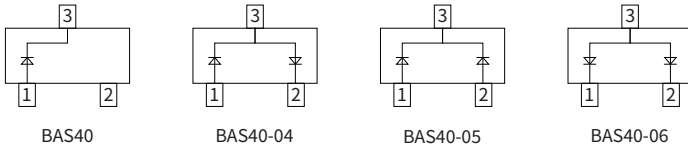
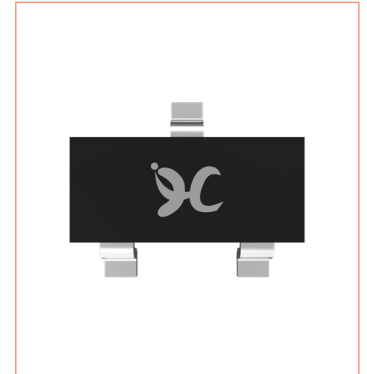


## Features

- 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	40
Working peak reverse voltage	$V_{RWM}$	V	40
Reverse Breakdown voltage @ $I_R=10\mu A$	$V_{(BR)R}$	V	40
Average forward current	$I_{F(AV)}$	mA	200
Non-repetitive Peak Forward Surge Current @ $t=8.3ms$ Half-sine wave	$I_{FSM}$	mA	600
Power Dissipation	$P_d$	mW	200
Storage temperature	$T_{stg}$	°C	-50 ~+150
Junction temperature	$T_j$	°C	125
Typical thermal resistance	$R_{\theta J-A}$	°C /W	500

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

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	Min	Typ	Max
Maximum forward voltage	$I_F = 1mA$	$V_{F1}$	V	—	—	0.38
	$I_F = 40mA$	$V_{F2}$		—	—	1.0
Maximum reverse current	$V_R=30V$	$I_R$	$\mu A$	—	—	0.2
Type junction capacitance	$V_R = 0V, f = 1MHz$	$C_j$	pF	—	—	5.0
Reverse Recovery time	$I_F=I_R=10mA$ $I_{rr}=1 \times I_R, R_L=100\Omega$	$t_{rr}$	ns	—	—	5.0

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

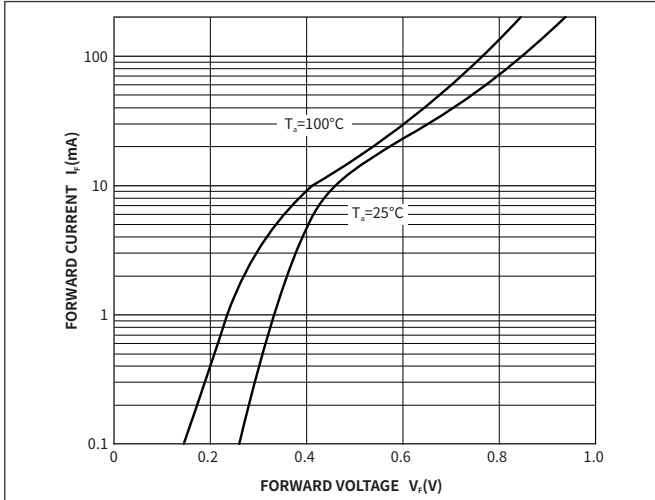


Fig.1 Typical Instantaneous Forward Characteristics

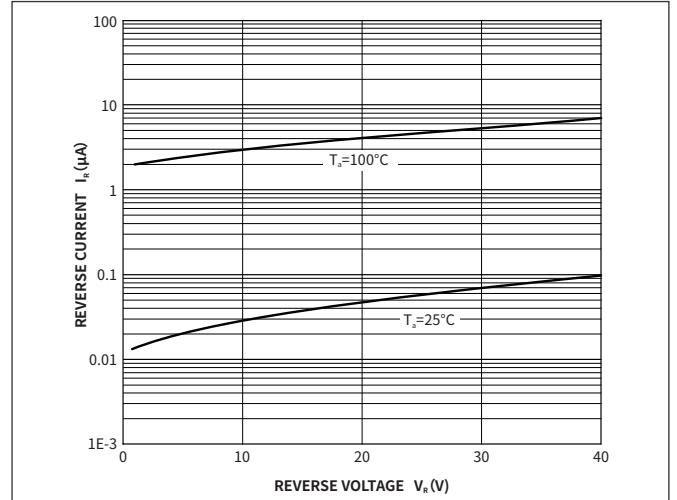


Fig.2 Typical Reverse Characteristics

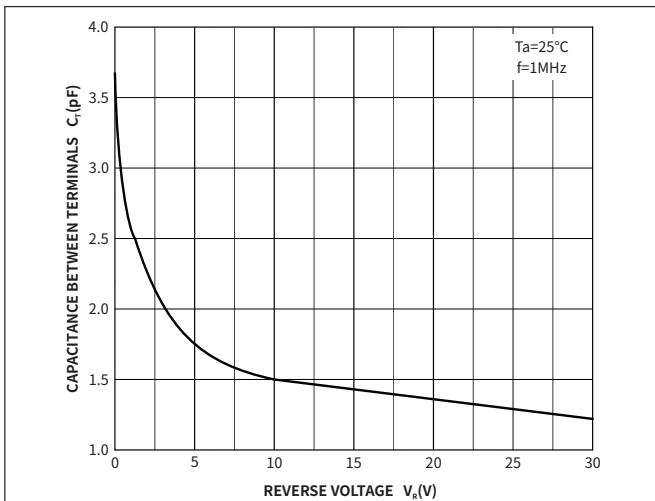


Fig.3 Typical Junction Capacitance

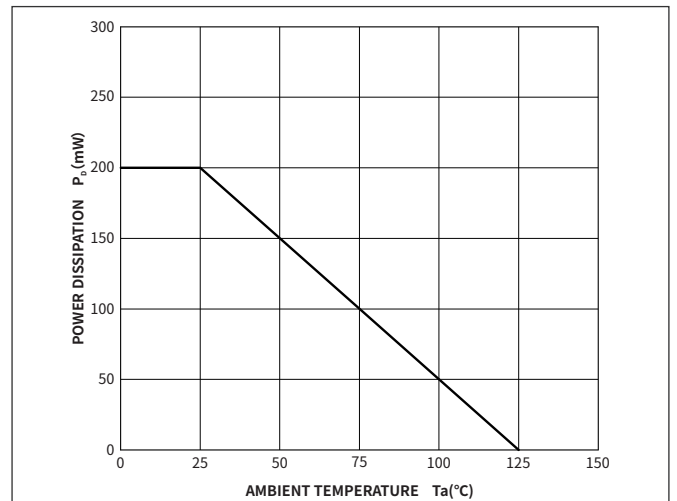


Fig.4 Forward Current Derating Curve

**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
$\theta$	-	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