

FEATURES

- | Fast Switching Device (TRR <4.0 nS)
- | Power Dissipation of 250mW
- | High Stability and High Reliability
- | Low reverse leakage
- | Meet AEC-Q101 Requirements



SOD-323

MECHANICAL DATA

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

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
Peak Repetitive Reverse Voltage	V_{RRM}	100	V
DC Blocking Voltage	V_R	100	V
Power Dissipation	P_D	250	mW
Continuous Forward Current	I_O	250	mA
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	500	$^{\circ}\text{C}/\text{W}$
Non-repetitive Peak Forward Surge Current @ $t=8.3\text{ms}, T_A=25^{\circ}\text{C}$	I_{FSM}	2.0	A
Operating junction temperature	T_J	150	$^{\circ}\text{C}$
Storage temperature range	T_{STG}	-55 to 150	$^{\circ}\text{C}$

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

Parameter	Test Condition	Symbol	Min.	Max.	Unit
Reverse Voltage	$I_R = 100\mu\text{A}$	$V_{(BR)}$	100		V
Reverse Leakage Current	$V_R = 25\text{V}$	I_R		30	nA
	$V_R = 75\text{V}$			1	μA
Forward Voltage	$I_F = 1\text{mA}$	V_F		0.715	V
	$I_F = 10\text{mA}$			0.855	V
	$I_F = 50\text{mA}$			1.00	V
	$I_F = 150\text{mA}$			1.25	V
Capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$	C_T		1.5	pF
Reverse recovery time	$I_F = I_R = 10\text{mA}, R_L = 100\Omega$ $I_{RR} = 0.1 \times I_R$	T_{RR}		4	ns

CHARACTERISTIC CURVES

Fig 1. Forward Characteristics

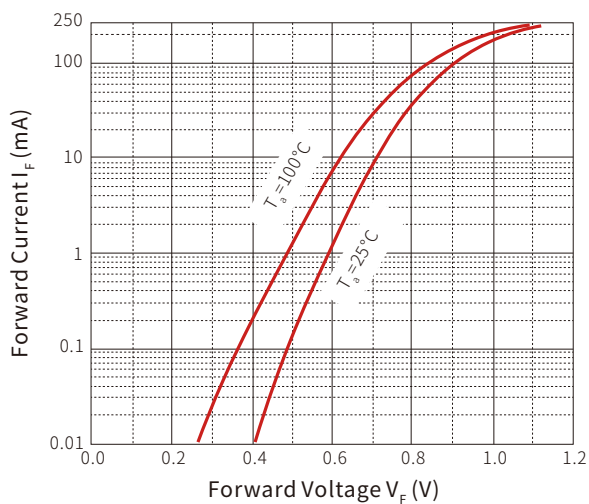


Fig 2. Reverse Characteristics

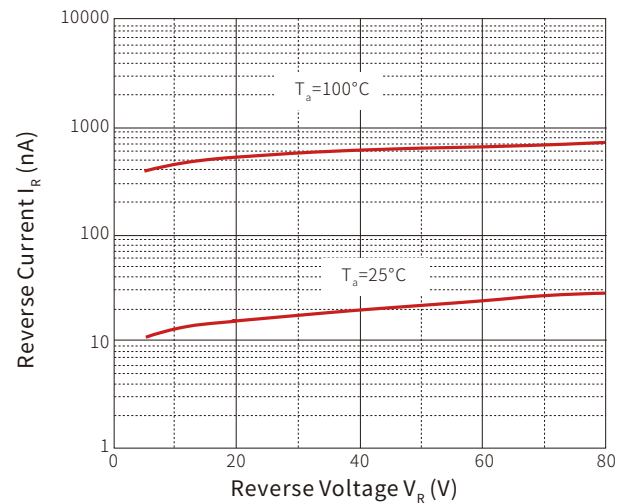
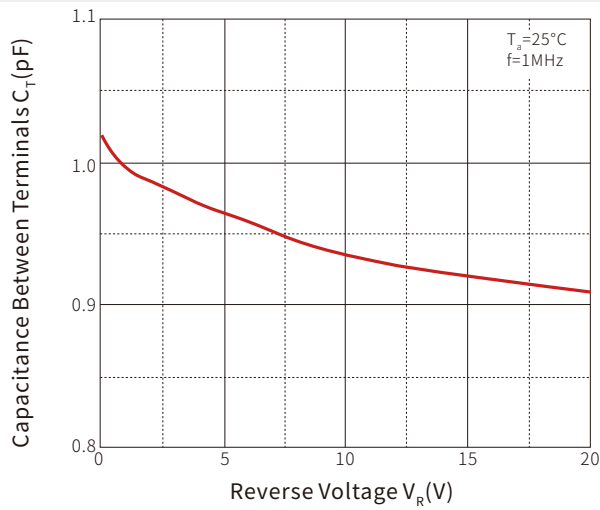
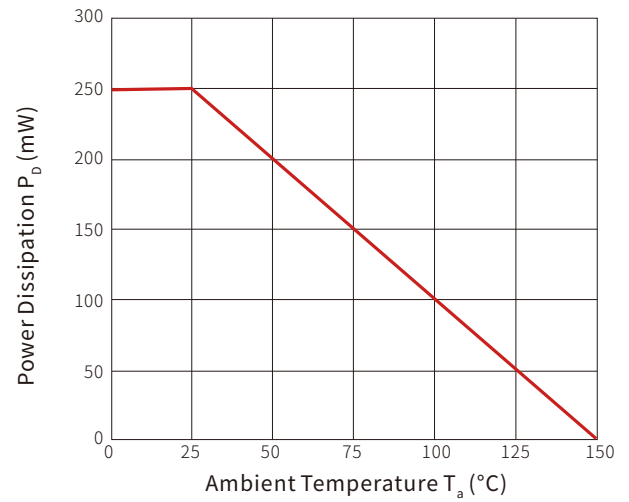
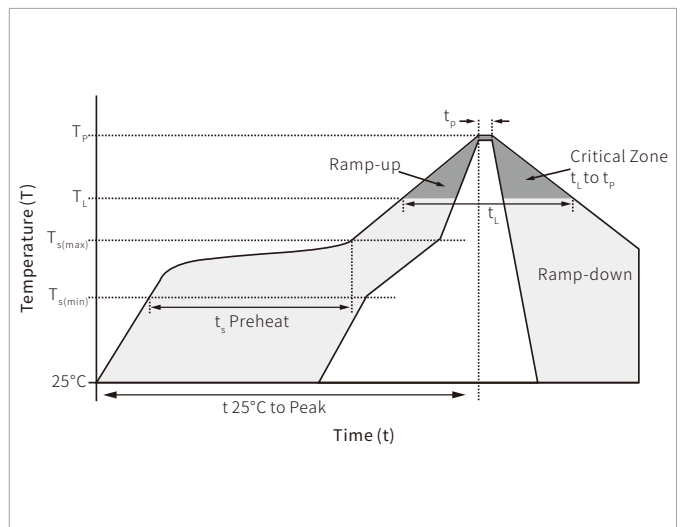


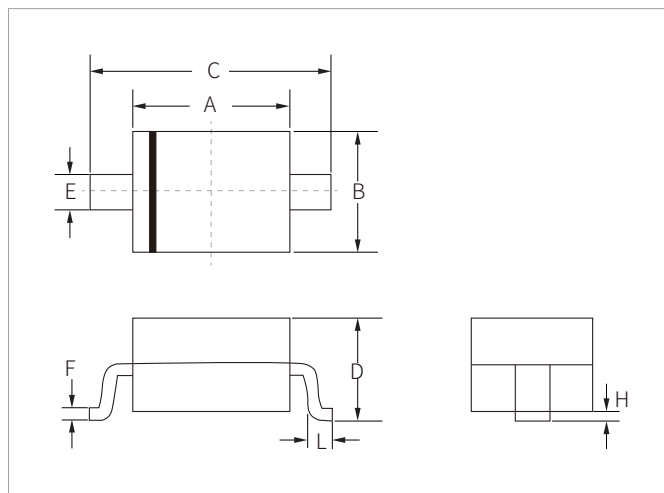
Fig 3. Capacitance Characteristics

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

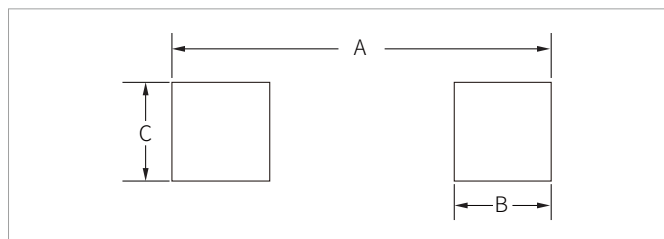


SOD-323 PACKAGE INFORMATION



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	Marking	Component Package	QTY/Reel	Reel Size
BAS316Q	A6	SOD-323	3000PCS	7"

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