

SOT-323 Fast Switching Diodes

Features

- Fast Switching Device ($T_{RR} < 4nS$)
- Power Dissipation of 200mW
- High Stability and High Reliability
- Low reverse leakage

Applications

- Small signal switching
- Ultra high speed switching application

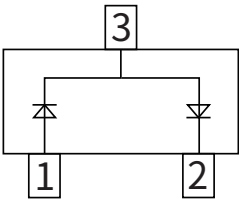
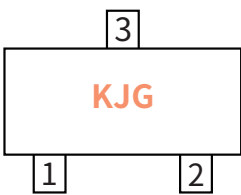
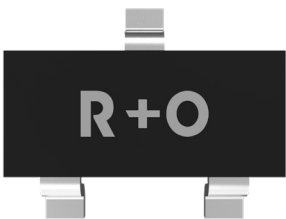
Mechanical Data

- Case: SOT-323
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

Reverse Voltage
75 V
Forward Current
0.15 Ampere

SOT-323



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

PARAMETER	SYMBOL	UNIT	VALUE
Maximum repetitive peak reverse voltage	V_{RRM}	V	100
Maximum RMS Voltage	V_{RMS}	V	75
Reverse Breakdown voltage @ $I_R=100\mu A$	$V_{(BR)R}$	V	75
Maximum Average Forward Rectified Current	$I_{F(AV)}$	mA	150
Repetitive peak forward current	I_{FRM}	mA	300
Non-Repetitive Peak forward surge current @ $t_p=1.0ms$	I_{FSM}	A	2.0
Power Dissipation	P_d	mW	200
Storage temperature	T_{stg}	°C	-55 ~+150
Junction temperature	T_j	°C	150
Typical thermal resistance	$R_{\theta J-A}$	°C /W	625

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

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	Min	Type	Max
Maximum instantaneous forward voltage	$I_F=1\text{mA}$	V_F	V	—	—	0.715
	$I_F=10\text{mA}$			—	—	0.855
	$I_F=50\text{mA}$			—	—	1.00
	$I_F=150\text{mA}$			—	—	1.25
Reverse Leakage Current	$V_R=25\text{V}$	I_{R1}	nA	—	—	25
	$V_R=75\text{V}$	I_{R2}	μA	—	—	2.5
Total capacitance	$V_R=0\text{V}, f=1\text{MHz}$	C_T	pF	—	—	2.0
Maximum reverse recovery time	$I_F=10\text{mA}, I_{rr}=0.1\times I_{R2}, R_L=100\Omega$	T_{rr}	ns	—	—	4.0

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

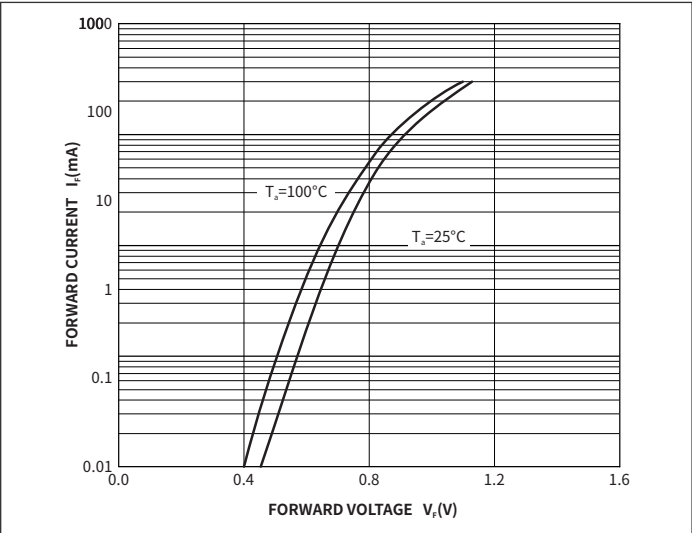


Fig.1 Typical Instaneous Forward Characteristics

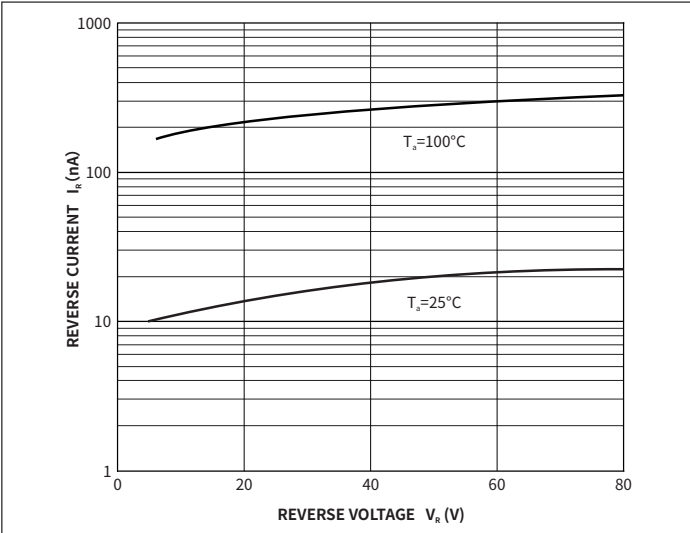


Fig.2 Typical Reverse Characteristics

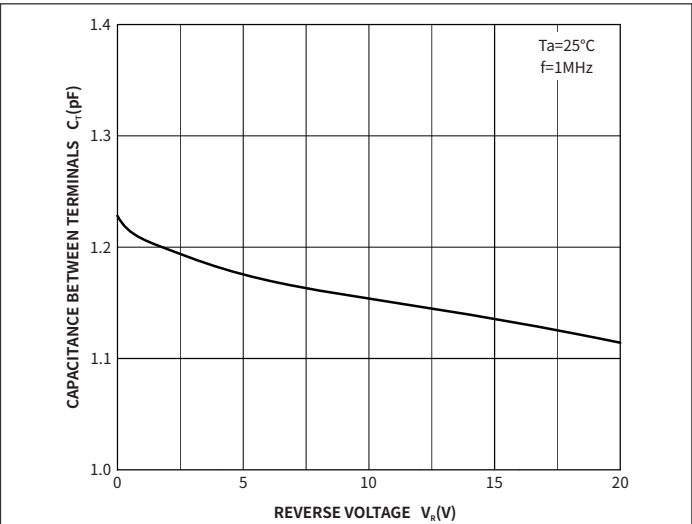


Fig.3 Typical Junction Capacitance

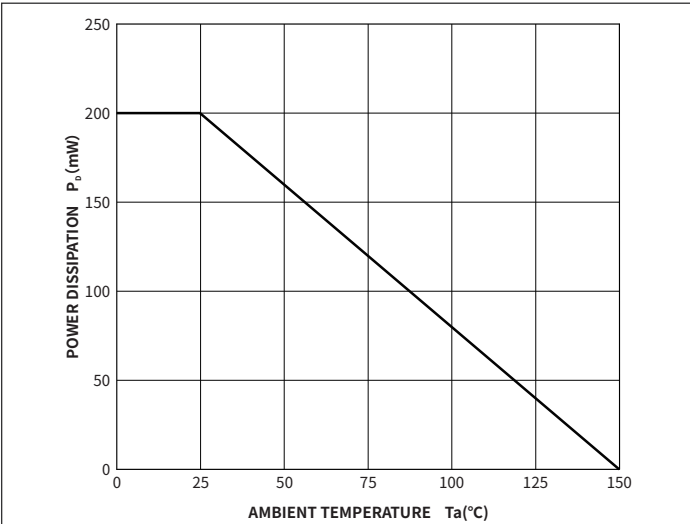


Fig.4 Power Derating Curve

● Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-323	R1	0.005	3000	45000	180000	7"

● Package Outline Dimensions (SOT-323)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.10	0.035	0.043
A1	-	0.10	-	0.004
A2	0.90	1.00	0.035	0.039
b	0.15	0.40	0.012	0.020
c	0.10	0.25	0.004	0.010
D	1.80	2.20	0.071	0.087
E	1.15	1.35	0.045	0.053
E1	2.15	2.45	0.085	0.096
e	0.650TYP		0.026TYP	
e1	1.20	1.40	0.047	0.055
L	0.525REF		0.021REF	
L1	0.26	0.46	0.010	0.018
θ	-	8°	-	8°

● Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	0.65	0.75	0.026	0.030
K	0.85	0.95	0.033	0.037
M	1.85	1.95	0.073	0.077
N	1.25	1.35	0.049	0.053