SD103xW-Q1 Series

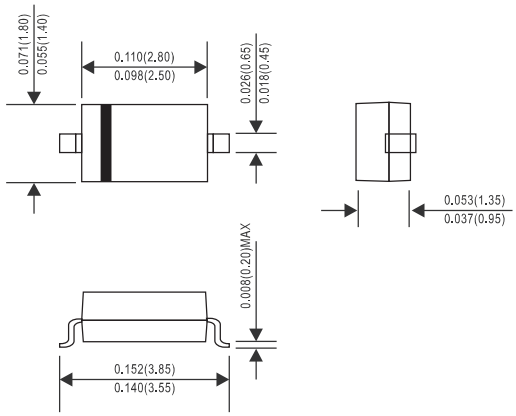
200mA Surface Mount Small Signal Schottky Diode -20V-40V

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

Package Outline

SOD-123



Dimensions in inches and (millimeters)

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

Maximum ratings and Electrical Characteristics (AT T_A=25°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 voltaget		$V_{R(RMS)}$	28	21	14	V
Average rectified output current		I_{FAV}	200			mA
Non-repetitive peak forward surge current	@ t < 1.0s	I_{FSM}	1.5			A
Total device dissipation		P_D	400			mW
Thermal resistance junction to ambient	junction to ambientrse	$R_{\theta JA}$	300			°C/W
Operating temperature		T_J	-55 ~ +125			°C
Storage temperature		T_{STG}	-65 ~ +125			°C
Minimum Reverse breakdown voltage		$V_{(BR)R}$	40	30	20	V
Forward voltage	I_F = 20mA I_F = 200mA	V_F	0.37 0.60			V
Reverse current	V_R = 30 V, SD103AW-Q1 V_R = 20 V, SD103BW-Q1 V_R = 10 V, SD103CW-Q1	I_R	5.0			uA
Typical Junction capacitance	V_R = 0 V, f = 1.0MHz	C_J	50			pF
Reverse recover time	I_F = I_R = 200mA, I_{rr} = 0.1 X I_R, R_L = 100 $_{OHM}$	t_{rr}	10			ns

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Rating and characteristic curves

Fig. 1 POWER DERATING CURVE

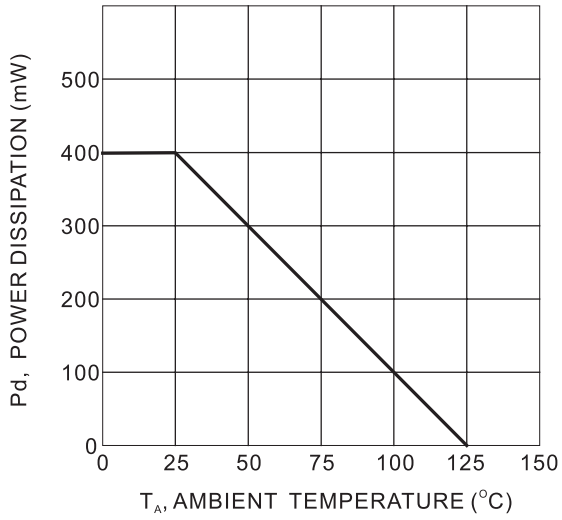


Fig. 2 TYPICAL FORWARD CHARACTERISTIC

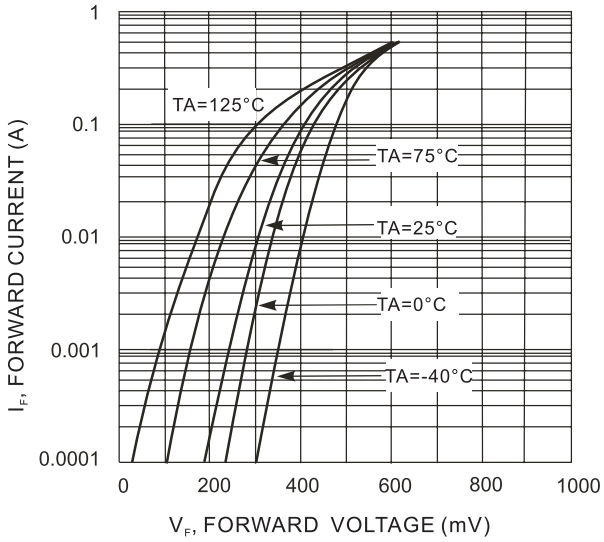


Fig. 3 TYPICAL JUNCTION CAPACITANCE VS REVERSE VOLTAGE

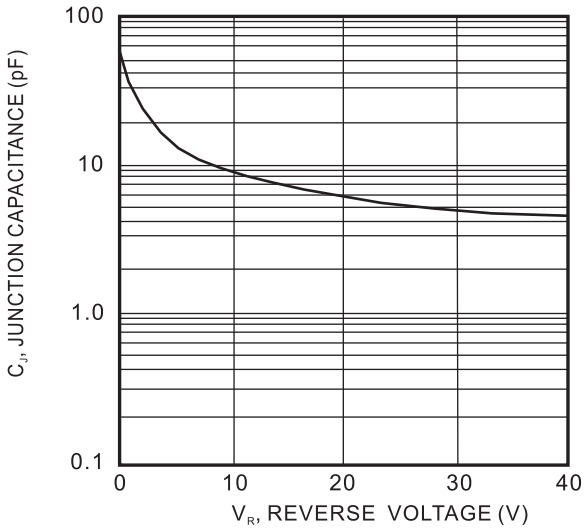
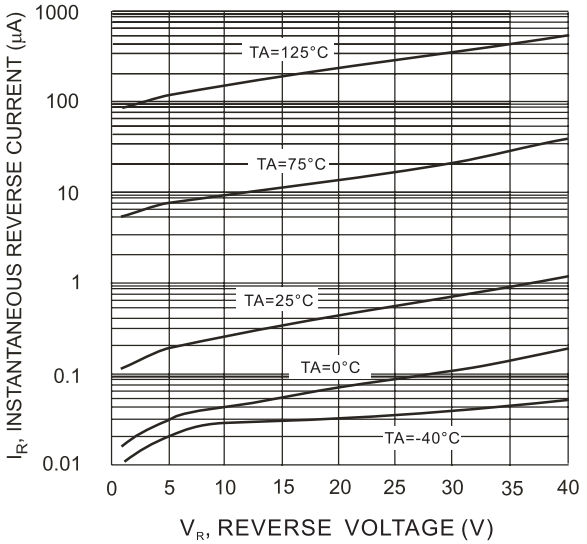


FIG. 4 TYPICAL REVERSE CHARACTERISTICS



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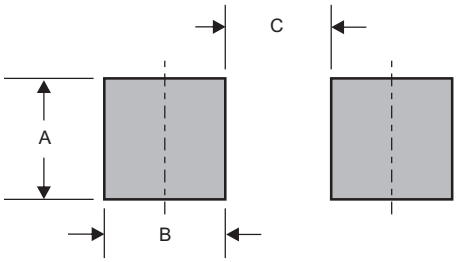
Pinning information

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)