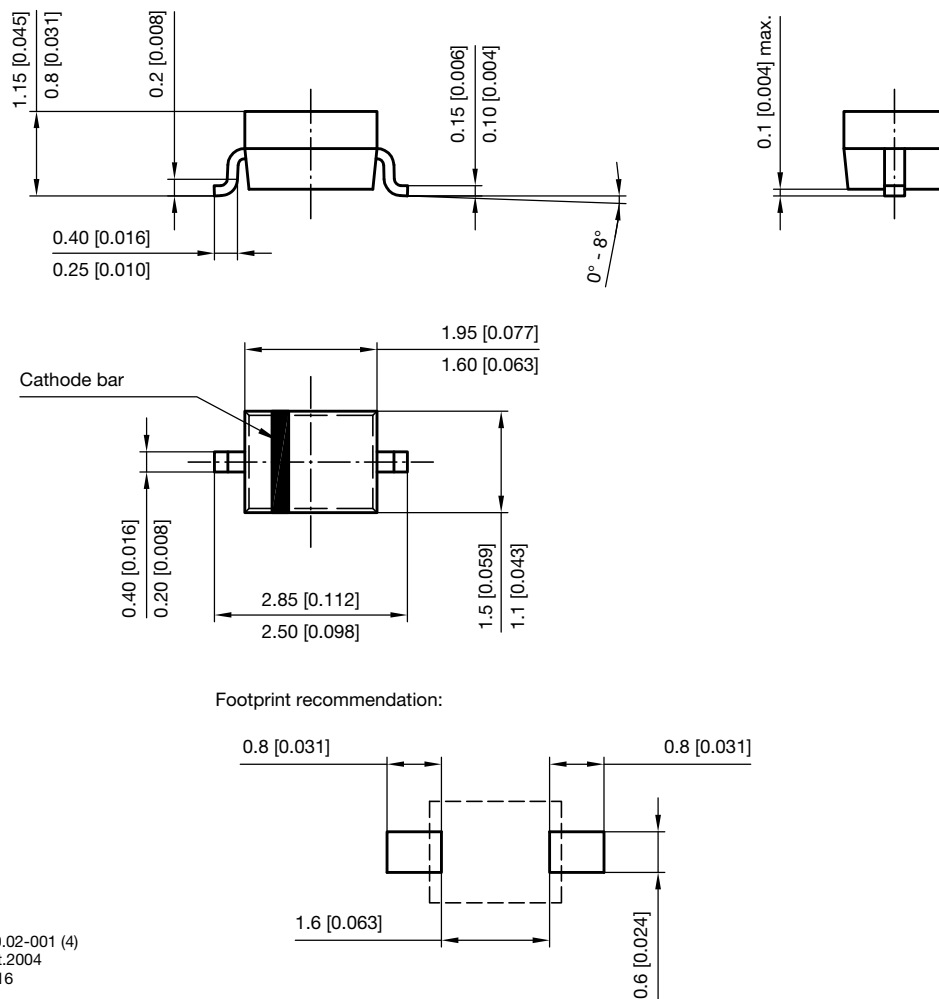


Fig. 4 - Typical Reverse Leakage Current vs. Reverse Voltage



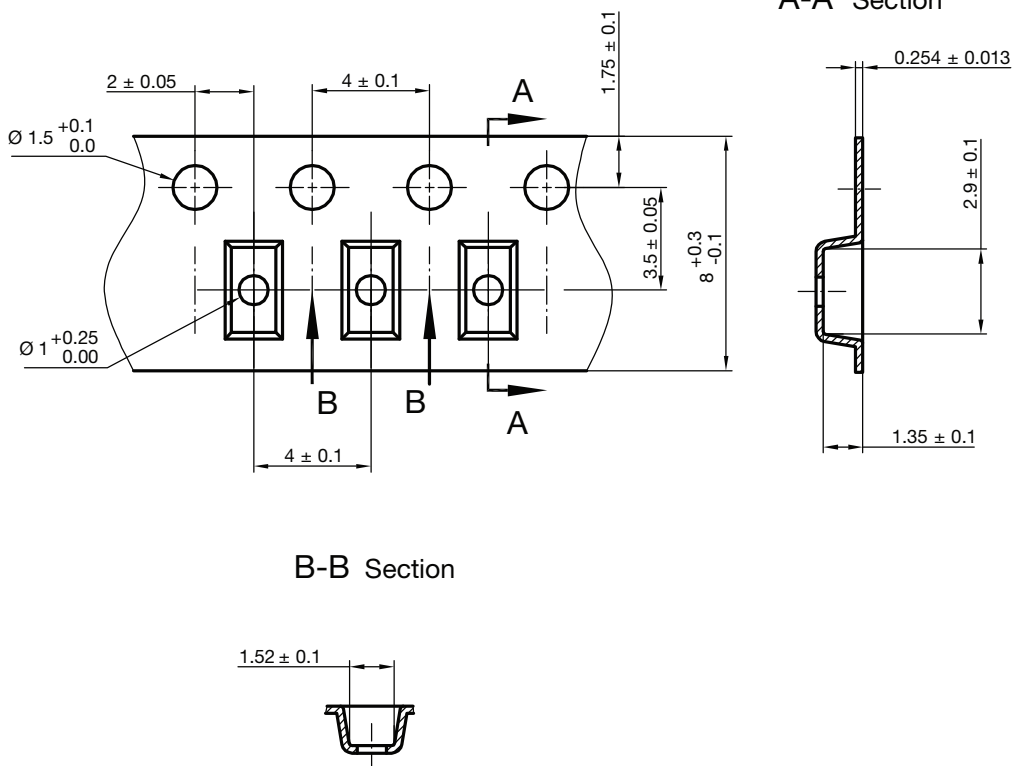
PACKAGE DIMENSIONS in millimeters (inches) **SOD-323**



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

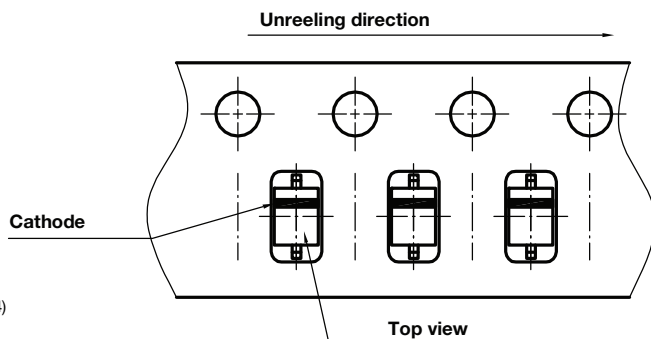


CARRIER TAPE SOD-323



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22824

ORIENTATION IN CARRIER TAPE SOD-323



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22772



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