

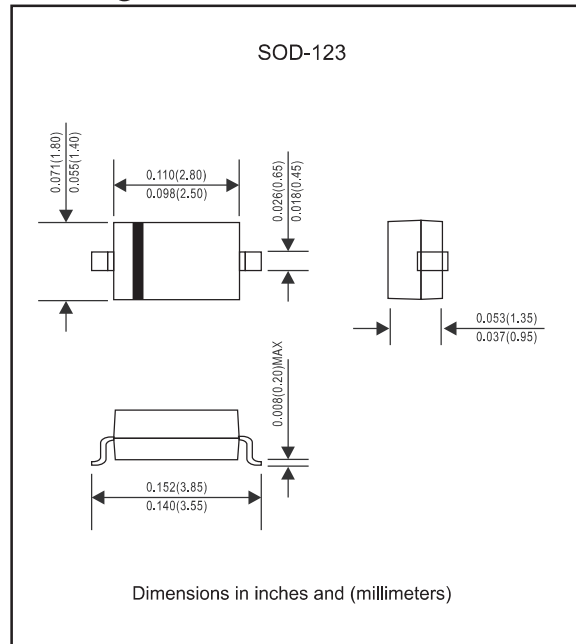
### Features

- 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-123
- Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any

### Package Outline



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

PARAMETER	CONDITIONS	Symbol	SD103AW-Q1	SD103BW-Q1	SD103CW-Q1	UNIT
Peak repetitive reverse voltage Working peak reverse voltage DC blocking voltage		$V_{RRM}$ $V_{RWM}$ $V_R$	40	30	20	V
RMS reverse voltage		$V_{R(RMS)}$	28	21	14	V
Average rectified output current		$I_{FAV}$	200			mA
Non-repetitive peak forward surge current	@ $t < 1.0\text{s}$	$I_{FSM}$	1.5			A
Total device dissipation		$P_D$	400			mW
Thermal resistance junction to ambient	junction to ambient	$R_{\theta JA}$	300			$^{\circ}\text{C}/\text{W}$
Operating temperature		$T_J$	-55 ~ +125			$^{\circ}\text{C}$
Storage temperature		$T_{STG}$	-65 ~ +125			$^{\circ}\text{C}$
Minimum Reverse breakdown voltage		$V_{(BR)R}$	40	30	20	V
Forward voltage	$I_F = 20\text{mA}$ $I_F = 200\text{mA}$	$V_F$	0.37 0.60			V
Reverse current	$V_R = 30\text{V}$ , SD103AW-Q1 $V_R = 20\text{V}$ , SD103BW-Q1 $V_R = 10\text{V}$ , SD103CW-Q1	$I_R$	5.0			$\mu\text{A}$
Typical Junction capacitance	$V_R = 0\text{V}$ , $f = 1.0\text{MHz}$	$C_J$	50			pF
Reverse recover time	$I_F = I_R = 200\text{mA}$ , $I_{rr} = 0.1 \times I_R$ , $R_L = 100_{\text{OHM}}$	$t_{rr}$	10			ns

## Rating and characteristic curves

Fig. 1 POWER DERATING CURVE

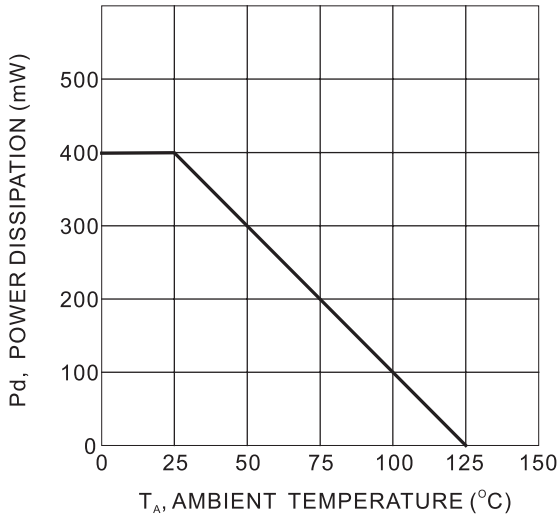


Fig. 2 TYPICAL FORWARD CHARACTERISTIC

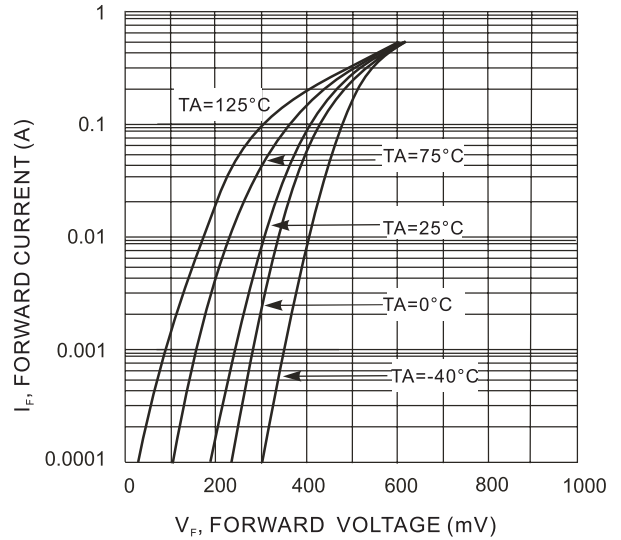


Fig. 3 TYPICAL JUNCTION CAPACITANCE VS REVERSE VOLTAGE

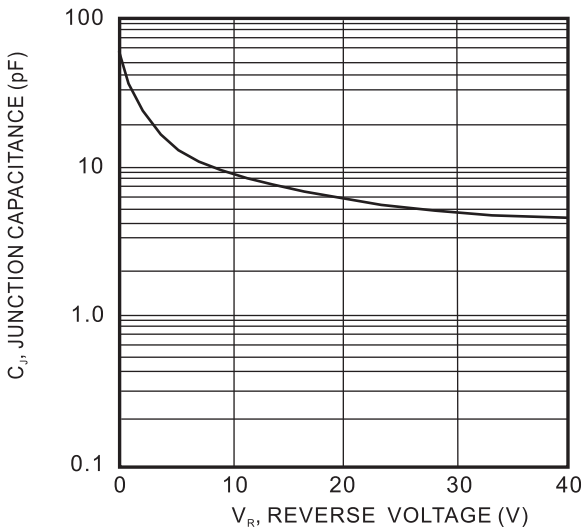
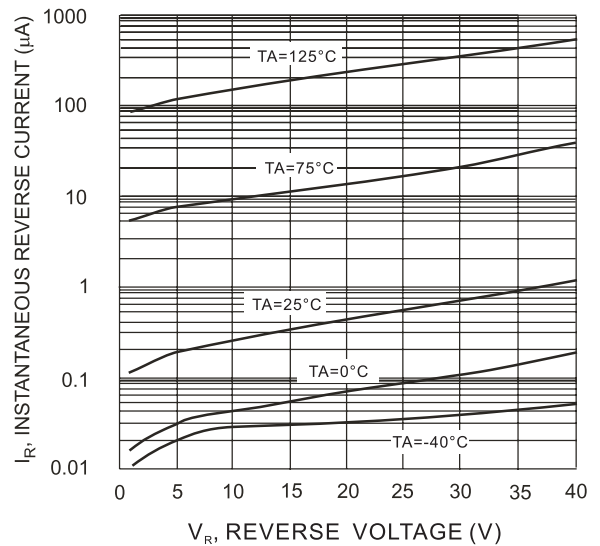




FIG. 4 TYPICAL REVERSE CHARACTERISTICS



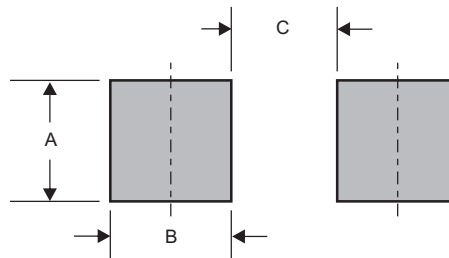
## Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

## Marking

Type number	Marking code
SD103AW-Q1	S4
SD103BW-Q1	S5
SD103CW-Q1	S6

## Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-123	0.059 (1.50)	0.059 (1.50)	0.094 (2.40)