

# 1SS181

ROHS

Plastic-Encapsulate Switching Diode

## Features

- ◆ Low Forward Voltage
- ◆ Fast Reverse Recovery Time

## Mechanical Data

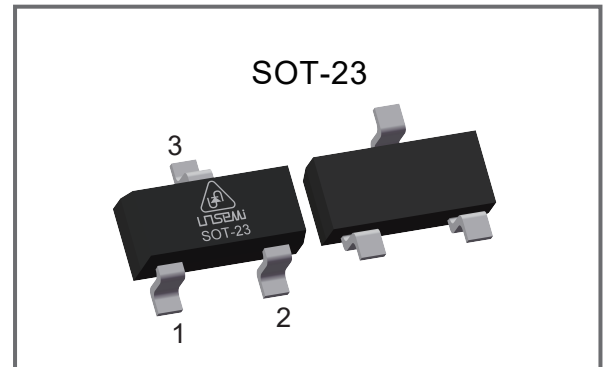
- ◆ Case: SOT-23
- ◆ Molding Compound Flammability Rating : UL 94V-O
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Device Marking: A3

## Mechanical Characteristics

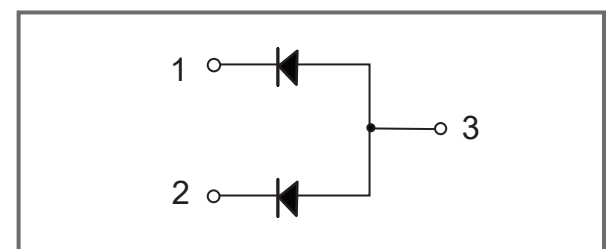
Parameter	Symbol	Value	Units
Repetitive Peak Reverse Voltage	VRRM	80	V
Reverse Voltage	VR	80	V
Forward Continuous Current	IFM	0.3	A
Average Rectified Output Current	IO	0.1	A
Non-Repetitive Peak Forward Surge Current @t=8.3ms	IFSM	2.0	A
Power Dissipation	PD	0.15	W
Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	833	°C/W
Junction Temperature Range	TJ	-55~+150	°C
Storage Temperature Range	Tstg	-55~+150	°C



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## Functional Diagram



**Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified)**

Parameter	Symbol	Test Conditions	Value			Units
			Min.	Typ.	Max.	
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =30V	-	-	0.1	μA
		V <sub>R</sub> =80V	-	-	0.5	μA
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =1mA	-	0.61	-	V
		I <sub>F</sub> =10mA	-	0.74	-	V
		I <sub>F</sub> =100mA	-	0.92	1.2	V
Capacitance Between Terminals	C <sub>T</sub>	V <sub>R</sub> =0V, f=1MHz	-	2.2	4.0	pF
Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> =I <sub>R</sub> =10mA, I <sub>rr</sub> =0.1X I <sub>R</sub>	-	1.6	4.0	nS

Electrical Characteristics Curves

Fig.1 Forward Characteristics

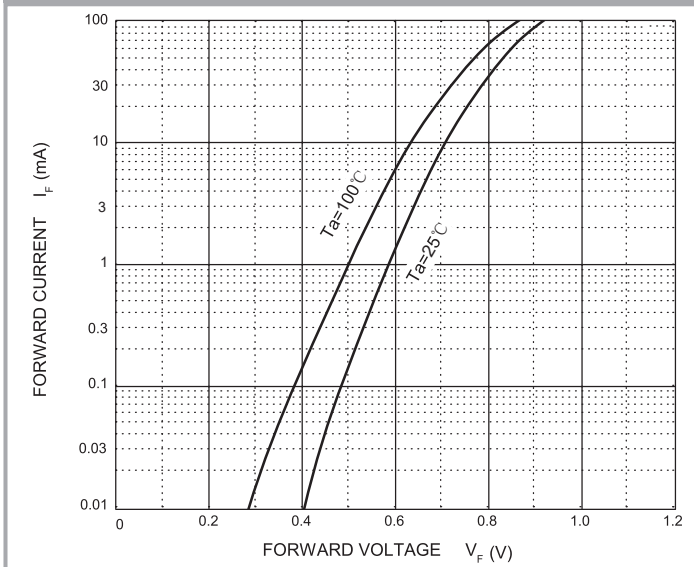


Fig. 2 Reverse Characteristics

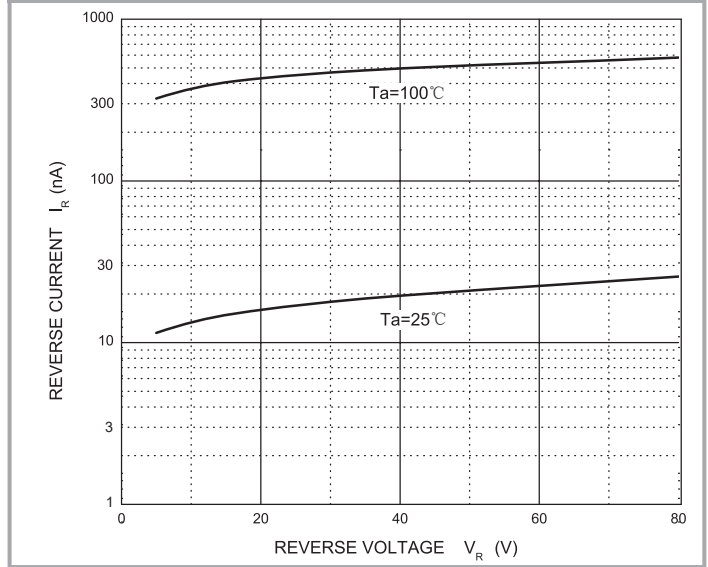


Fig.3 Capacitance Characteristics

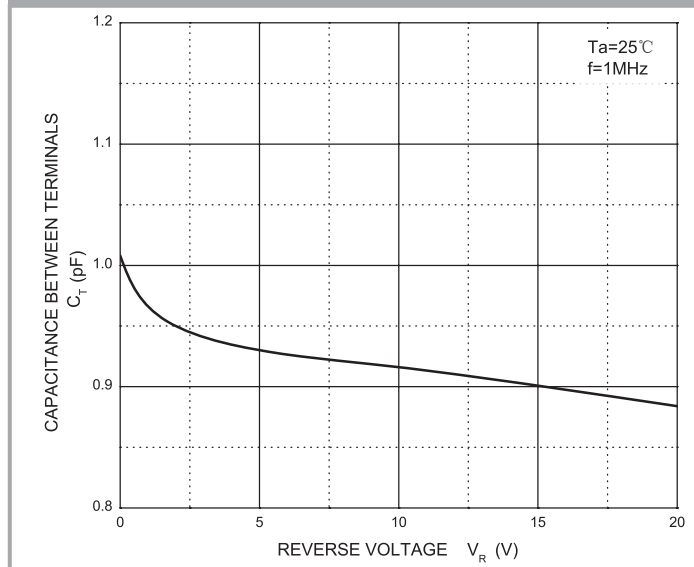
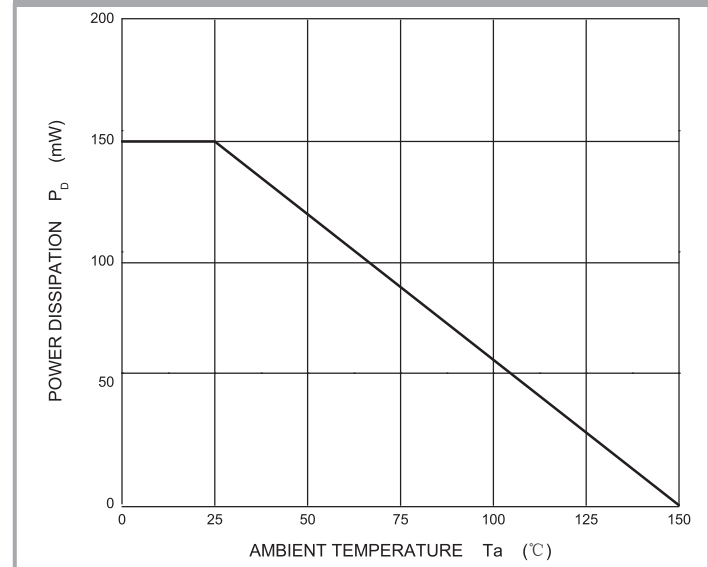
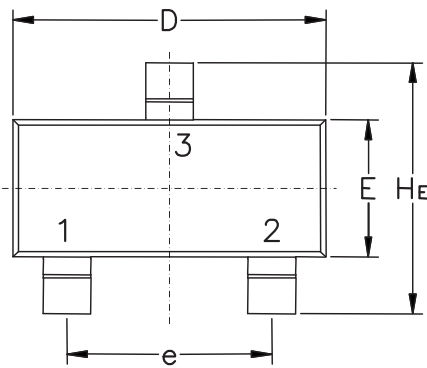


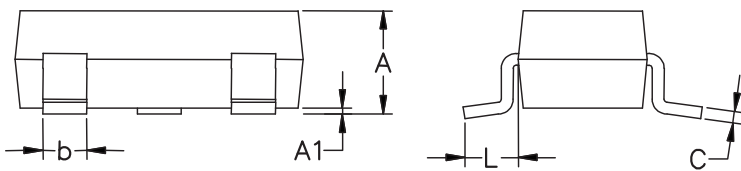
Fig. 4 Power Derating Curve



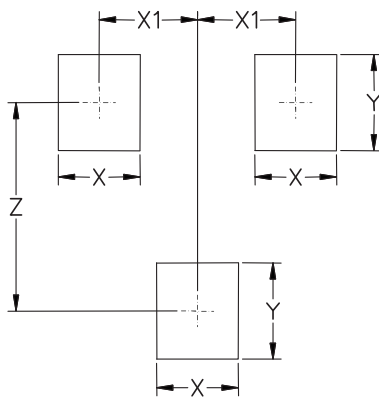
Package Outline & Dimensions



Symbol	Millimeters			Inches		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	0.89	1.00	1.11	0.035	0.040	0.044
A1	0.01	0.06	0.10	0.001	0.002	0.004
b	0.37	0.44	0.50	0.015	0.018	0.020
C	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.90	3.04	0.110	0.114	0.120
E	1.20	1.30	1.40	0.047	0.051	0.055
e	1.78	1.90	2.04	0.070	0.075	0.081
L	0.35	0.54	0.69	0.014	0.021	0.029
HE	2.10	2.40	2.64	0.083	0.094	0.104



Soldering Footprint



Symbol	Millimeters	Inches
X	0.80	0.031
X1	0.96	0.037
Y	0.90	0.035
Z	2.00	0.079

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