FEATURES

- Fast Switching Device (TRR <4.0 nS)
- Power Dissipation of 200mW
- High Stability and High Reliability
- Low reverse leakage
- Meet AEC-Q101 Requirements

SOD-323

Marking

MECHANICAL DATA

- Encapsulation: 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°C)

Parameter	Symbol	Value	Unit
Reverse Voltage	V_R	75	V
Peak Reverse Voltage	V_{RM}	100	V
Average Rectified Output Current	I_O	150	mA
Peak Forward Surge Current @tp=1μs; T_A=25°C	I_{FSM}	2	A
Power Dissipation	pd	200	mW
Working Inverse Voltage	W_{IV}	75	V
Non-Repetitive Peak Forward Current	I_{FM}	300	mA
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	625	°C/W
Operating Junction Temperature Range	T_J	125	°C
Storage Temperature Range	T_{STG}	-55 to 150	°C

ELECTRICAL CHARACTERISTICS(T_A=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Breakdown Voltage	B_V	I_R=100μA	100			V
		I_R=5μA	75			V
Reverse Leakage Current	I_R	V_R=20V			25	nA
		V_R=75V			1	μA
Forward Voltage	V_F	I_F=1.0mA			0.715	V
		I_F=10mA			0.855	V
		I_F=50mA			1.00	V
		I_F=150mA			1.25	V
Capacitance	C_J	V_R=0V, f=1MHz			2	pF
Reverse Recovery Time	t_{rr}	I_F=I_R=10mA, R_L=100Ω, I_{RR}=0.1×I_R			4	nS

CHARACTERISTIC CURVES

Fig.1 Forward Characteristics

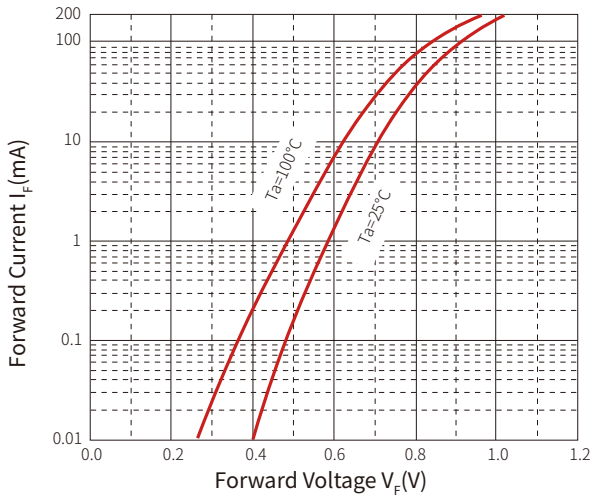


Fig.2 Reverse Characteristics

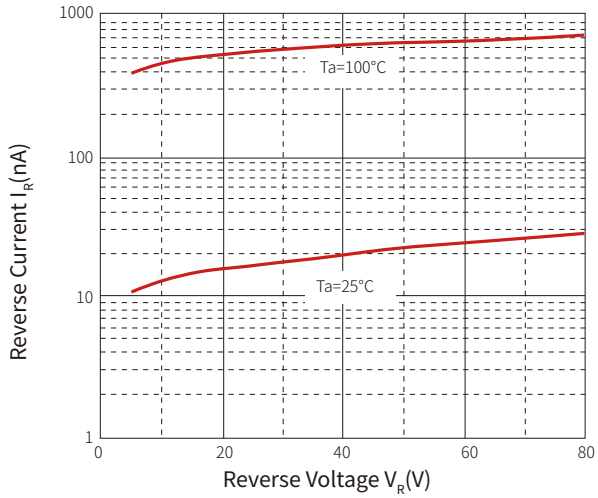


Fig.3 Capacitance Characteristics

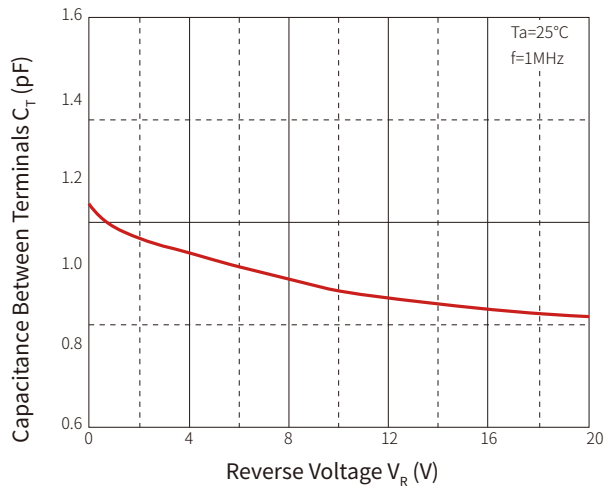
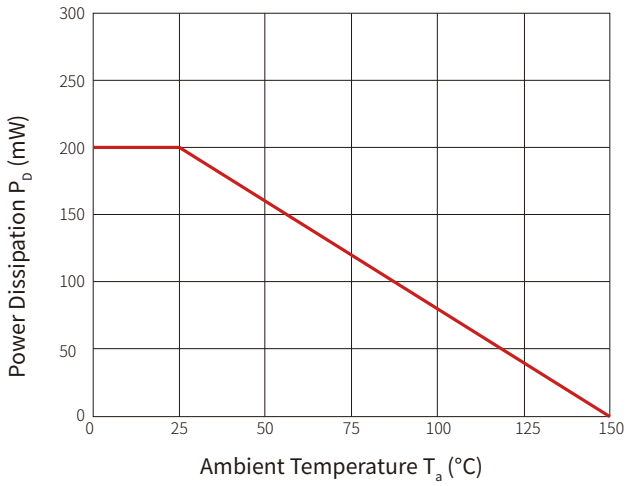
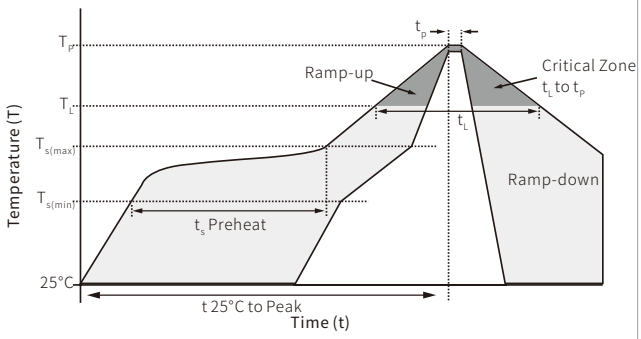


Fig.4 Power Derating Curve

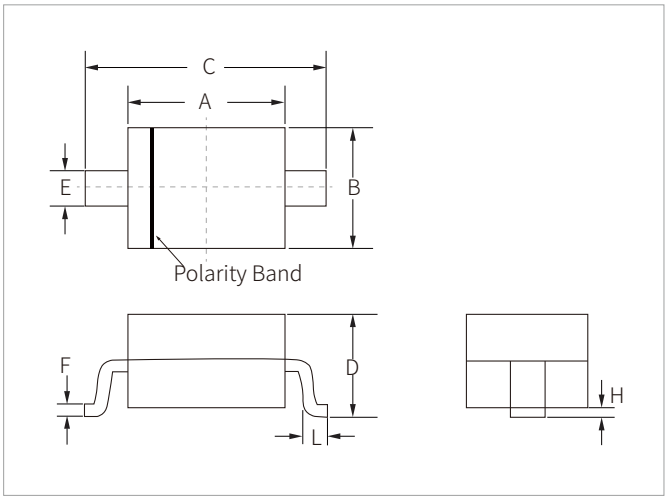


SOLDERING PARAMETERS

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

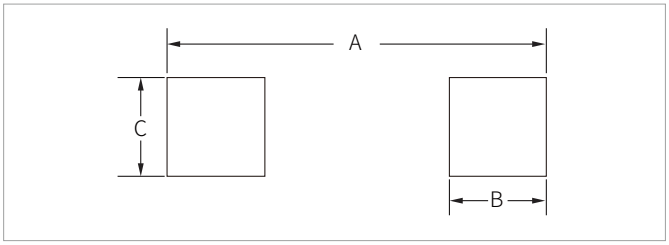


SOD-323 PACKAGE INFORMATION



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
1N4148WSQ	SOD-323	3000PCS	7”

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