

## FEATURES

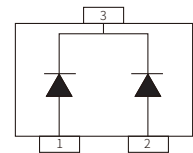
- | SOT-323 Package
- | Epoxy meets UL-94 V-0 flammability rating and halogen free



SOT-323



Marking



Schematic Symbol

## APPLICATION

- | Extreme fast switches
- | Automotive

## 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
Non-Repetitive Peak Reverse Voltage	$V_{RRM}$	70	V
Maximum DC blocking voltage	$V_{DC}$	70	V
Maximum average forward rectified current	$I_{FM}$	100	mA
Typical thermal resistance	$R_{\theta JA}$	500	$^{\circ}\text{C}/\text{W}$
Power Dissipation	$P_D$	200	mW
Operating junction temperature	$T_J$	125	$^{\circ}\text{C}$
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
Maximum reverse breakdown voltage	$I_R = 10\mu\text{A}$	$V_R$	70		V
Maximum reverse current	$V_R = 50\text{V}$	$I_R$		100	nA
Maximum forward voltage	$I_F = 1\text{mA}$	$V_F$		410	mV
	$I_F = 15\text{mA}$			1000	mV
Type junction capacitance	$V_R=0\text{V}, f=1\text{MHz}$	$C_T$		2	pF
Reverse Recovery Time	$I_F=I_R=10\text{mA}$ $I_{rr}=1 \times I_R, R_L=100\Omega$	$t_{rr}$		5	nS

## CHARACTERISTIC CURVES

Fig 1. Forward Characteristics

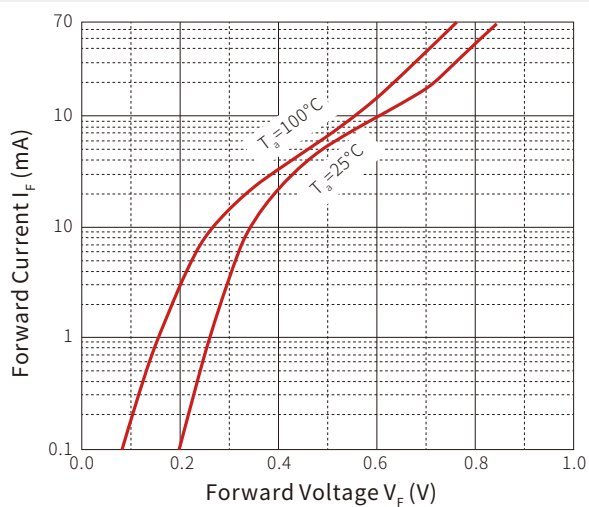
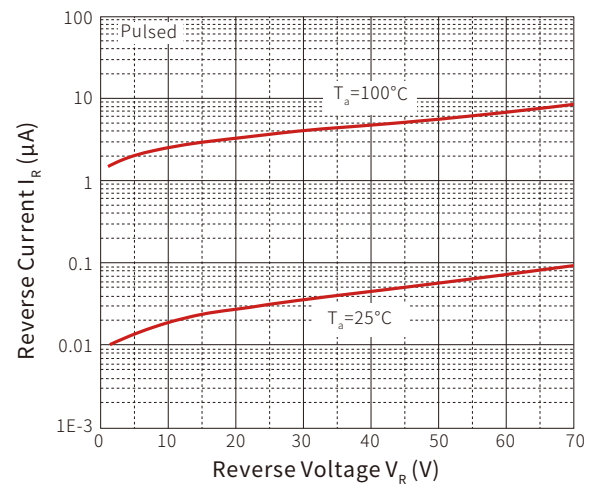
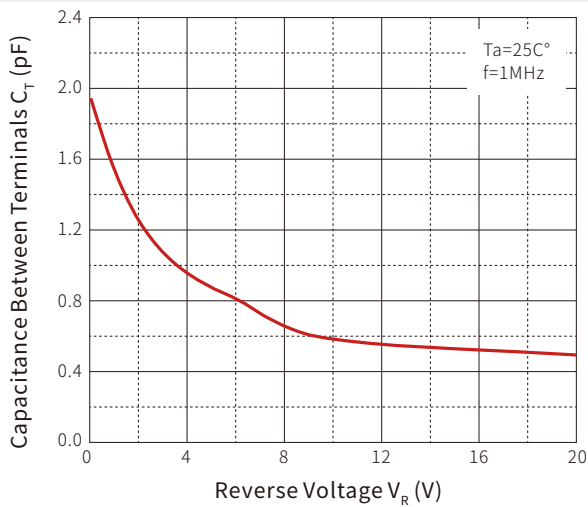
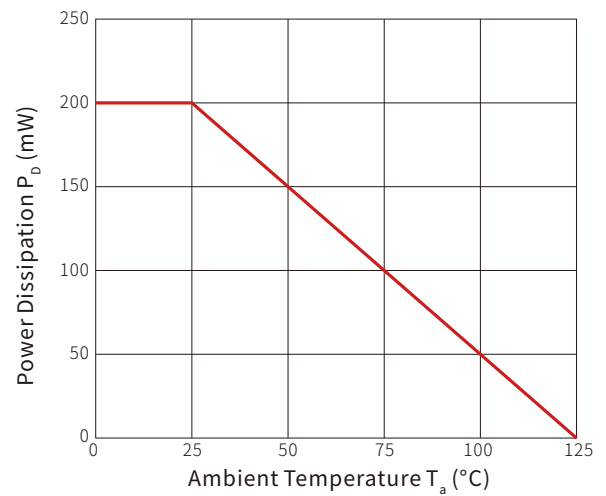


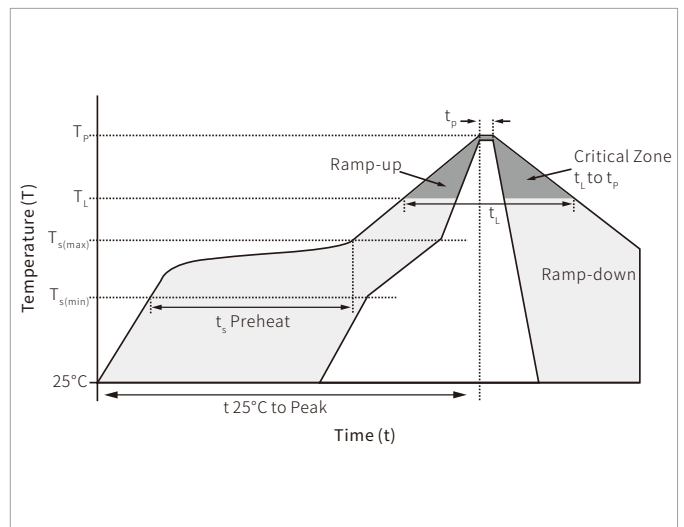
Fig 2. Reverse Characteristics



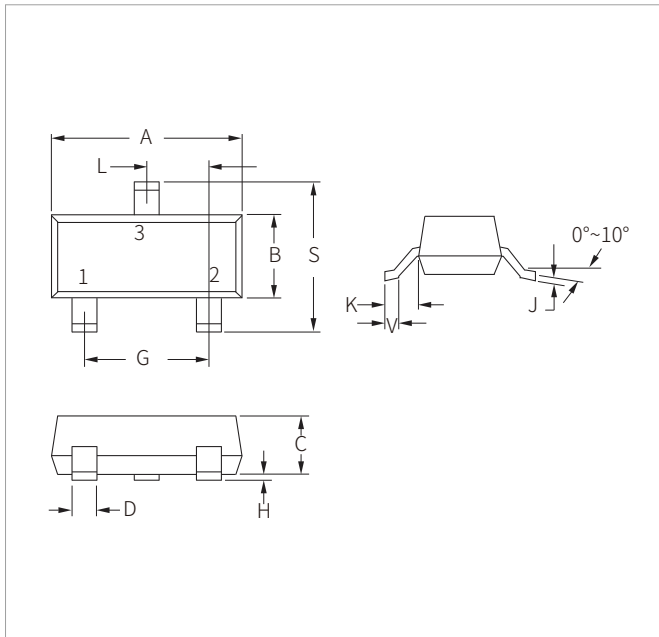
**Fig 3. Capacitance Characteristics**

**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

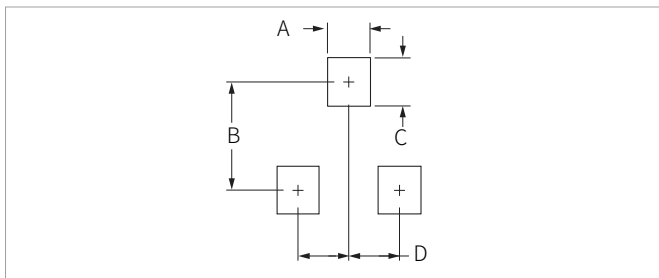


## SOT-323 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.00	2.20	0.079	0.087
B	1.15	1.35	0.045	0.053
C	0.80	1.10	0.031	0.043
D	0.20	0.40	0.008	0.016
G	1.20	1.40	0.047	0.055
H	0.00	0.10	0.000	0.004
J	0.08	0.15	0.003	0.006
K	0.525REF		0.021REF	
L	0.650TYP		0.026TYP	
S	2.15	2.45	0.085	0.096
V	0.26	0.46	0.010	0.018

## RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	NOR		NOR	
A	0.50		0.020	
B	2.20		0.087	
C	0.80		0.031	
D	1.30		0.051	

## ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
BAS70W-05	SOT-323	3000PCS	7"

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