

FEATURES

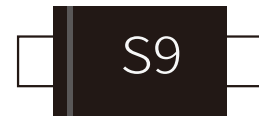
- | Low Forward Voltage Drop
- | Fast Switching Time
- | Surface Mount Package Ideally Suited for Automatic Insertion



SOD-323

MECHANICAL DATA

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



Marking



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	Value	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Maximum DC Blocking Voltage	V_R	100	V
Forward Continuous Current	I_F	150	mA
Repetitive Peak Forward Current (Note 1) @ $t_p < 1.0\text{s}$, Duty Cycle $< 50\%$	I_{FRM}	350	mA
Non-Repetitive Peak Forward Surge Current @ $t=8.3\text{ms}$	I_{FSM}	750	mA
Power Dissipation	P_D	200	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	500	$^{\circ}\text{C/W}$
Operating junction temperature	T_J	125	$^{\circ}\text{C}$
Storage temperature range	T_{STG}	-55-+150	$^{\circ}\text{C}$

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

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Forward Voltage(Note 2)	V_F	$I_F=0.1\text{mA}$			0.25	V
		$I_F=10\text{mA}$			0.45	V
		$I_F=250\text{mA}$			1	V
Reverse Breakdown Voltage(Note 2)	$V_{(BR)}$	$I_R=100\mu\text{A}$	100			V
Reverse Leakage Current	I_R	$V_R=1.5\text{V}$			0.3	μA
		$V_R=10\text{V}$			0.5	μA
		$V_R=50\text{V}$			1	μA
		$V_R=75\text{V}$			2	μA
Capacitance Between Terminals	C_T	$V_R=0\text{V}, f=1.0\text{MHz}$		20		pF
		$V_R=1\text{V}, f=1.0\text{MHz}$		12		pF

Notes: 1. Part mounted on FR-4 board with recommended pad layout.
2. Short duration pulse test used to minimize self-heating effect.

CHARACTERISTIC CURVES

Fig.1 Forward Characteristics

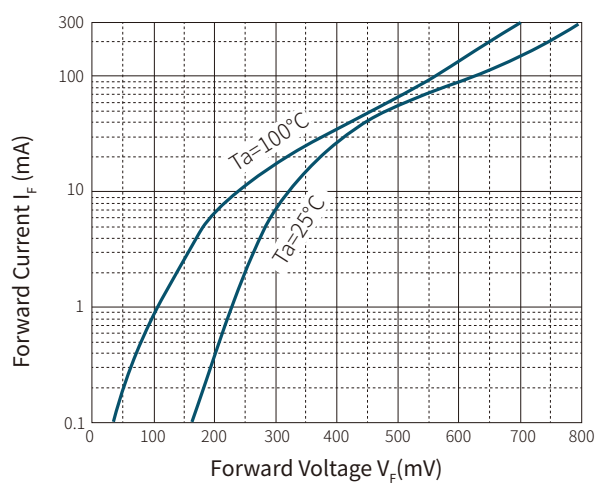


Fig.2 Reverse Characteristics

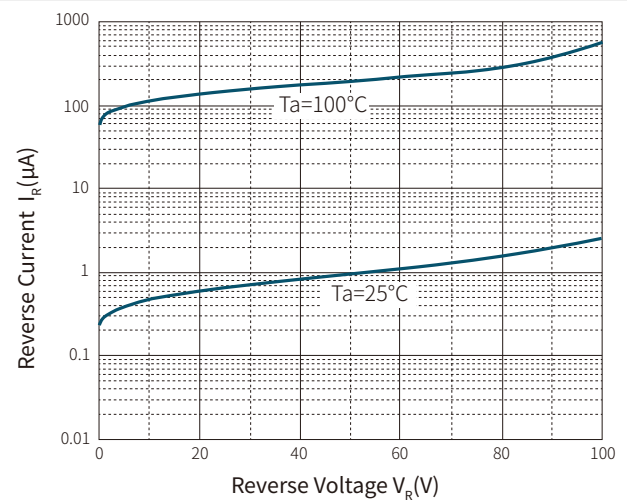
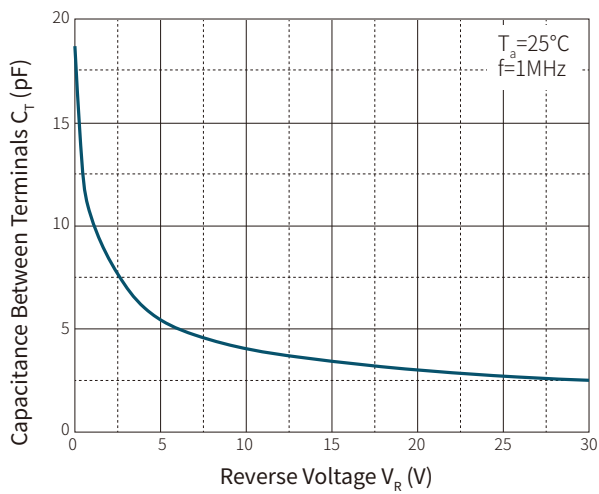
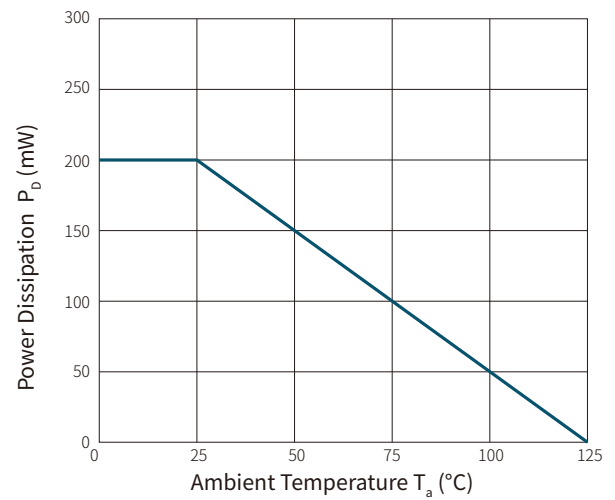
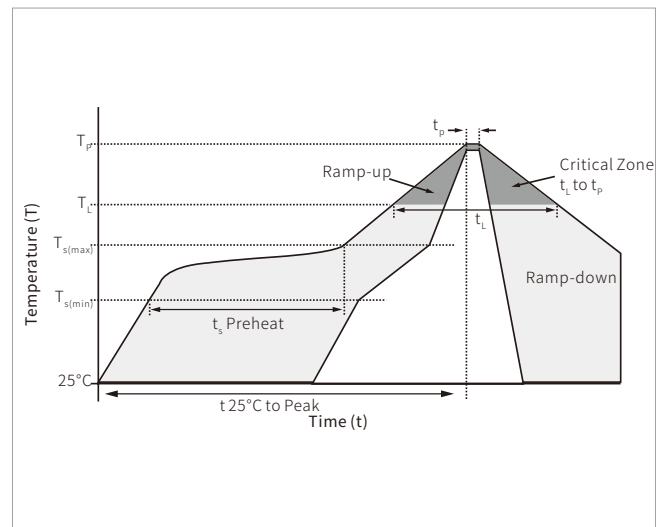


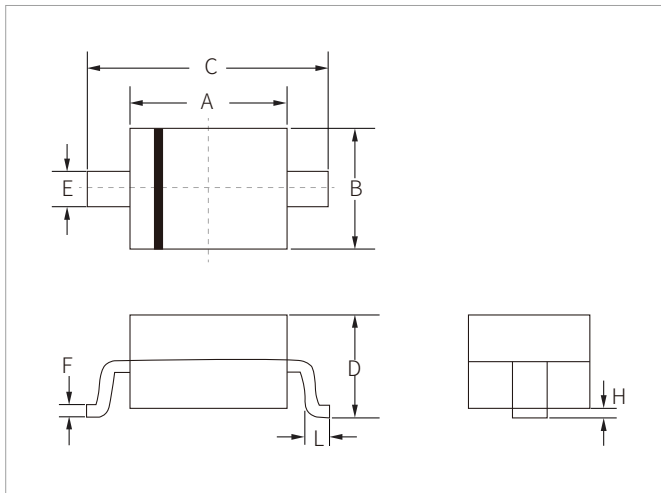
Fig.3 Capacitance Characteristics

Fig.4 Power Derating Curve


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(\min)}$)	150 $^\circ\text{C}$
	Temperature Max ($T_{s(\max)}$)	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
$T_{s(\max)}$ 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 $^\circ\text{C}$

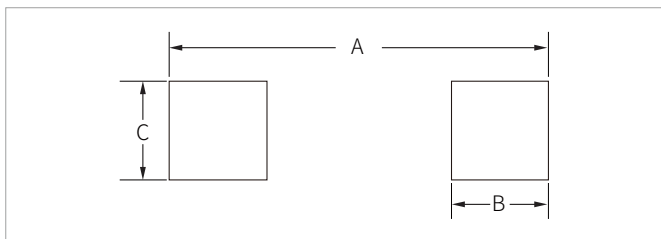


SOD-323 PACKAGE INFORMATION



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	2.75	0.093	0.108
D	0.80	1.10	0.031	0.043
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	0.40	0.008	0.016

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
BAT46WS	SOD-323	3000PCS	7"

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