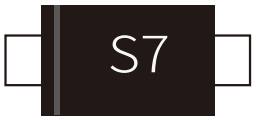
FEATURES

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

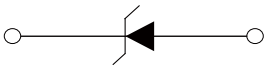
SOD-323

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	$R_{\theta JA}$	200	°C/W
Operating junction temperature	T_J	125	°C
Storage temperature range	T_{STG}	-55-+150	°C

ELECTRICAL CHARACTERISTICS(T_A=25°C)

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

CHARACTERISTIC CURVES

Fig.1 Forward Characteristics

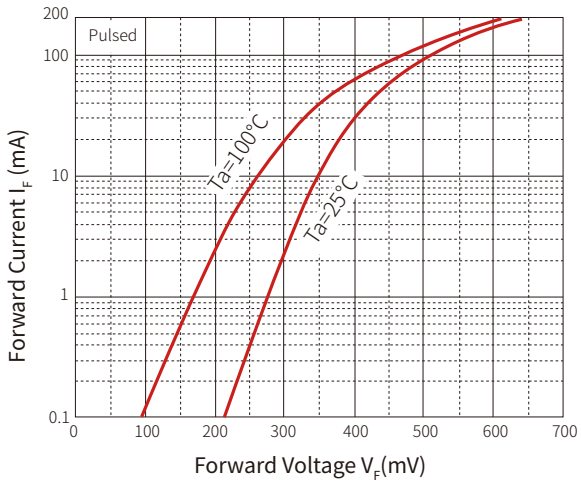


Fig.2 Reverse Characteristics

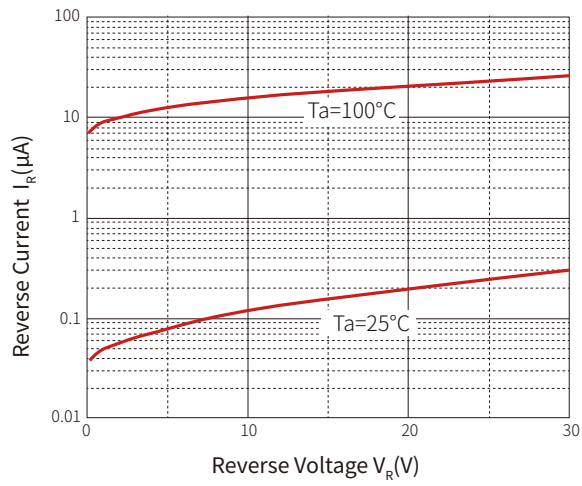


Fig.3 Capacitance Characteristics

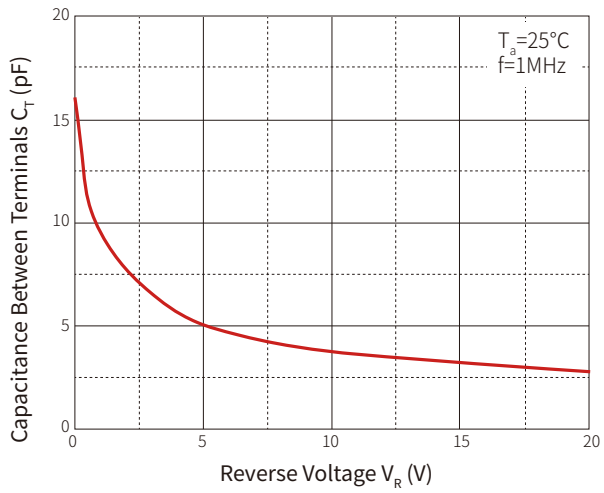
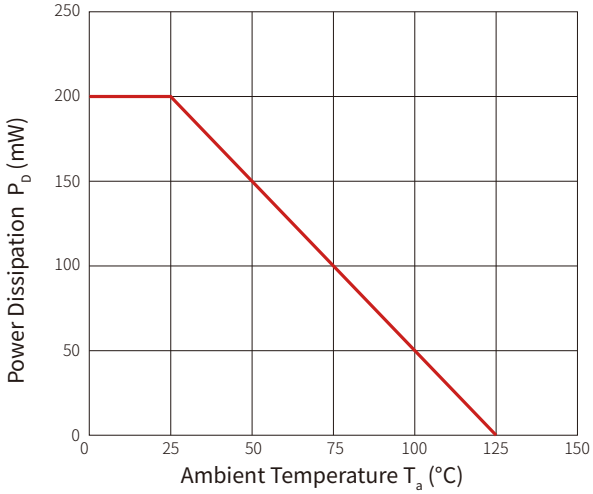
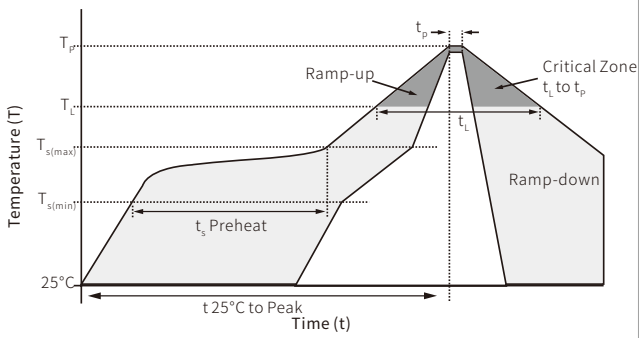


Fig.4 Power Derating Curve

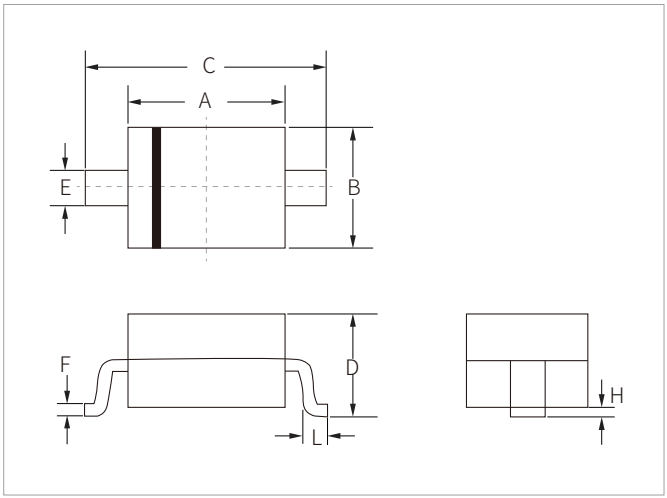


SOLDERING PARAMETERS

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

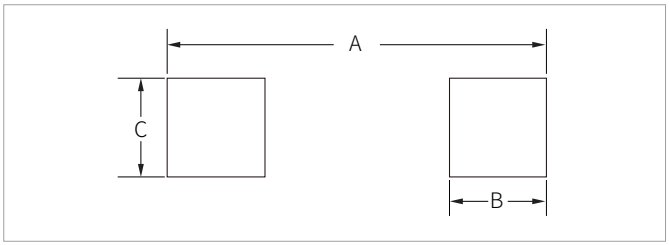


SOD-323 PACKAGE INFORMATION



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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