

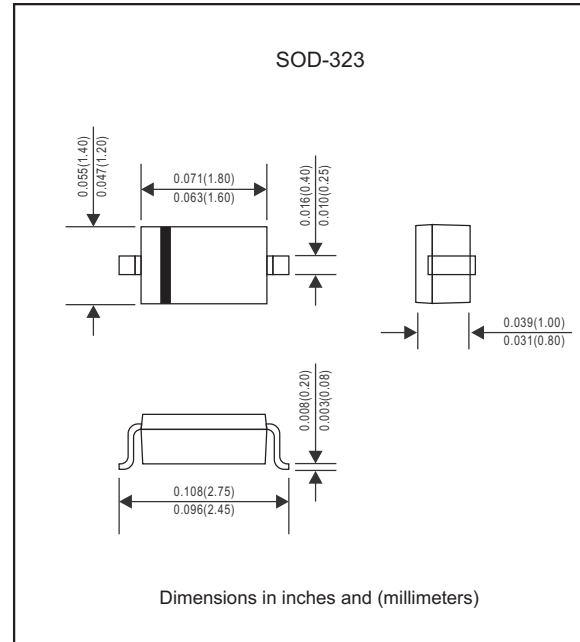
Features

- Low current rectification and high speed switching.
- Extremely small surface mount type.
- Low forward voltage drop.
- Silicon epitaxial planar chip, metal silicon junction.
- Lead-free parts for green partner, exceeds environmental standards of MIL-STD-19500 /228
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-323
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any

Package outline



Maximum ratings (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	SD103AWS-Q1	SD103BWS-Q1	SD103CWS-Q1	UNIT
Peak repetitive reverse voltage		V_{RRM}	40	30	20	V
Working peak reverse voltage		V_{RWM}				
DC blocking voltage		V_R				
RMS reverse voltage		$V_{R(RMS)}$	28	21	14	V
Average rectified output current		$I_{F(AV)}$	350			mA
Non-repetitive peak forward surge current	@ $t < 1.0s$	I_{FSM}	1.5			A
Total device dissipation		P_D	200			mW
Thermal resistance	Junction to ambient	$R_{\theta JA}$	625			$^\circ\text{C}/\text{W}$
Operating temperature		T_J	-55 ~ +125			$^\circ\text{C}$
Storage temperature		T_{STG}	-65 ~ +125			$^\circ\text{C}$

Electrical Characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	$I_R = 100\mu\text{A}$, SD103AWS-Q1	$V_{(BR)R}$	40			V
	$I_R = 100\mu\text{A}$, SD103BWS-Q1		30			
	$I_R = 100\mu\text{A}$, SD103CWS-Q1		20			
Forward voltage	$I_F = 20\text{mA}$	V_F			0.37	V
	$I_F = 200\text{mA}$				0.60	
Reverse current	$V_R = 30\text{V}$, SD103AWS-Q1 $V_R = 20\text{V}$, SD103BWS-Q1 $V_R = 10\text{V}$, SD103CWS-Q1	I_R			5.0	μA
Typical Junction capacitance	$V_R = 0\text{V}$, $f = 1.0\text{MHz}$	C_J		50		pF
Reverse recover time	$I_F = I_R = 200\text{mA}$, $I_{tr} = 0.1 \times I_{R1}$, $R_L = 100_{\text{OHM}}$	t_{rr}		10		ns

Rating and characteristic curves (SD103AWS/BWS/CWS-Q1)

Fig. 1 POWER DERATING CURVE

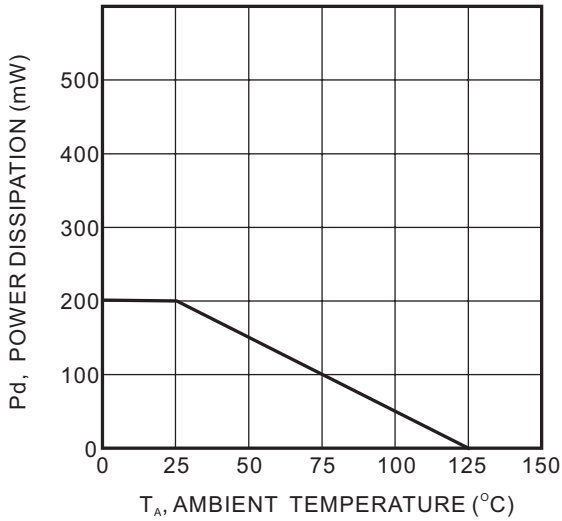


Fig. 2 TYPICAL FORWARD CHARACTERISTIC

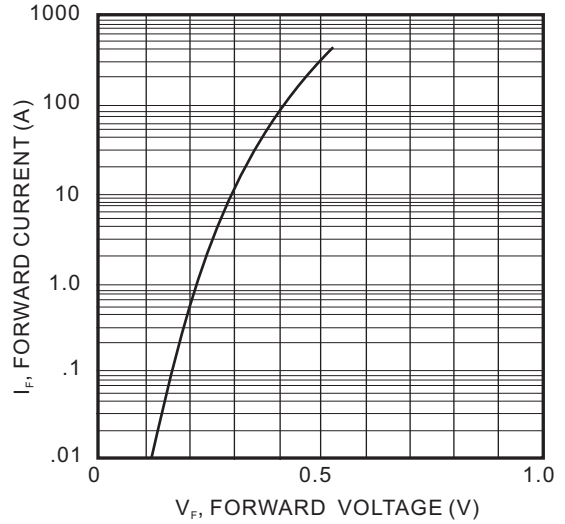
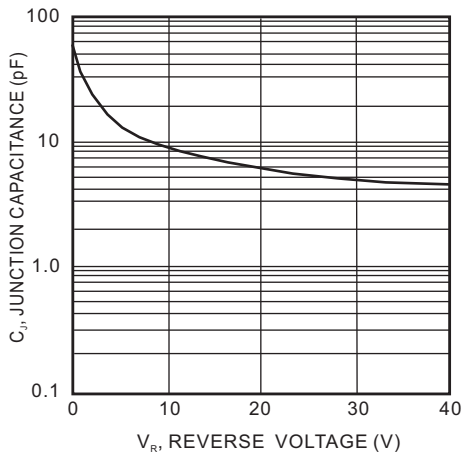




Fig. 3 TYPICAL JUNCTION CAPACITANCE VS REVERSE VOLTAGE



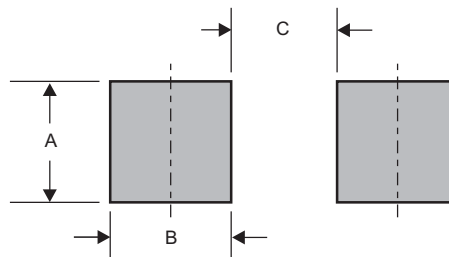
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
SD103AWS-Q1	S4
SD103BWS-Q1	S5
SD103CWS-Q1	S6

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-323	0.033 (0.83)	0.025 (0.63)	0.063 (1.60)