Small Signal Schottky Diodes

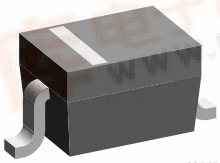
Features

- The SD103 series is a metal-on-silicon Schottky barrier device which is protected by a PN junction guard ring
- This diode is also available in the Mini-MELF case with the type designations LL103A to LL103C, DO-35 case with the type designations SD103A to SD103C and SOD-123 case with type designations SD103AW-V to SD103CW-V
- 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
- For general purpose applications
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC

Pb-free

e3

RoHS COMPLIANT



Mechanical Data

Case: SOD-323

Weight: approx. 4.3 mg

Packaging codes/options:

GS18/10 k per 13" reel (8 mm tape), 10 k/box

GS08/3 k per 7" reel (8 mm tape), 15 k/box

Parts Table

Part	Ordering code	Type marking	Remarks
SD103AWS-V	SD103AWS-V-GS18 or SD103AWS-V-GS08	S6	Tape and reel
SD103BWS-V	SD103BWS-V-GS18 or SD103BWS-V-GS08	S7	Tape and reel
SD103CWS-V	SD103CWS-V-GS18 or SD103CWS-V-GS08	S8	Tape and reel

Absolute Maximum Ratings

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Part	Symbol	Value	Unit
Peak reverse voltage		SD103AWS-V	V_{RRM}	40	V
		SD103BWS-V	V_{RRM}	30	V
		SD103CWS-V	V_{RRM}	20	V
Power dissipation			P_{tot}	200 [1]	mW
Single cycle surge	10 µs square wave		I_{FSM}	2	A

Note

[1] Valid provided that electrodes are kept at ambient temperature

Thermal Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		R_{thJA}	500 [1]	K/W
Junction temperature		T_j	125	°C
Storage temperature range		T_{stg}	- 55 to + 150	°C

Note

[1] Valid provided that electrodes are kept at ambient temperature

Electrical Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Part	Symbol	Min.	Typ.	Max.	Unit
Leakage current	V_R = 30 V	SD103AWS-V	I_R			5	µA
	V_R = 20 V	SD103BWS-V	I_R			5	µA
	V_R = 10 V	SD103CWS-V	I_R			5	µA
Forward voltage drop	I_F = 20 mA		V_F			370	mV
	I_F = 200 mA		V_F			600	mV
Diode capacitance	V_R = 0 V, f = 1 MHz		C_D		50		pF
Reverse recovery time	I_F = I_R = 50 mA to 200 mA, recover to 0.1 I_R		t_{rr}		10		ns

Typical Characteristics

T_{amb} = 25 °C unless otherwise specified

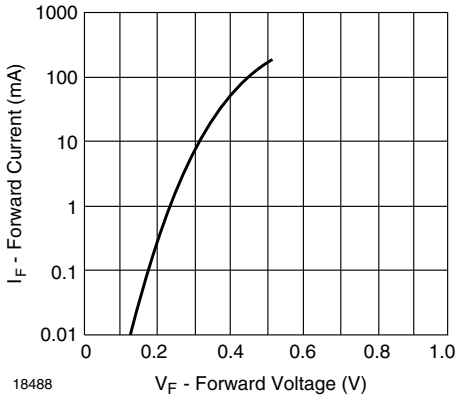


Figure 1. Typical Variation of Forward Current vs. Forward Voltage

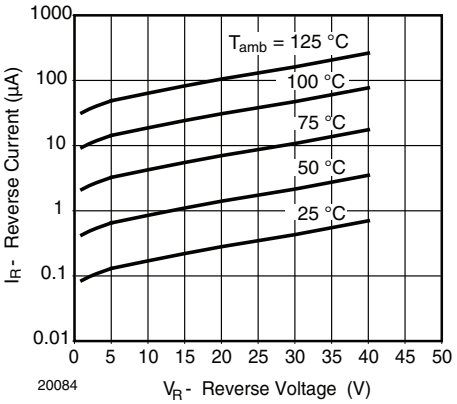


Figure 3. Typical Variation of Reverse Current at Various Temperatures

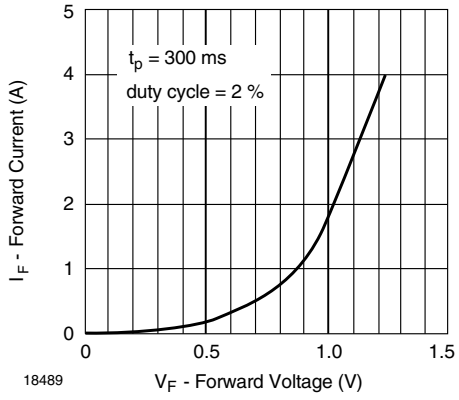


Figure 2. Typical High Current Forward Conduction Curve

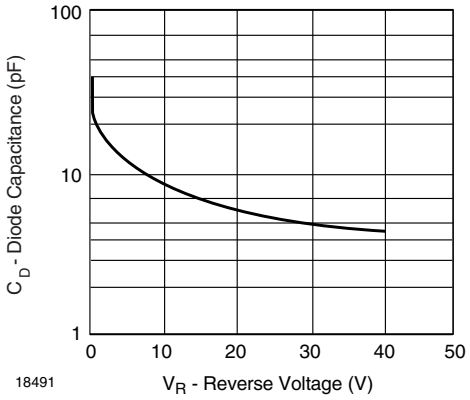


Figure 4. Diode Capacitance vs. Reverse Voltage

For technical questions within your region, please contact one of the following:
DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com
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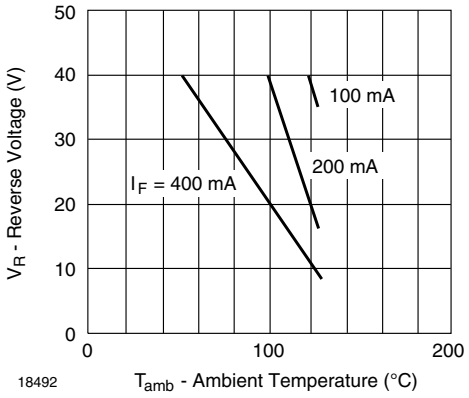
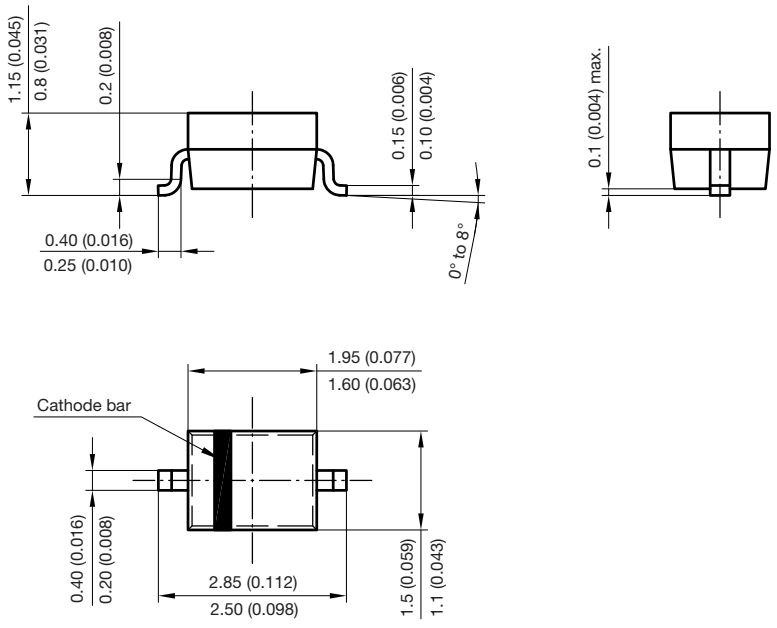
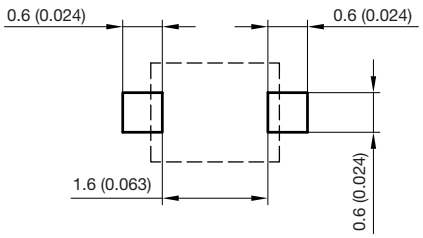


Figure 5. Blocking Voltage Deration vs. Temperature at Various Average Forward Currents

Package Dimensions in millimeters (inches): SOD-323



Foot print recommendation:



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