

## FEATURES

- | Fast Switching Device (TRR <4.0 nS)

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- | Power Dissipation of 150mW

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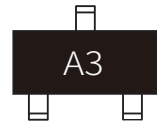
- | High Stability and High Reliability

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- | Low reverse leakage



SOT-23



Marking

## MECHANICAL DATA

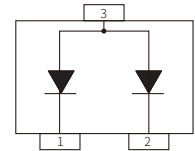
- | SOT-23 Small Outline Plastic Package

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- | Epoxy UL: 94V-0

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- | Mounting Position: Any



Schematic Symbol

## APPROVALS

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

## MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ )

Parameter	Symbol	Value	Unit
Reverse Peak Reverse Voltage	$V_{RRM}$	85	V
DC Blocking Voltage	$V_R$	80	V
Average Rectified Current	$I_O$	100	mA
Power Dissipation	$P_D$	150	mW
Non-repetitive Peak Forward Surge Current @t=8.3ms, TA=25°C	$I_{FSM}$	2.0	A
Operating Junction Temperature	$T_J$	-55 to +150	°C
Storage Temperature Range	$T_S$	-55 to +150	°C
Typical Thermal Resistance	$R_{\theta JA}$	833	°C/W

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

Parameter	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Breakdown Voltage	$I_R=100\mu\text{A}$	$V_{BR}$	80			V
Reverse Current	$V_R=30\text{V}$	$I_R$			0.1	$\mu\text{A}$
	$V_R=80\text{V}$				0.5	
Forward Voltage	$I_F=1\text{mA}$	$V_F$		0.61		V
	$I_F=10\text{mA}$			0.74		
	$I_F=100\text{mA}$			0.93	1.2	
Reverse Recovery Time	$I_F=I_R=10\text{mA}, R_f=100\Omega$ $V_R=6\text{V}, I_{rr}=0.1 \times I_R$	$t_{rr}$			4	nS
Capacitance	$V_R=0\text{V}, f=1\text{MHz}$	$C_T$		2.2	4	pF

## CHARACTERISTIC CURVES

Fig.1 Forward Characteristics

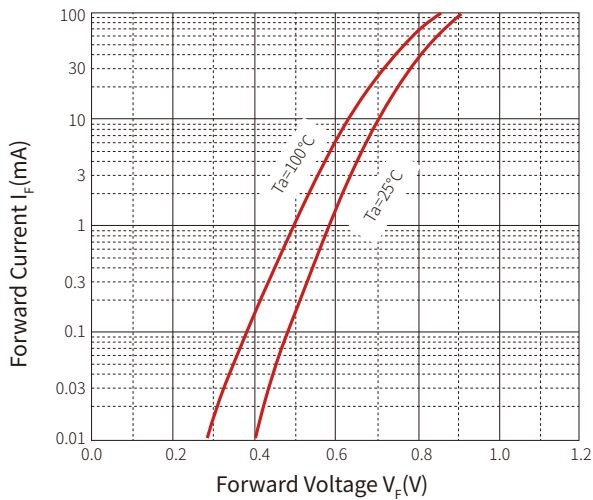
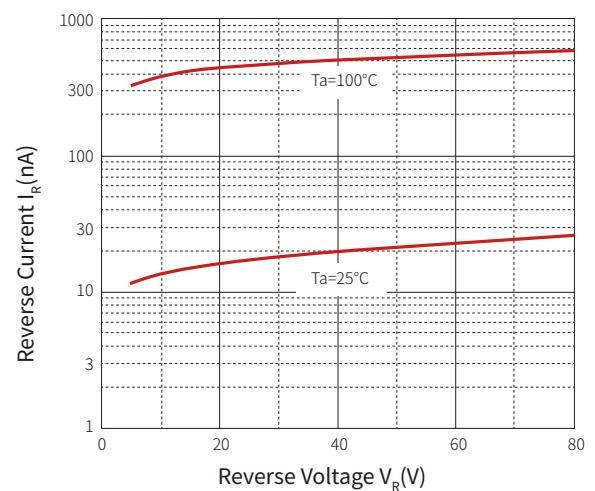
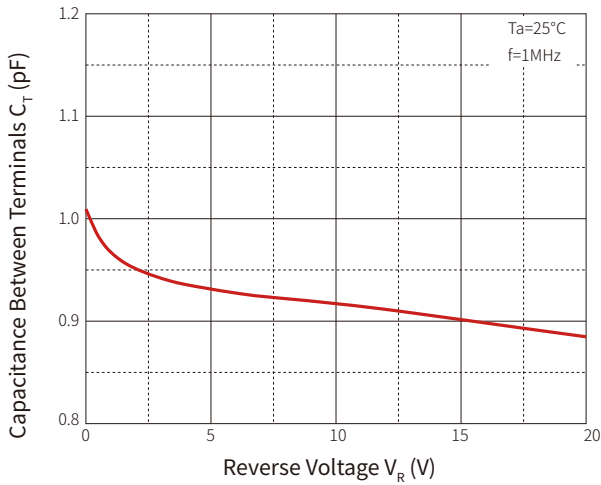
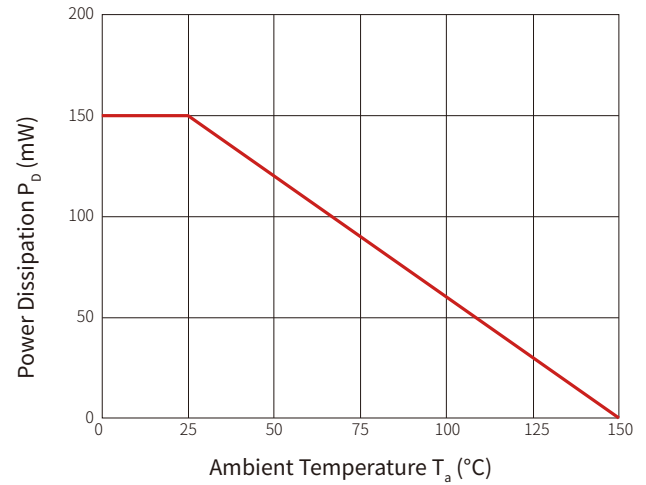


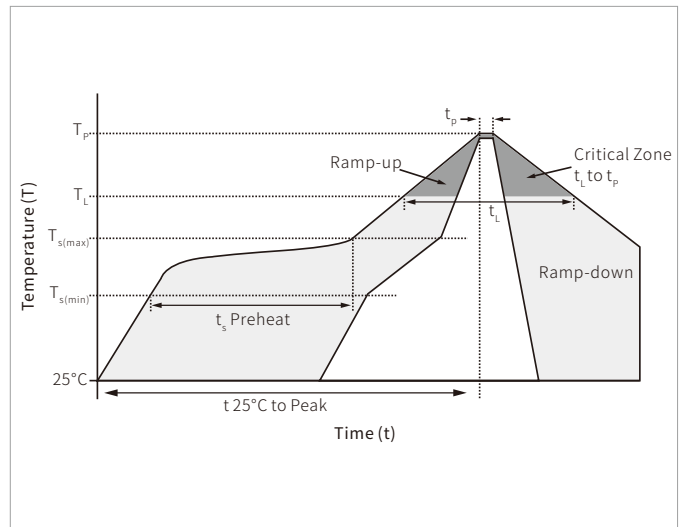
Fig.2 Reverse Characteristics



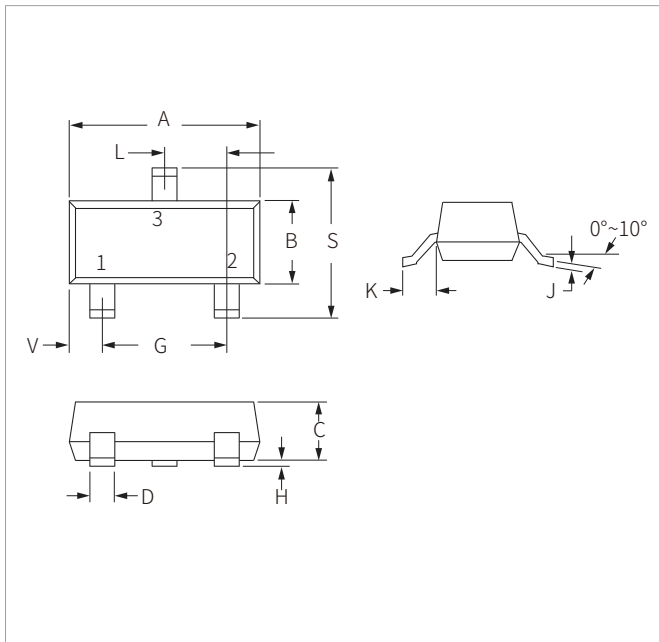
**Fig.3 Capacitance Characteristics**

**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

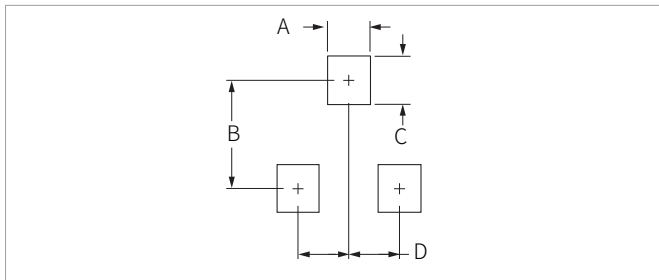


## SOT-23 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.05	0.110	0.120
B	1.20	1.40	0.047	0.055
C	0.90	1.15	0.035	0.045
D	0.37	0.50	0.015	0.020
G	1.75	2.05	0.069	0.081
H	0.01	0.100	0.001	0.004
J	0.085	0.180	0.003	0.007
K	0.35	0.69	0.014	0.029
L	0.89	1.02	0.035	0.040
S	2.10	2.65	0.083	0.104
V	0.45	0.60	0.018	0.024

## RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.71	0.97	0.028	0.038
B	1.88	2.13	0.074	0.084
C	0.71	0.97	0.028	0.038
D	0.81	1.07	0.032	0.042

## ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
1SS181	SOT-23	3000PCS	7"

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