

FEATURES

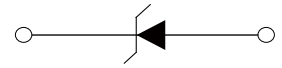
- High Current Capability
- Low Forward Voltage Drop



SOD-323

MECHANICAL DATA

- SOD-323 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Mounting Position: Any



Schematic Symbol

APPROVALS

- RoHS** Compliance with 2011/65/EU
- HF** Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	SD103AWS	SD103BWS	SD103CWS	Unit
Marking		S4	S5	S6	
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	40	30	20	V
Maximum RMS Voltage	V_{RMS}	28	21	14	V
Maximum DC Blocking Voltage	V_{DC}	40	30	20	V
Maximum Average Forward Rectified Current	I_{FM}	350			mA
Peak Forward Surge Current 8.3ms Single Half Sine-Wave	I_{FSM}	1.5			A
Power Dissipation	P_D	200			mW
Typical Thermal Resistance	$R_{\theta JA}$	500			$^{\circ}\text{C}/\text{W}$
Operating Junction Temperature	T_J	125			$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-50-+150			$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Test Conditions	SD103AWS	SD103BWS	SD103CWS	Unit
Maximum Forward Voltage	V_F	$I_F=20\text{mA}$		0.370		V
		$I_F=200\text{mA}$		0.600		V
Maximum Reverse Breakdown Voltage	V_R	$I_R=100\mu\text{A}$	40	30	20	V
Maximum Reverse Current	I_R	$V_R=30\text{V}$ SD103AWS		5.0		μA
		$V_R=20\text{V}$ SD103BWS				
		$V_R=10\text{V}$ SD103CWS				
Type Junction Capacitance	C_j	$V_R=0\text{V}$, $f=1\text{MHz}$		50		pF
Reverse Recovery Time	T_{RR}	$I_F=I_R=200\text{mA}$, $R_L=100\Omega$ $I_{RR}=0.1 \times I_R$		10		nS

CHARACTERISTIC CURVES

Fig.1 Forward Characteristics

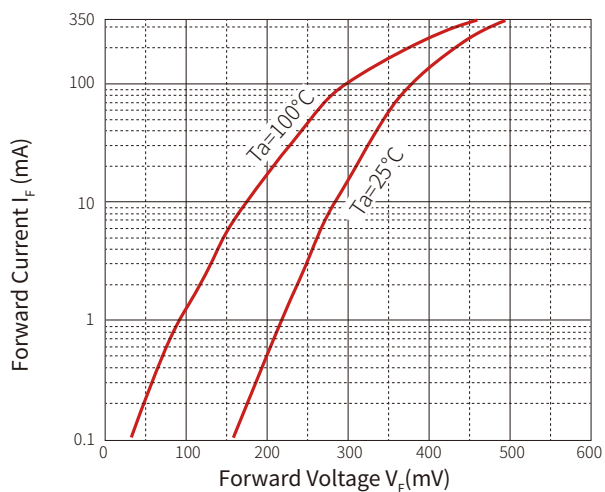


Fig.2 Reverse Characteristics

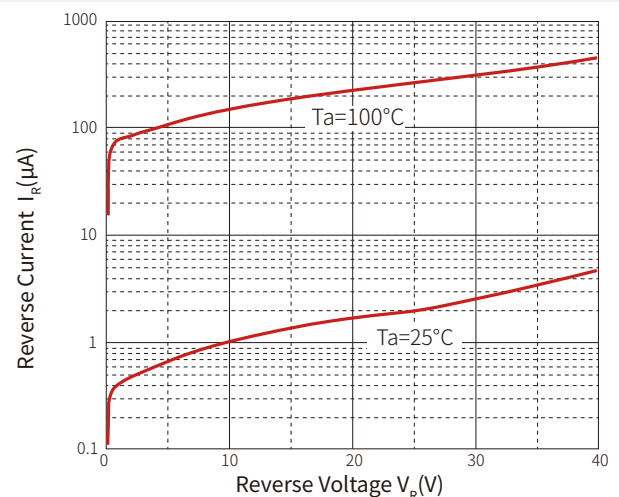
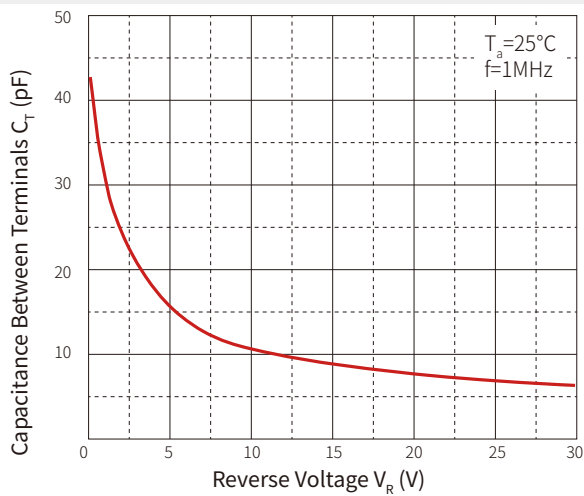
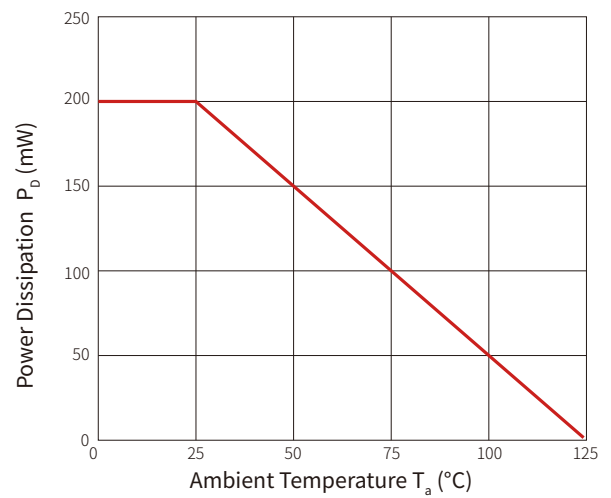
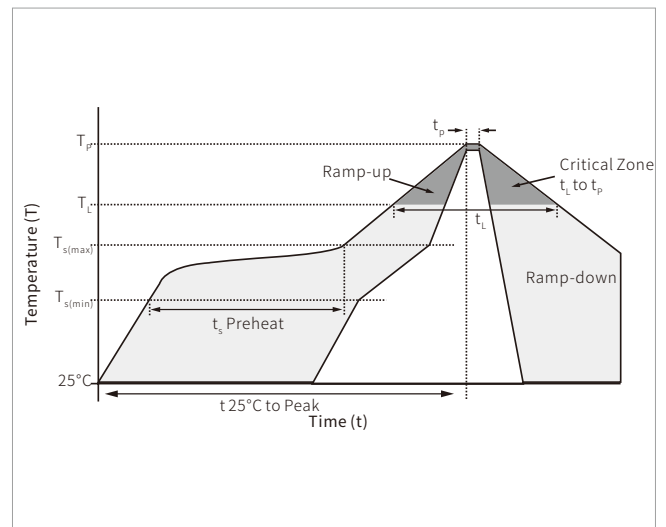


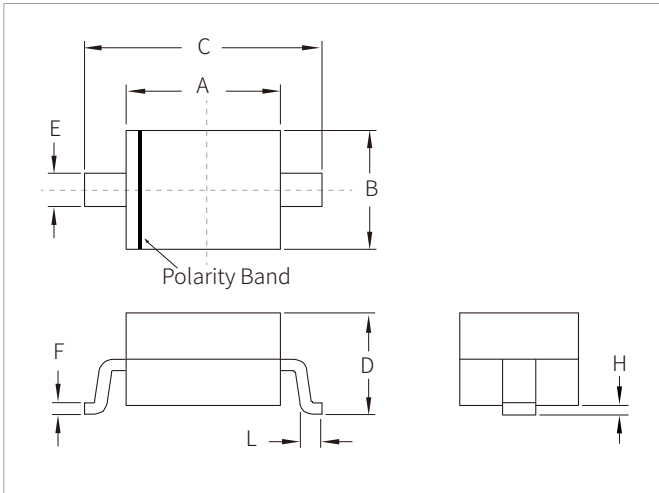
Fig.3 Capacitance Characteristics

Fig.4 Power Derating Curve


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(\text{min})}$)	150 $^\circ\text{C}$
	Temperature Max ($T_{s(\text{max})}$)	200 $^\circ\text{C}$
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3 $^\circ\text{C}/\text{second}$ max
$T_{s(\text{max})}$ to T_L - Ramp-up Rate		3 $^\circ\text{C}/\text{second}$ max
Reflow	Temperature (T_L) (Liquidus)	217 $^\circ\text{C}$
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260 $^\circ\text{C}$
Time within 5 $^\circ\text{C}$ of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6 $^\circ\text{C}/\text{second}$ max
Time 25 $^\circ\text{C}$ to peak Temperature (T_p)		8 minutes max.
Do not exceed		260 $^\circ\text{C}$

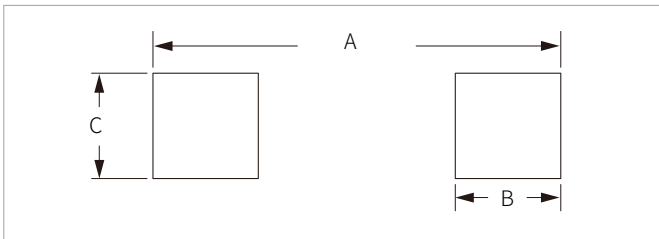


SOD-323 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.60	1.90	0.063	0.075
B	1.15	1.45	0.045	0.057
C	2.35	2.70	0.093	0.106
D	0.80	1.10	0.031	0.042
E	0.25	0.40	0.010	0.016
F	0.10	0.20	0.004	0.008
H	-	0.10	-	0.004
L	0.20	-	0.008	-

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.87	3.12	0.113	0.123
B	0.66	0.91	0.026	0.036
C	0.66	0.91	0.026	0.036

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SD103AWS-BWS-CWS	SOD-323	3000PCS	7"

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