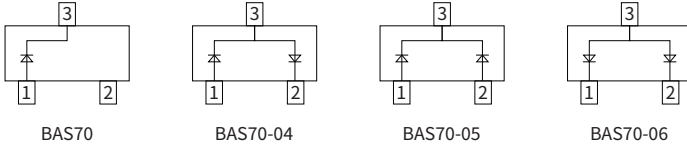
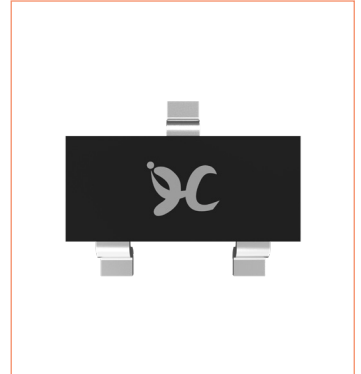


Features

- High Current Capability
- Low Forward Voltage Drop
- Extremely Fast Switching Speed
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C



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

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

PARAMETER	SYMBOL	UNIT	VALUE
Maximum repetitive peak reverse voltage	V_{RRM}	V	70
Maximum RMS voltage	V_{RMS}	V	49
Reverse Breakdown voltage @ $I_R=10\mu A$	$V_{(BR)R}$	V	70
Maximum average forward rectified current	$I_{F(AV)}$	mA	70
Non-repetitive Forward Surge Current @ $t=8.3ms$ Half-sine wave	I_{FSM}	mA	100
Power Dissipation	P_D	mW	200
Junction Temperature	T_j	°C	-55 ~+125
Storage temperature range	T_{STG}	°C	-55 ~+125
Typical thermal resistance	$R_{\theta JA}$	°C /W	500

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

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	Min	Typ	Max
Maximum forward voltage	$I_F=1mA$	V_F	mV	—	—	410
	$I_F=15mA$			—	—	1000
Maximum reverse current	$V_R=50V$	I_R	μA	—	—	0.1
Capacitance between terminals	$V_R=0V, f=1MHz$	C_T	pF	—	—	2.0
Maximum reverse recovery time	$I_F=I_R=10mA$ $I_{rr}=0.1 \times I_R, R_L=100\Omega$	t_{rr}	ns	—	—	5.0

► **Ratings And Characteristics Curves** ($T_a=25^\circ\text{C}$ Unless otherwise specified)

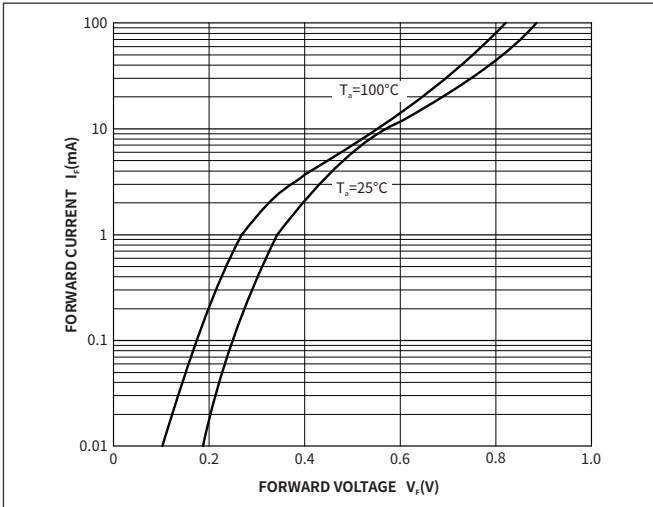


Fig.1 Typical Instantaneous Forward Characteristics

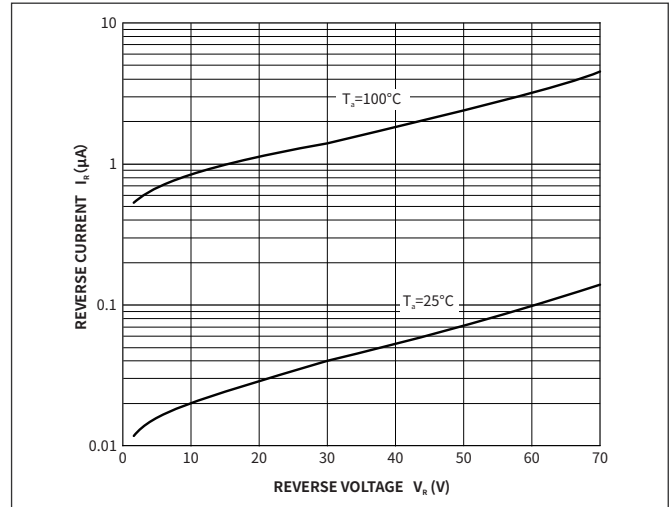


Fig.2 Typical Reverse Characteristics

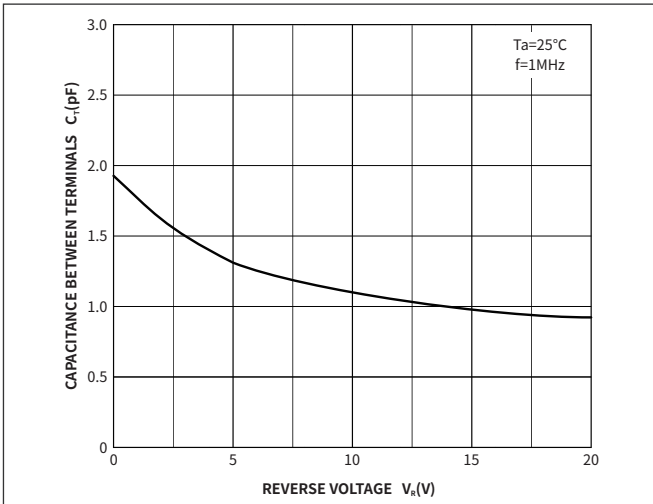


Fig.3 Typical Junction Capacitance

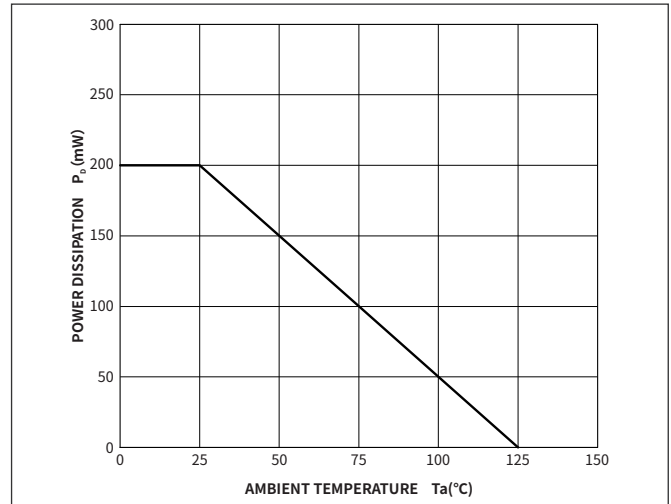


Fig.4 Power Derating Curve

▶ Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-23	R1	0.008	3000	30000	120000	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	0.80	-	0.031	-
K	-	0.90	-	0.035
M	2.00	-	0.078	-
N	-	1.90	-	0.074

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