SOT-23 Fast Swithing Diodes

Features

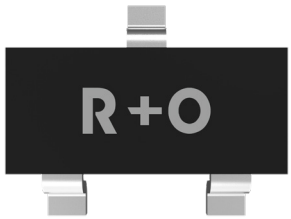
- Fast Switching Device (T_{RR} <4nS)
- Power Dissipation of 150mW
- High Stability and High Reliability
- Low reverse leakage

Reverse Voltage
80 V
Forward Current
0.1 Ampere

Applications

Small signal switching
Ultra high speed switching application

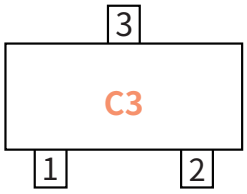
SOT-23

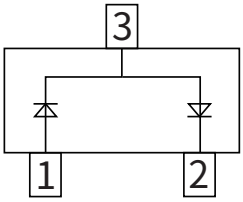


Mechanical Data

- Case: SOT-23
  Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026
- Polarity: Cathode line denotes the cathode end

Function Diagram





Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Maximum repetitive peak reverse voltage	V_{RRM}	V	80
Maximum RMS Voltage	V_{RMS}	V	80
Reverse Breakdown voltage @I_R=100μA	$V_{(BR)R}$	V	80
Maximum Average Forward Rectified Current	$I_{F(AV)}$	mA	100
Non-Repetitive Peak forward surge current @t_p=1.0ms	I_{FSM}	A	2.0
Power Dissipation	P_d	mW	150
Storage temperature	T_{stg}	°C	-55 ~+150
Junction temperature	T_j	°C	+150
Typical thermal resistance	$R_{\theta J-A}$	°C /W	833

Electrical Characteristics (Ta=25°C Unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	Min	Type	Max
Maximum instantaneous forward voltage	I_F=1.0mA	V_F	V	—	—	0.715
	I_F=10mA			—	—	0.855
	I_F=100mA			—	—	1.00
Reverse Leakage Current	V_R=80V	I_R	μA	—	—	2.5
Total capacitance	V_R=0V,f=1MHz	C_T	pF	—	—	3.0
Maxinum reverse recovery time	I_F=10mA，I_{rr}=0.1×I_R, R_L=100Ω	T_{rr}	ns	—	—	4.0

Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)

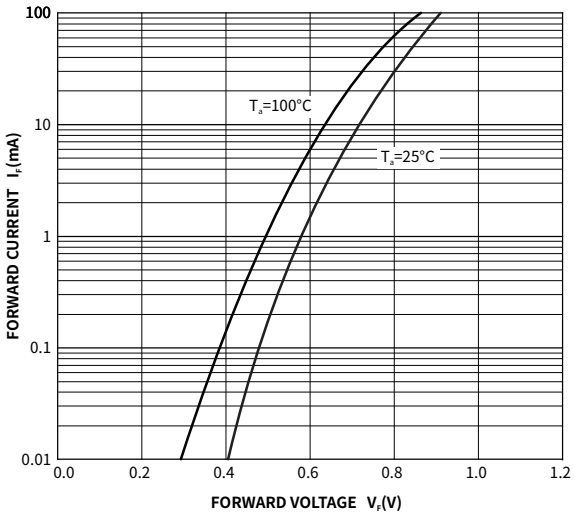


Fig.1 Typical Instaneous Forward Characteristics

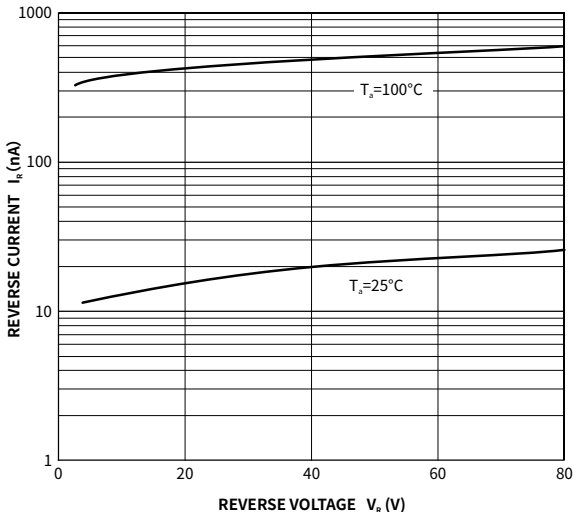


Fig.2 Typical Reverse Characteristics

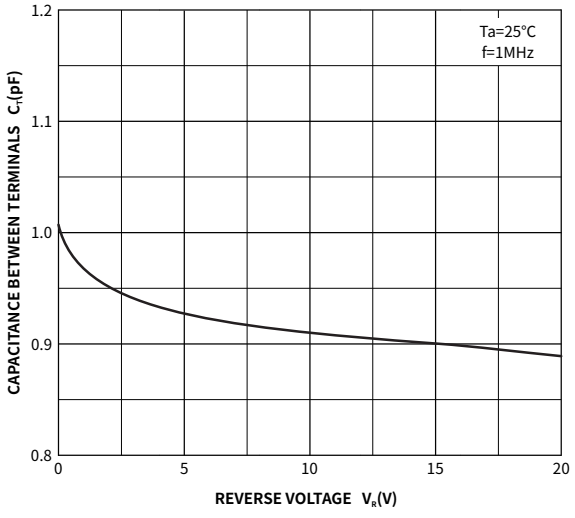


Fig.3 Typical Junction Capacitance

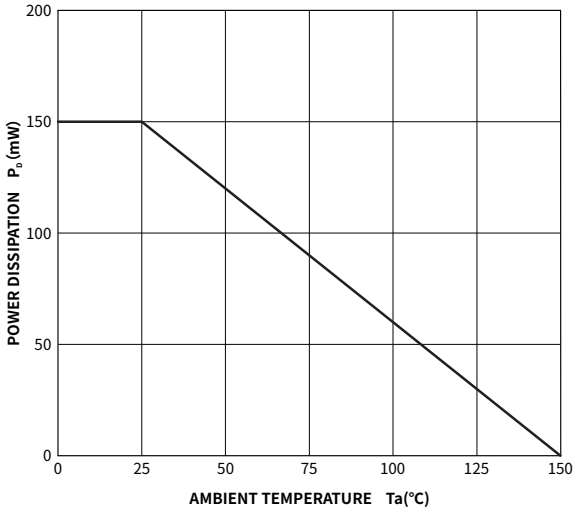
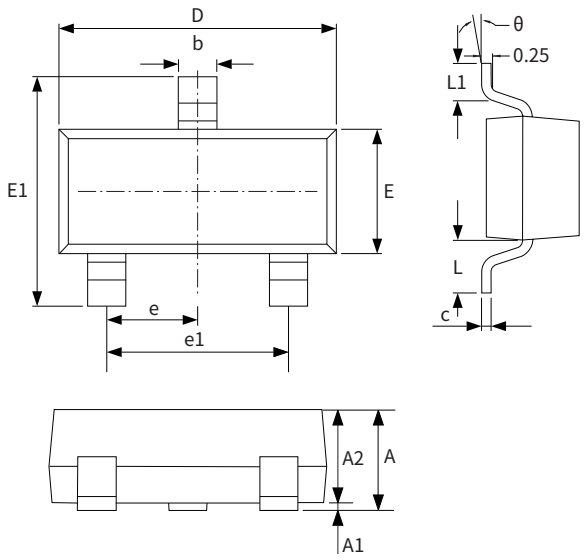


Fig.4 Power Derating Curve

Ordering Information

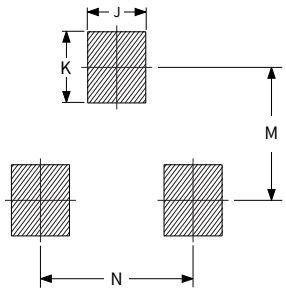
PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-23	R1	0.008	3000	45000	180000	7''

Package Outline Dimensions (SOT-23)



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.15	0.035	0.045
A1	-	0.10	-	0.004
A2	0.90	1.05	0.035	0.041
b	0.30	0.50	0.012	0.020
c	0.10	0.20	0.004	0.008
D	2.80	3.00	0.110	0.118
E	1.20	1.40	0.047	0.055
E1	2.25	2.55	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.80	2.00	0.071	0.079
L	0.550REF		0.022REF	
L1	0.30	0.50	0.012	0.020
θ	-	8°	-	8°

Suggested Pad Layout



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	0.75	0.85	0.030	0.033
K	0.85	0.95	0.033	0.037
M	1.95	2.05	0.077	0.081
N	1.85	1.95	0.073	0.077