

## ► Features

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

## ► Applications

Small signal switching  
 Ultra high speed switching application

## ► 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

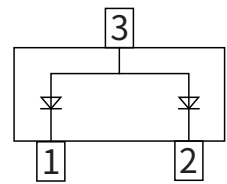
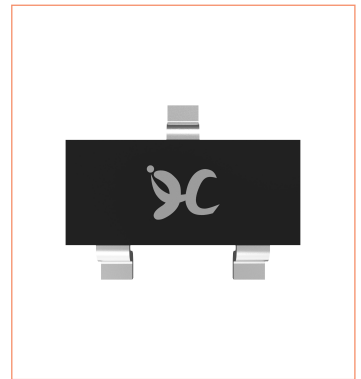
## ► Maximum Ratings (Ta=25°C Unless otherwise specified)

| PARAMETER                                                          | SYMBOL           | UNIT  | VALUE     |
|--------------------------------------------------------------------|------------------|-------|-----------|
| Non-Repetitive Peak reverse voltage                                | $V_{RM}$         | V     | 85        |
| Maximum repetitive peak reverse voltage                            | $V_{RRM}$        | V     | 80        |
| Maximum RMS Voltage                                                | $V_{RMS}$        | V     | 80        |
| Reverse Breakdown voltage @ $I_R=100\mu A$                         | $V_{(BR)R}$      | V     | 80        |
| Maximum Average Forward Rectified Current                          | $I_{F(AV)}$      | mA    | 100       |
| Non-repetitive Peak Forward Surge Current @ t=8.3ms Half-sine wave | $I_{FSM}$        | 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       |

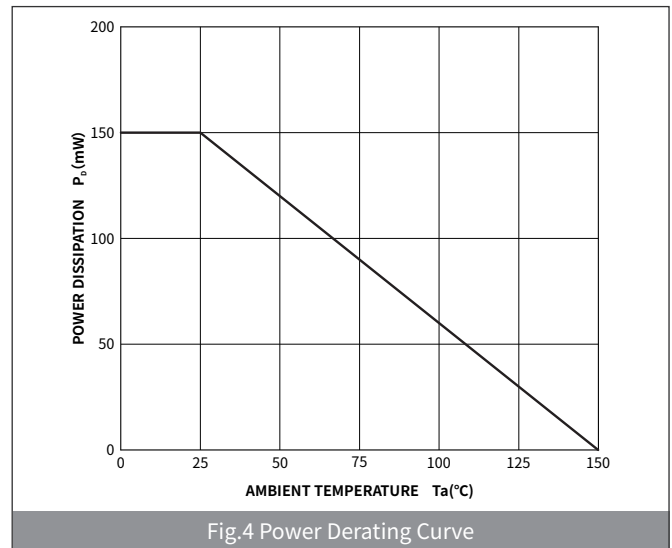
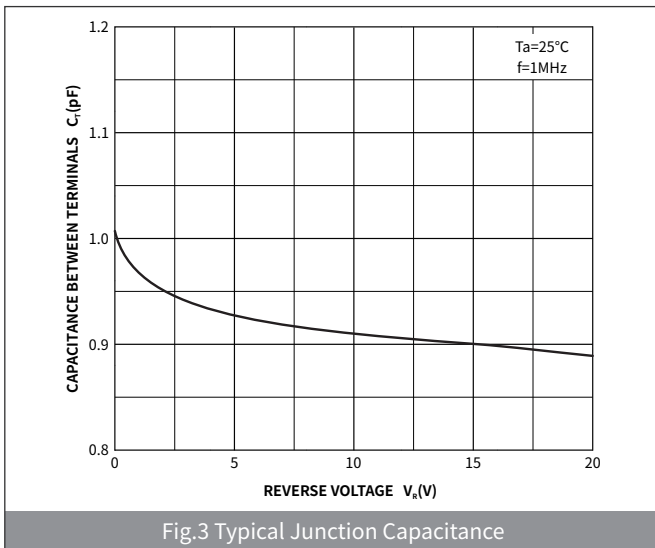
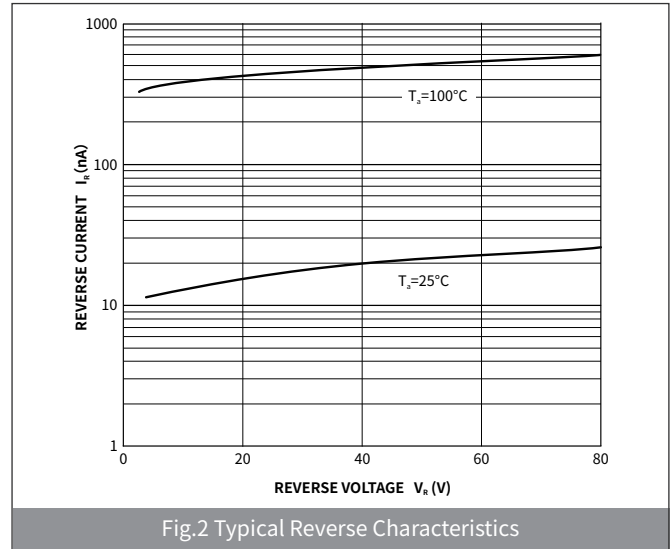
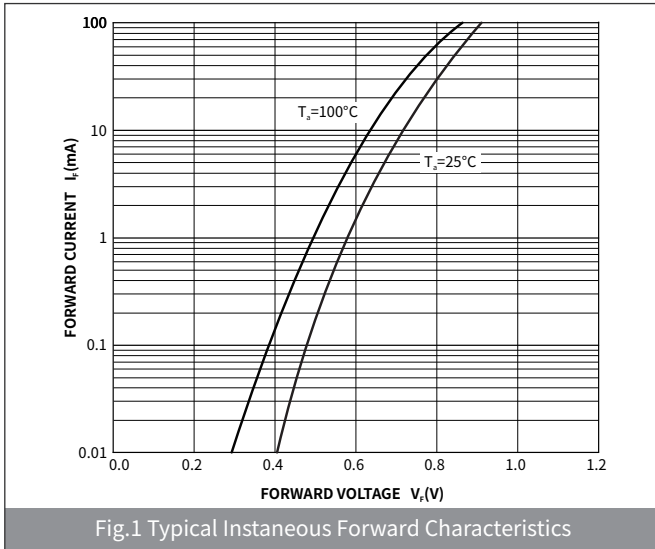
## ► Electrical Characteristics (Ta=25°C Unless otherwise specified)

| PARAMETER                             | TEST CONDITIONS                                             | SYMBOL   | UNIT    | Min | Typ  | Max |
|---------------------------------------|-------------------------------------------------------------|----------|---------|-----|------|-----|
| Maximum instantaneous forward voltage | $I_F=1mA$                                                   | $V_{F1}$ | V       | —   | 0.61 | —   |
|                                       | $I_F=10mA$                                                  | $V_{F2}$ |         | —   | 0.74 | —   |
|                                       | $I_F=100mA$                                                 | $V_{F3}$ |         | —   | 0.92 | 1.2 |
| Reverse Leakage Current               | $V_R=80V$                                                   | $I_R$    | $\mu A$ | —   | —    | 0.5 |
|                                       | $V_R=30V$                                                   |          |         | —   | —    | 0.1 |
| Total capacitance                     | $V_R=0V, f=1MHz$                                            | $C_T$    | pF      | —   | 2.2  | 4.0 |
| Maximum reverse recovery time         | $I_F=10mA, V_R=6V, I_{rr}=0.1 \times I_{R2}, R_L=100\Omega$ | $T_{rr}$ | ns      | —   | —    | 4.0 |

## SOT-23



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



**▶ 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 |

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