

## FEATURES

- | Fast Switching Device (TRR <4nS)

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- | Power Dissipation of 200mW

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- | High Stability and High Reliability

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- | Low reverse leakage

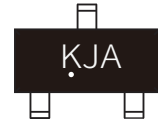
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- | Meet AEC-Q101 Requirements

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SOT-323



Marking

## MECHANICAL DATA

- | SOT-323 Small Outline Plastic Package

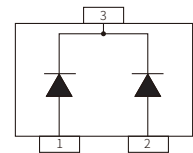
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- | Polarity: Color band denotes cathode end

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- | Mounting Position: Any

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Schematic Symbol

## APPROVALS

<b>RoHS</b>	Compliance with 2011/65/EU
<b>HF</b>	Compliance with IEC61249-2-21:2003

## MAXIMUM RATINGS (T<sub>A</sub>=25°C)

Parameter	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	V <sub>RM</sub>	100	V
Reverse Voltage	V <sub>R</sub>	100	V
Average Rectified Current	I <sub>O</sub>	150	mA
Non-repetitive Peak Forward Current	I <sub>FM</sub>	300	mA
Typical thermal resistance	R <sub>θJA</sub>	625	°C/W
Peak Forward Surge Current @tp=1ms; T <sub>A</sub> =25°C	I <sub>FSM</sub>	2.0	A
Power Dissipation	P <sub>D</sub>	200	mW
Operating junction temperature	T <sub>J</sub>	150	°C
Storage temperature range	T <sub>STG</sub>	-55 to +150	°C

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

Parameter	Test Condition	Symbol	Min.	Max.	Unit
Reverse Voltage	$I_B = 100\mu\text{A}$	$V_{RB}$	100		V
Reverse Current	$V_R = 25\text{V}$	$I_R$		25	nA
	$V_R = 75\text{V}$			2.5	$\mu\text{A}$
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 between terminals	$V_R = 0\text{V}, f = 1\text{MHz}$	$C_T$		2.0	pF
Reverse Recovery Time	$I_F = I_R = 10\text{mA}$ $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$	$t_{rr}$		4	nS

## CHARACTERISTIC CURVES

Fig 1. Forward Characteristics

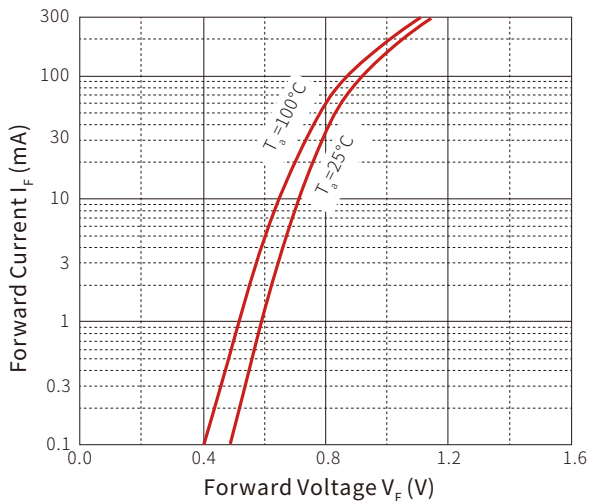
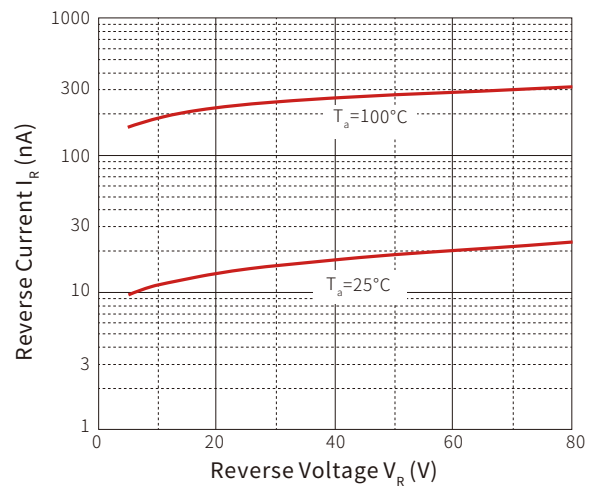
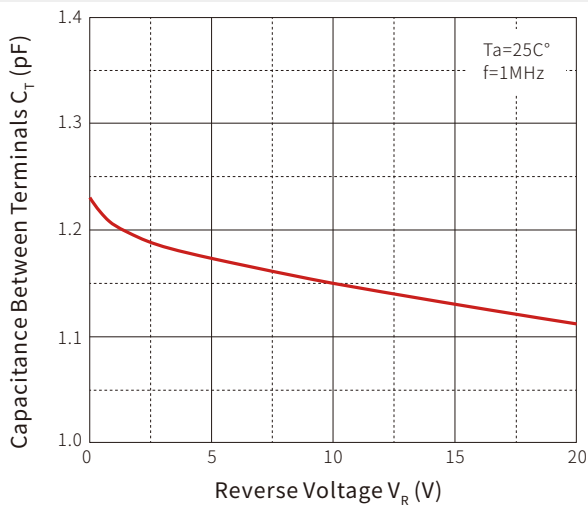
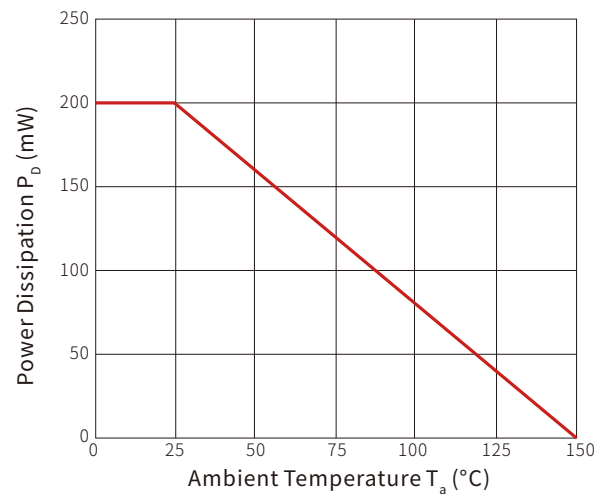


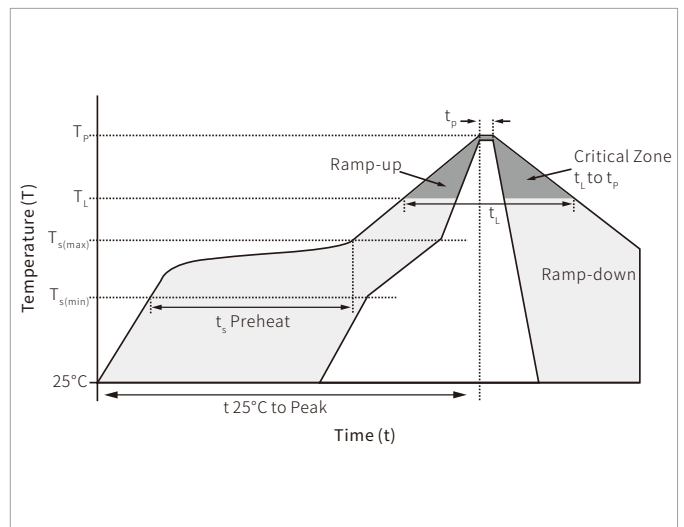
Fig 2. Reverse Characteristics



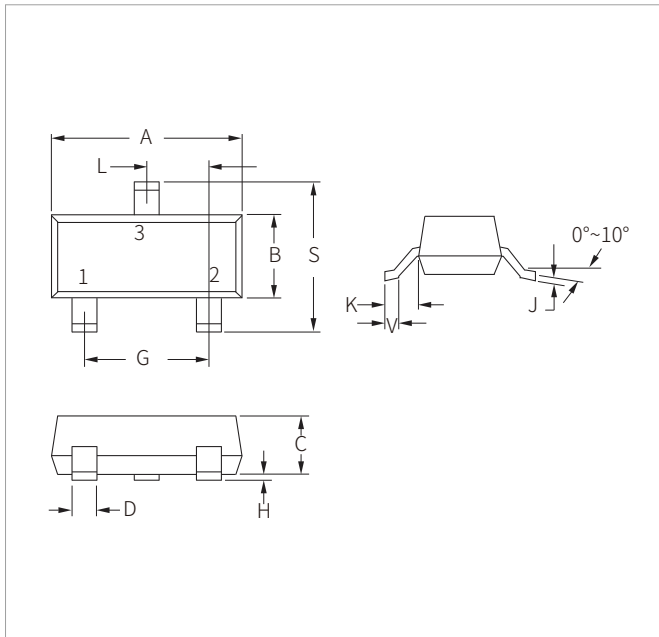
**Fig 3. Capacitance Characteristics**

**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

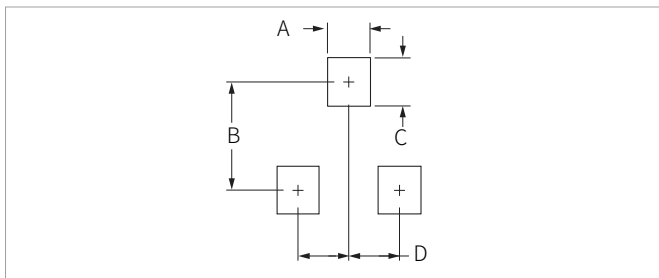


## SOT-323 PACKAGE INFORMATION



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
BAV70WQ	SOT-323	3000PCS	7"

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