

SOT-23 Plastic-Encapsulate Switching Diode

Features

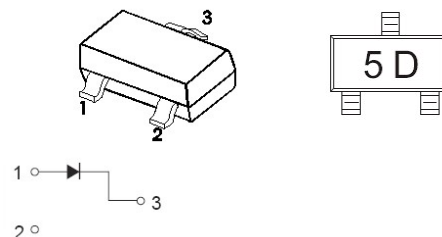
- Fast Switching Device (TRR <4.0 nS)
- Power Dissipation of 350mW
- High Stability and High Reliability
- Low reverse leakage
- AEC-Q 101 qualified (Automotive grade with suffix " Q ")

Mechanical Data

- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

SOT-23

MARKING: 5D



Maximum Ratings & Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

Parameters	Symbol	Value	Unit
Reverse Voltage	V_R	100	V
Peak Repetitive Reverse Voltage	V_{RRM}	100	V
Power Dissipation	P_d	350	mW
Average Rectified Current	I_o	300	mA
Non-Repetitive Peak Forward Surge Current @t=8.3ms; TA=25°C	I_{FSM}	2.0	A
Operating junction temperature	T_j	150	°C
Storage temperature range	T_s	-55-+150	°C
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	°C/W

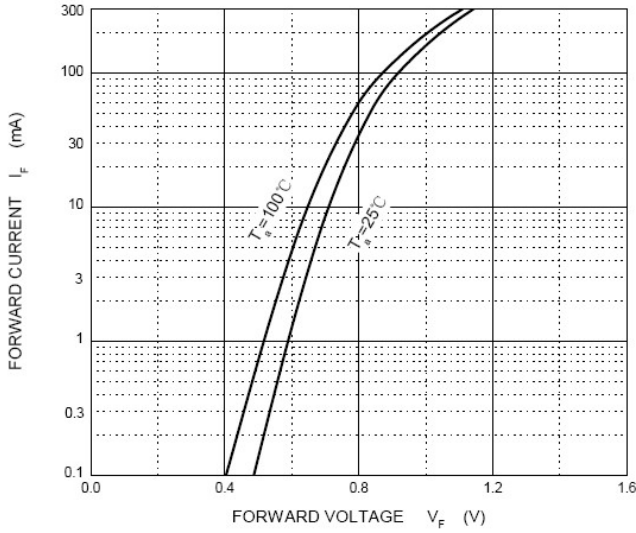
Valid provided that electrodes are kept at ambient temperature.

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

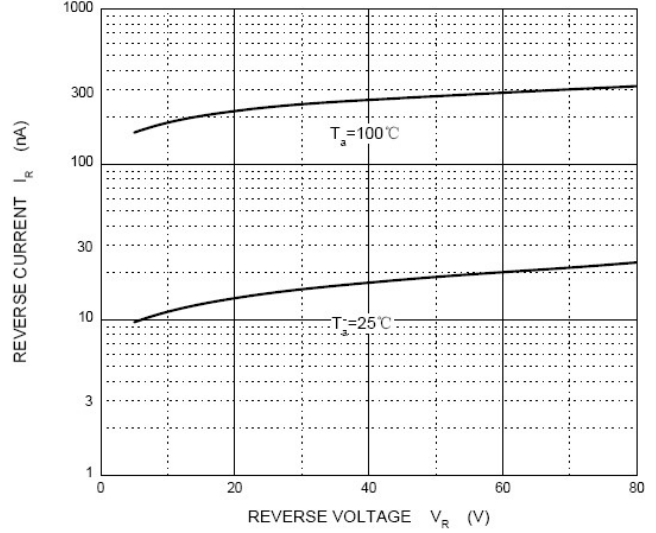
Symbols	Parameter	Test Condition	Limits		Unit
			Min	Max	
$V_{(BR)}$	Reverse Voltage	$I_R=100\mu A$	100		V
I_R	Reverse Leakage Current	$V_R=75V$	---	1.0	μA
		$V_R=20V$	---	25	nA
V_F	Forward Voltage	$I_F=1.0mA$	---	0.715	V
		$I_F=10mA$	---	0.855	
		$I_F=50mA$	---	1.00	
		$I_F=150mA$	---	1.25	
TRR	Reverse Recovery Time	$I_F= I_R=10mA$	---	4	nS
		$R_L=100\Omega$			
		$I_{RR}=0.1 \times I_R$			
C_T	Capacitance	$V_R=0V, f=1MHz$	---	2	pF

Typical Characteristics

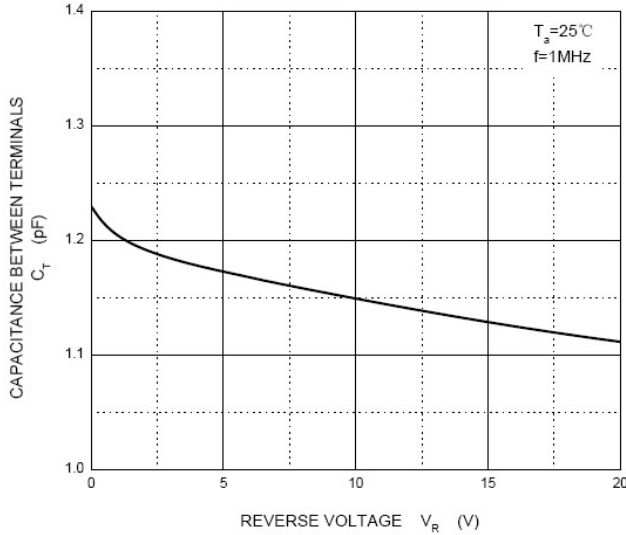
Forward Characteristics



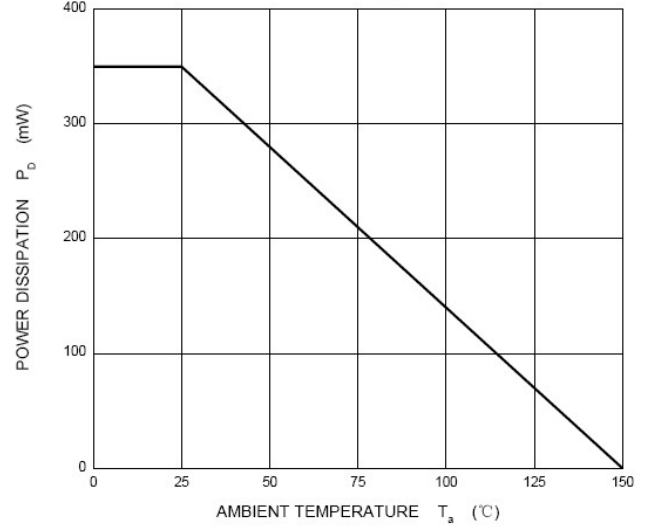
Reverse Characteristics



Capacitance Characteristics

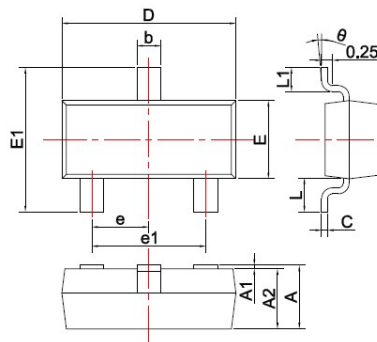


Power Derating Curve



SOT-23 PACKAGE OUTLINE

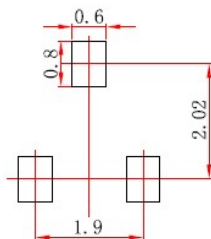
Plastic surface mounted package



SYMBOL	DIMENSIONS	
	MIN	MAX
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

Unit: mm

焊盘设计参考 Precautions: PCB Design (Recommended land dimensions for SOT-23 diode. Electrode patterns for PCBs)



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: ±0.05mm.
 3. The pad layout is for reference purposes only.