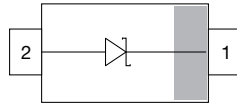
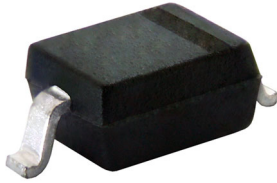




**THE DATASHEET OF  
SD103AWS-G3-18**



## Small Signal Schottky Diodes



### FEATURES

- The low forward voltage drop and fast switching make it ideal for protection of MOS devices, steering, biasing, and coupling diodes for fast switching and low logic level applications
- Other applications are click suppression, efficient full wave bridges in telephone subsets, and blocking diodes in rechargeable low voltage battery systems
- The SD103 series is a metal-on-silicon Schottky barrier device which is protected by a PN junction guardring
- 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-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
SD103AWS	SD103AWS-E3-08	No	6S	Single	3000 (8 mm tape on 7" reel)	15 000
	SD103AWS-HE3_A-08	Yes			10 000 (8 mm tape on 13" reel)	10 000
	SD103AWS-E3-18	No				
	SD103AWS-HE3_A-18	Yes				
SD103BWS	SD103BWS-E3-08	No	7S	Single	3000 (8 mm tape on 7" reel)	15 000
	SD103BWS-HE3_A-08	Yes			10 000 (8 mm tape on 13" reel)	10 000
	SD103BWS-E3-18	No				
	SD103BWS-HE3_A-18	Yes				
SD103CWS	SD103CWS-E3-08	No	8S	Single	3000 (8 mm tape on 7" reel)	15 000
	SD103CWS-HE3_A-08	Yes			10 000 (8 mm tape on 13" reel)	10 000
	SD103CWS-E3-18	No				
	SD103CWS-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 ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)					
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		SD103AWS	$V_{RRM}$	40	V
		SD103BWS	$V_{RRM}$	30	V
		SD103CWS	$V_{RRM}$	20	V
Forward continuous current <sup>(1)</sup>			$I_F$	350	mA
Power dissipation <sup>(1)</sup>			$P_{tot}$	200	mW
Single cycle surge	10 $\mu$ s square wave		$I_{FSM}$	2	A

**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	$R_{thJL}$	500	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	TYP.	MAX.	UNIT
Leakage current	$V_R = 30\text{ V}$	SD103AWS	$I_R$		5	$\mu\text{A}$
	$V_R = 20\text{ V}$	SD103BWS	$I_R$		5	$\mu\text{A}$
	$V_R = 10\text{ V}$	SD103CWS	$I_R$		5	$\mu\text{A}$
Forward voltage drop	$I_F = 20\text{ mA}$		$V_F$		370	mV
	$I_F = 200\text{ mA}$		$V_F$		600	mV
Diode capacitance	$V_R = 0\text{ V}$ , $f = 1\text{ MHz}$		$C_D$	50		pF
Reverse recovery time	$I_F = I_R = 50\text{ mA}$ to $200\text{ mA}$ , recover to $0.1 I_R$		$t_{rr}$	10		ns



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

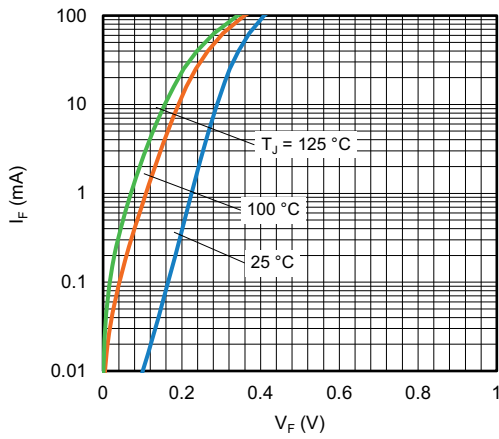


Fig. 1 - Typical Forward Current vs. Forward Voltage

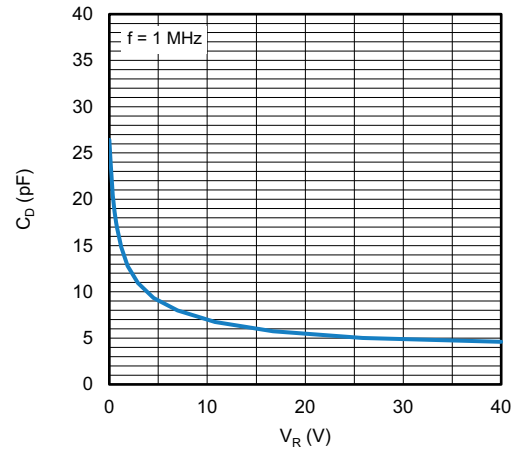


Fig. 3 - Typical Capacitance vs. Reverse Voltages

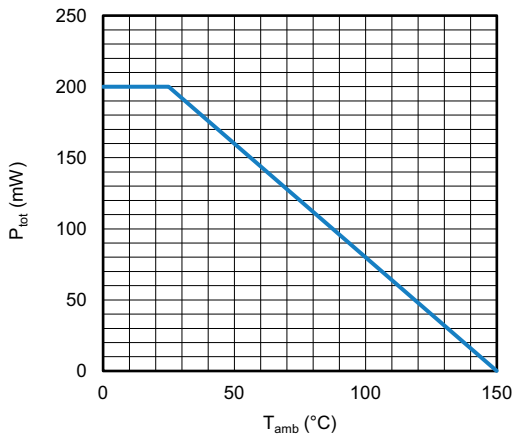


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

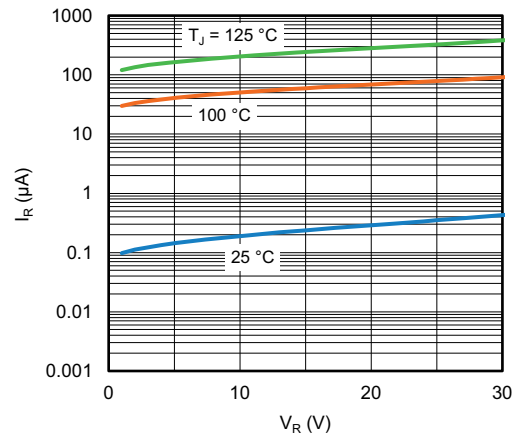
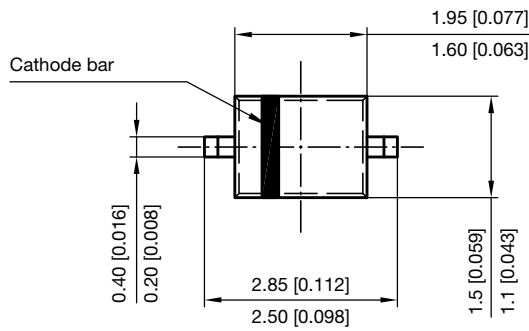
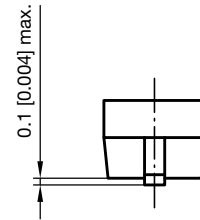
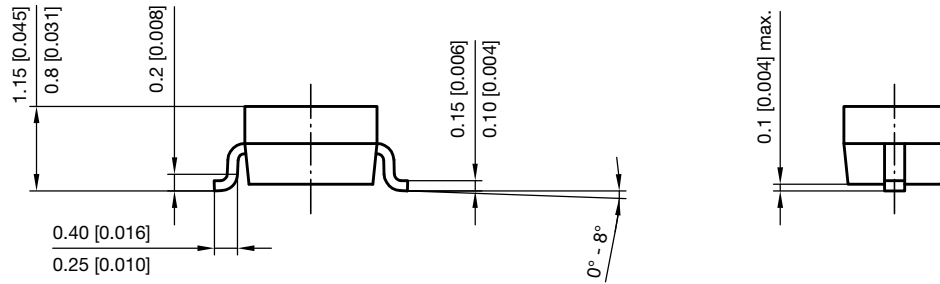


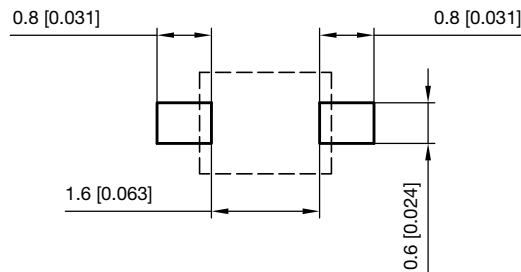
Fig. 4 - Typical Reverse Leakage vs. Reverse Voltage



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



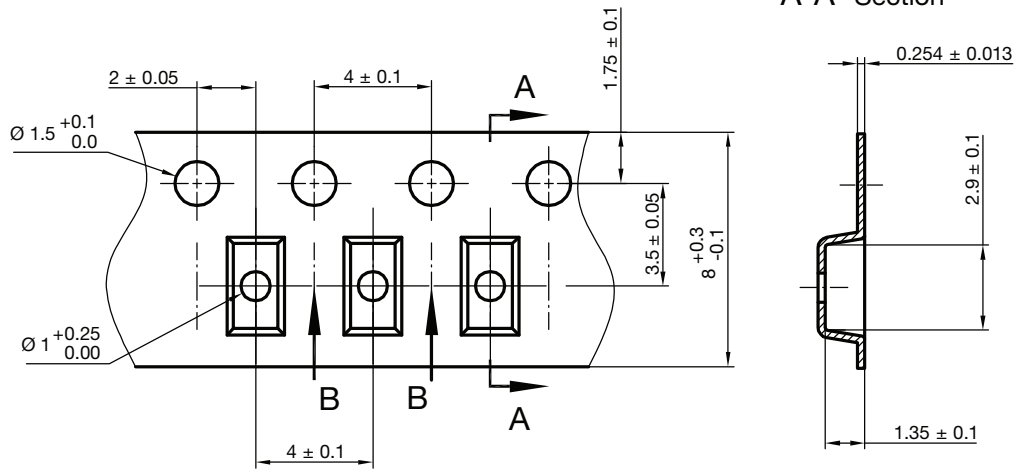
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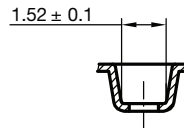
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 Created - Date: 24.August.2004  
 Rev. 6 - Date: 23.Sept.2016  
 22771



## CARRIER TAPE SOD-323

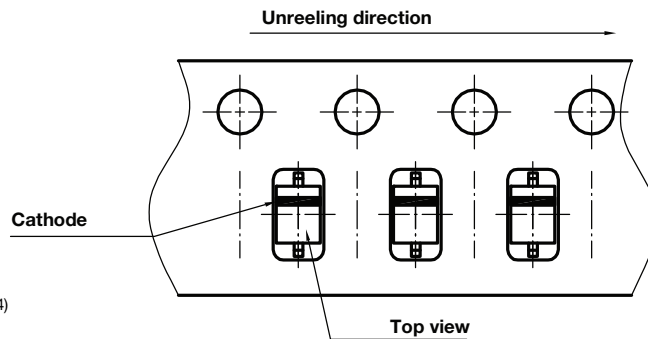


B-B Section



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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