BORN SEMICONDUCTOR

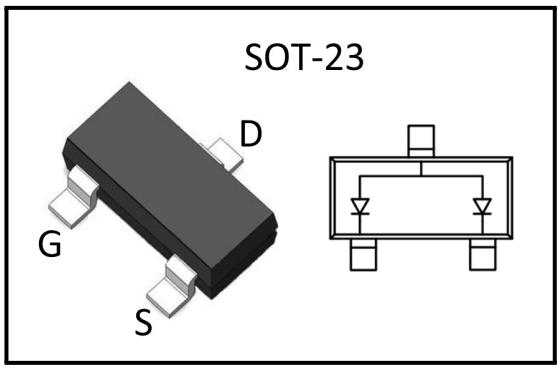
1SS181

Fast Switching Diode

Features

- Fast Switching Speed
- High Conductance
- Low forward voltage
- Fast reverse recovery time

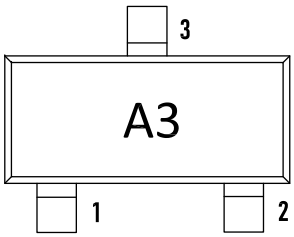
Package



General Description

- SOT-23 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Mounting Position: Any

Marking



Ordering information

Order code	Package	Package	Baseqty	Delivery mode
1SS181	SOT-23	A3	3K	Tape and reel

Maximum Ratings@T_A=25°C unless otherwise noted

Symbol	Parameter	Limit	Unit
V_R	DC Blocking Voltage	80	V
V_{RM}	Non-Repetitive Peak Reverse Voltage	85	V
P_d	Power Dissipation	150	mW
I_O	Average Rectified Output Current	0.1	A
I_{FM}	Forward Continuous Current	0.3	A
I_{FSM}	Non-repetitive Peak Forward Surge Current@8.3mS	2.0	A
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	800	°C/W
T_J	Operation Junction Temperature Range	-55 to +150	°C
T_{STG}	Storage Temperature Range	-55 to +150	°C

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Fast Switching Diode

Electrical Characteristics@T_A=25°C unless otherwise noted

Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
$V_{(BR)}$	Reverse Breakdown Voltage	I_R=100uA	80	–	–	V
I_R	Reverse Current	V_R=80V	–	–	0.5	uA
		V_R=30V	–	–	100	nA
V_F	Forward Voltage	I_F=1mA	–	0.61	0.715	V
		I_F=10mA	–	0.74	0.855	
		I_F=100mA	–	0.92	1.2	
C_T	Capacitance between terminals	V_R=0V,f=1MHZ	–	2.2	4	pF
T_{rr}	Reverse Recovery Time	I_F=I_R=10mA,I_{rr}=0.1XI_R	–	1.6	4	nS

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Fast Switching Diode

Typical Performance Characteristics(T_J = 25 °C, unless otherwise noted)

Figure 1: Forward Characteristics

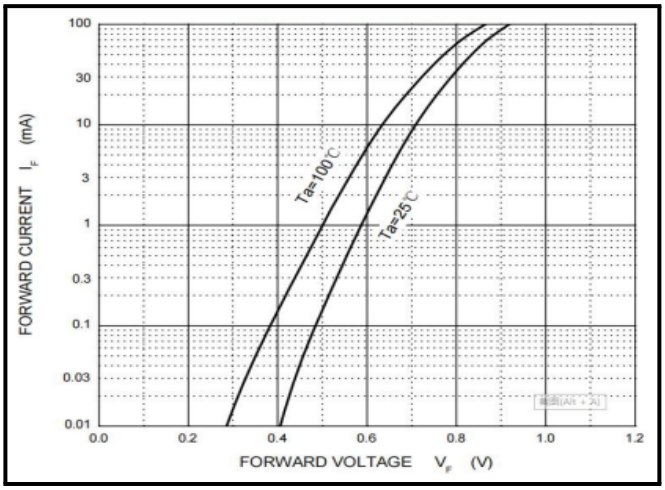


Figure 2:Reverse Characteristics

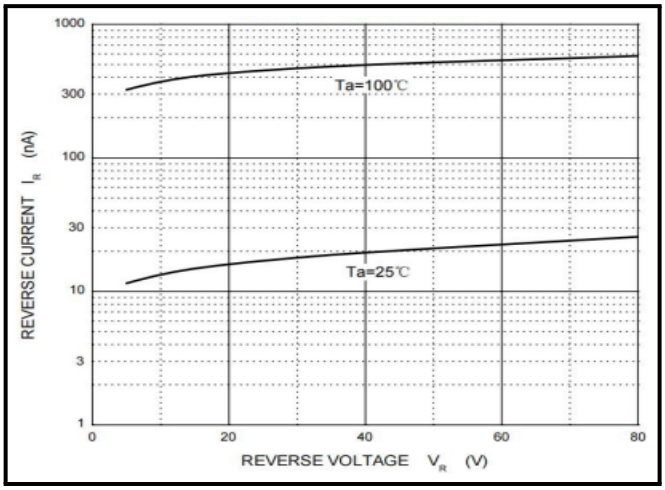


Figure 3:Capacitance Characteristics

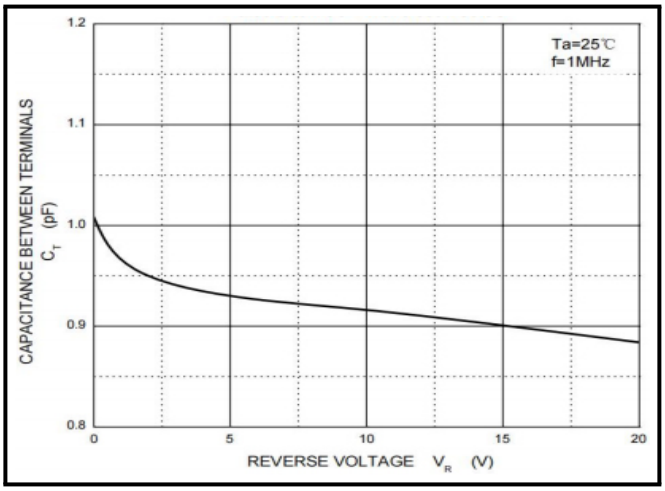
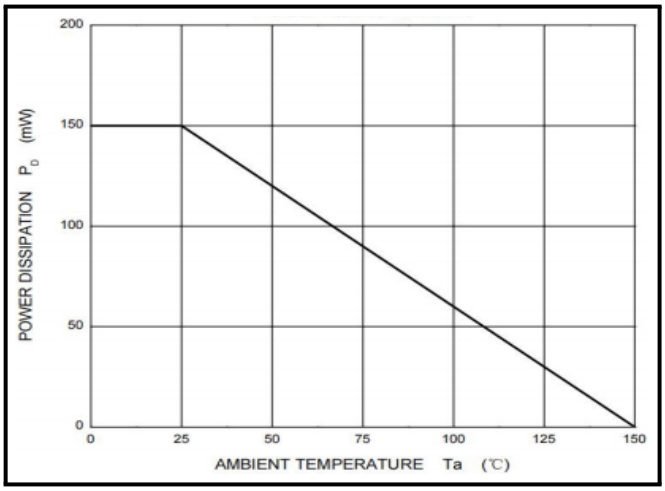


Figure 4:Power Derating Curve



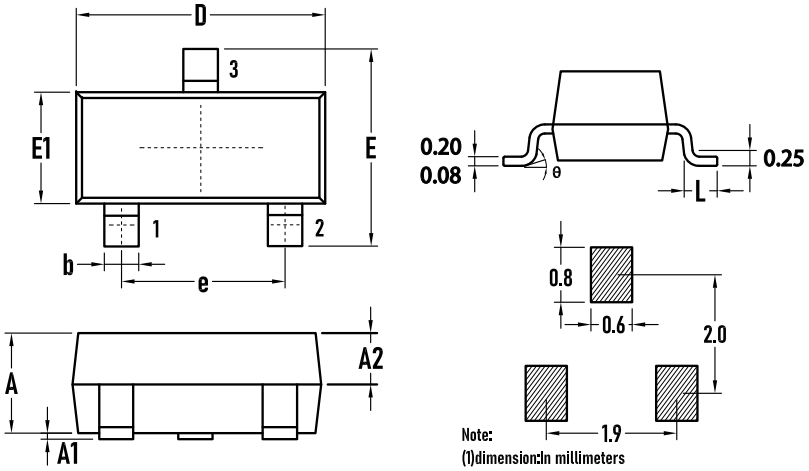
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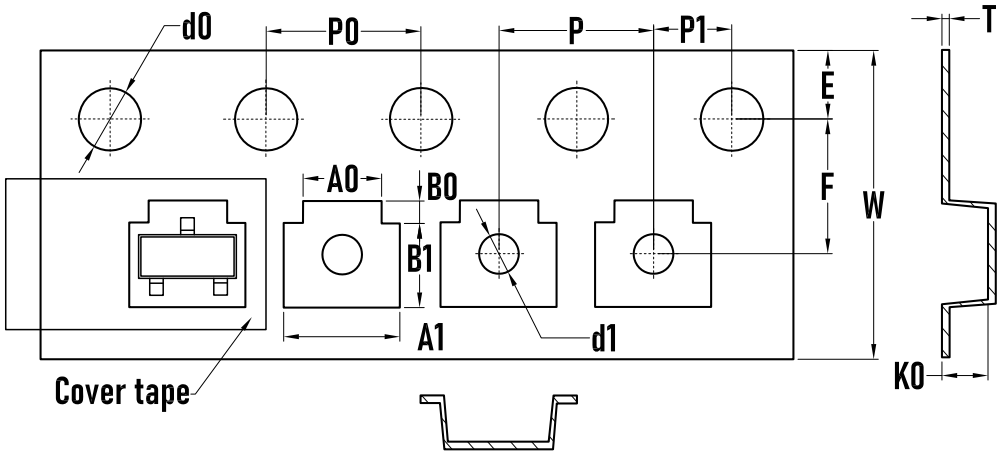
Fast Switching Diode

Outline Drawing - SOT-23



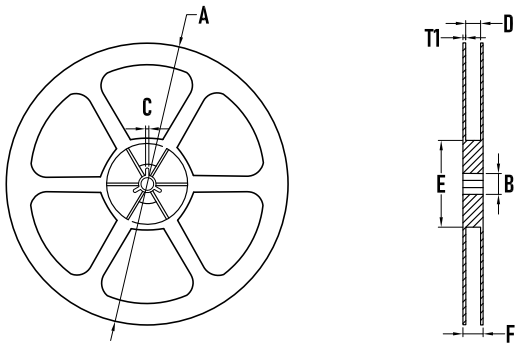
SYMBOL	MILLIMETER		
	MIN.	Typ.	MAX.
A	0.90	1.00	1.10
A1	0.01	–	0.10
A2	0.50	0.60	0.70
D	2.80	2.90	3.00
b	0.25	0.35	0.45
E	2.10	2.30	2.50
E1	1.20	1.30	1.40
e	1.80	1.90	2.00
L	0.25	0.35	0.45
θ	0	–	8°

Packaging Tape -SOT-23



SYMBOL	MILLIMETER
A0	2.10±0.10
A1	3.10±0.10
B0	0.65±0.10
B1	2.75±0.10
d0	1.55±0.10
d1	1.00±0.05
E	1.75±0.10
F	3.50±0.10
K0	1.10±0.10
P	4.00±0.10
P0	4.00±0.10
P1	2.00±0.10
W	8.00±0.30
T	0.20 ±0.05

Packaging Reel



SYMBOL	MILLIMETER
A	177.8±0.2
B	3.1
C	13.50
D	9.6±0.3
E	75±0.2
F	12.3±0.3
T1	1.0±0.2
Quantity	3000PCS

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