

FEATURES

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



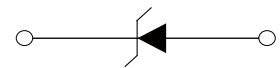
SOD-323

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°C)

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	30	V
Maximum DC blocking voltage	V _R	30	V
Maximum RMS reverse voltage	V _{R(RMS)}	21	V
Forward Continuous Current	I _{FM}	200	mA
Repetitive Peak Forward Current @t<1.0s	I _{FRM}	500	mA
Non-repetitive Peak Forward Surge Current @t=8.3ms	I _{FSM}	4	A
Power Dissipation	P _D	500	mW
Thermal Resistance Junction to Ambient	R _{θJA}	200	°C/W
Operating junction temperature	T _J	125	°C
Storage temperature range	T _{STG}	-55-+150	°C

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

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Maximum Forward Voltage	V_F	$I_F=200\text{mA}$			1.0	V
		$I_F=10\text{mA}$			0.40	V
		$I_F=50\text{mA}$			0.65	V
Reverse Breakdown Voltage	$V_{(BR)}$	$I_R=10\mu\text{A}$	30			V
Reverse Leakage Current	I_R	$V_R=25\text{V}$			0.5	μA
Capacitance Between Terminals	C_T	$V_R=1.0\text{V}, f=1.0\text{MHz}$			10	pF
Reverse Recovery Time	T_{RR}	$I_F=I_R=10\text{mA}, R_L=100\Omega$ $I_{RR}=0.1 \times I_R$			5	nS

CHARACTERISTIC CURVES

Fig.1 Forward Characteristics

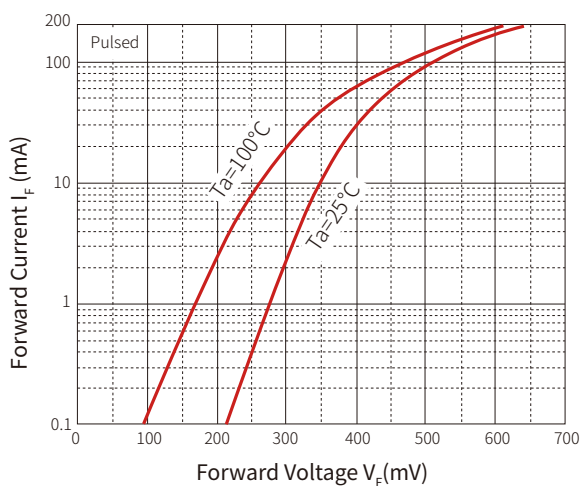


Fig.2 Reverse Characteristics

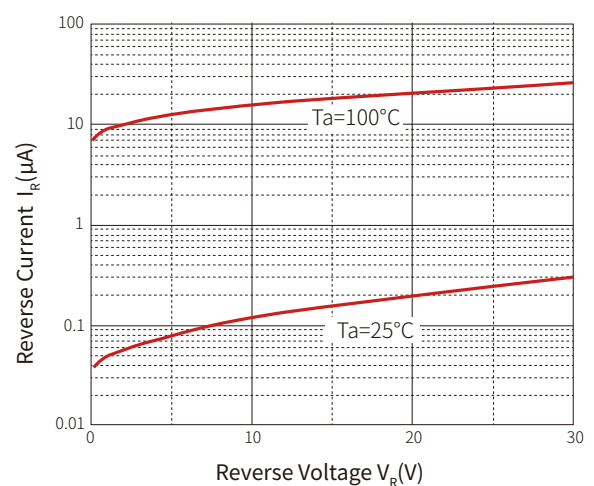
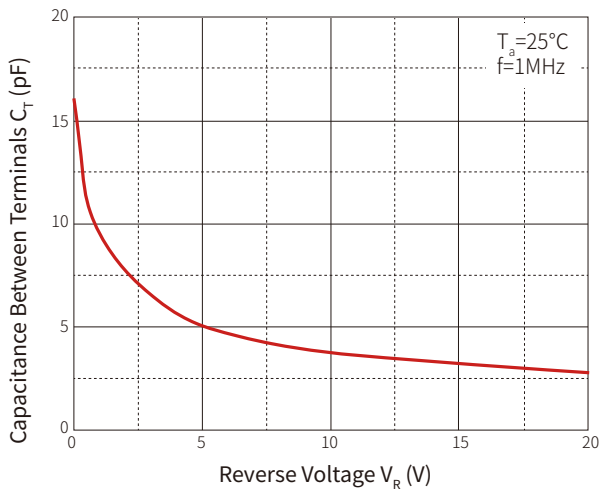
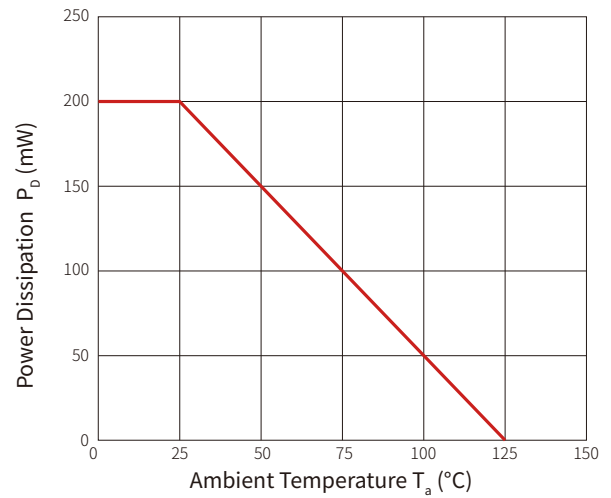
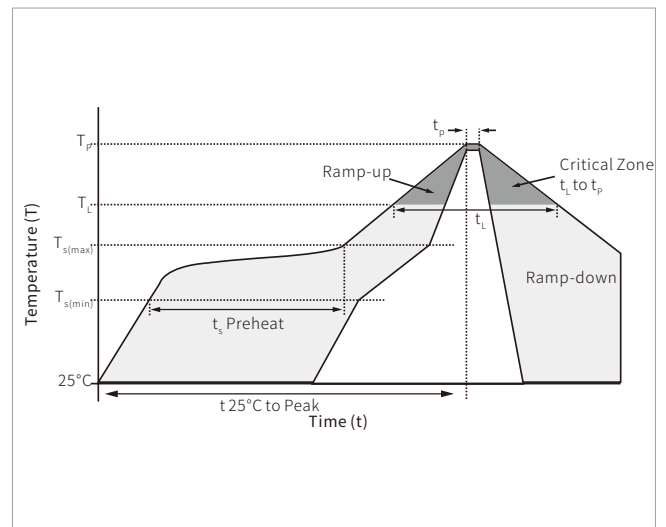


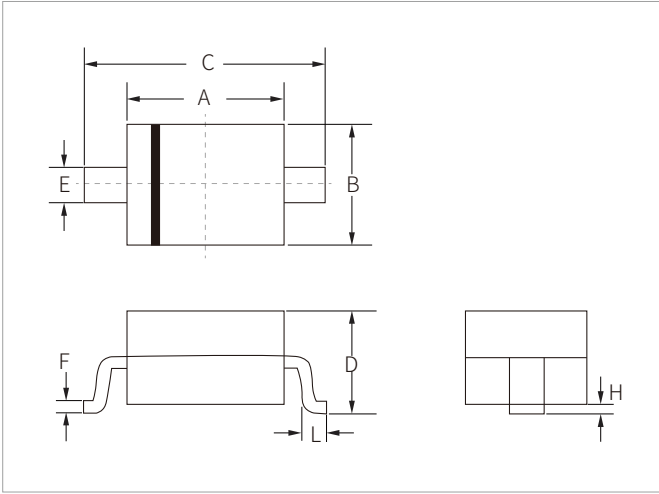
Fig.3 Capacitance Characteristics

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 $^\circ\text{C}$

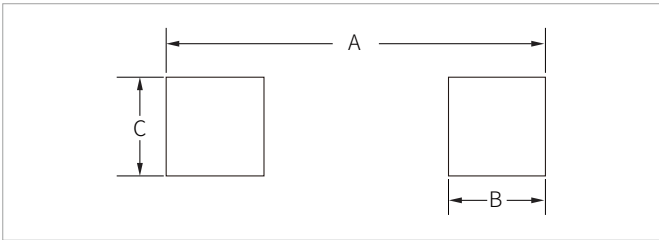


SOD-323 PACKAGE INFORMATION



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	2.75	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
BAT42WS	SOD-323	3000PCS	7"

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