

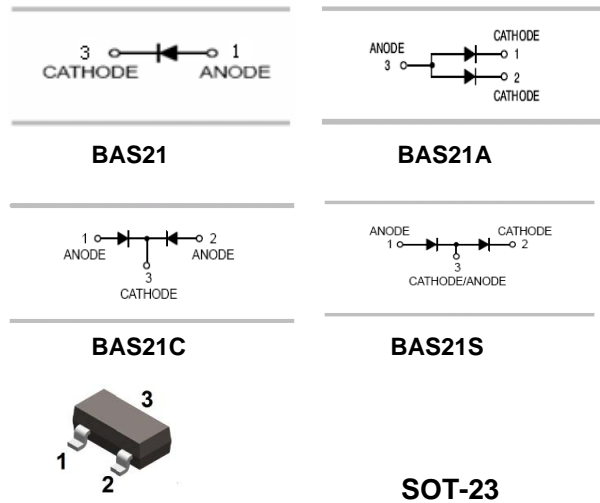


Features

- Fast switching speed
- High conductance

Mechanical Data

- Case: SOT-23
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



Ordering Information

| Part Number | Package | Shipping Quantity | Marking Code |
|-------------|---------|------------------------|--------------|
| BAS21 | SOT-23 | 3000 pcs / Tape & Reel | JS |
| BAS21A | SOT-23 | 3000 pcs / Tape & Reel | JS2 |
| BAS21C | SOT-23 | 3000 pcs / Tape & Reel | JS3 |
| BAS21S | SOT-23 | 3000 pcs / Tape & Reel | JS4 |

Maximum Ratings (@ T_A = 25 °C unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|--|---------------------|-------|------|
| Peak Repetitive Peak Reverse Voltage | V _{RRM} | 250 | V |
| Working Peak Reverse Voltage | V _{RWM} | 200 | V |
| DC Blocking Voltage | V _R | 200 | V |
| RMS Reverse Voltage | V _{R(RMS)} | 141 | V |
| Forward Continuous Current | I _F | 200 | mA |
| Non-Repetitive Peak Forward Surge Current, t = 8.3ms | I _{FSM} | 2 | A |
| Non-Repetitive Peak Forward Surge Current, t = 1ms | I _{FSM} | 2.5 | A |



Thermal Characteristics

| Parameter | Symbol | Value | Unit |
|--------------------------------------|-----------------|------------|---------------|
| Power Dissipation | P_D | 250 | mW |
| Thermal Resistance Junction-to-Air | $R_{\theta JA}$ | 500 | $^{\circ}C/W$ |
| Thermal Resistance Junction-to-Case | $R_{\theta JC}$ | 310 | $^{\circ}C/W$ |
| Operating Junction Temperature Range | T_J | -65 ~ +150 | $^{\circ}C$ |
| Storage Temperature Range | T_{STG} | -65 ~ +150 | $^{\circ}C$ |

Electrical Characteristics (@ $T_A = 25^{\circ}C$ unless otherwise specified)

| Parameter | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|------------------------------|-------------|--|------|------|------|---------|
| Reverse Breakdown Voltage | $V_{(BR)R}$ | $I_R = 100\mu A$ | 250 | - | - | V |
| Forward Voltage | V_F | $I_F = 100mA$ | - | - | 1.00 | V |
| | | $I_F = 200mA$ | - | - | 1.25 | V |
| Maximum Peak Reverse Current | I_R | $V_R = 200V, T_J = 25^{\circ}C$ | - | - | 0.1 | μA |
| | | $V_R = 200V, T_J = 100^{\circ}C$ | - | - | 15 | μA |
| Total Capacitance | C_J | $V_R = 0V, f = 1.0MHz$ | - | - | 5 | pF |
| Reverse Recovery Time | t_{rr} | $I_F = I_R = 10mA$ $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$ | - | - | 50 | ns |

Ratings and Characteristics Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

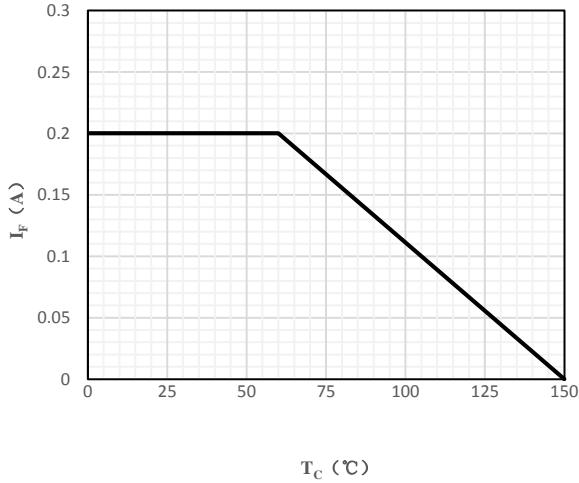


Fig 1 Derating Curve

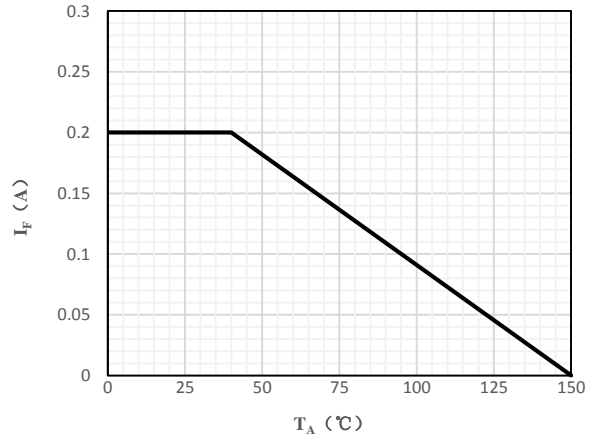


Fig 2 Derating Curve

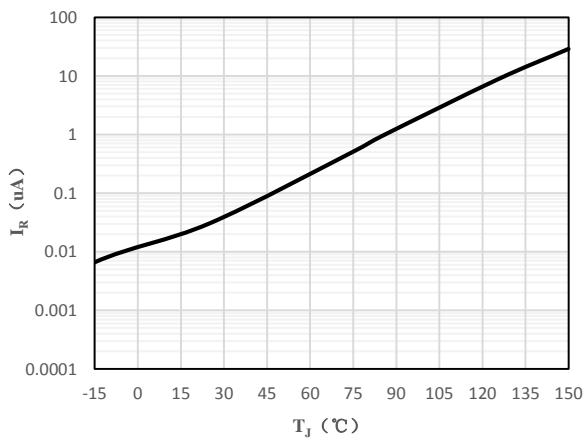


Fig 3 Reverse Current vs. Junction Temperature

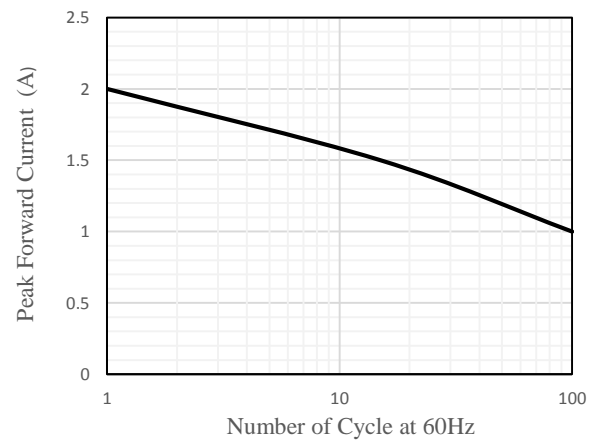


Fig 4 Surge Current Derating Curve

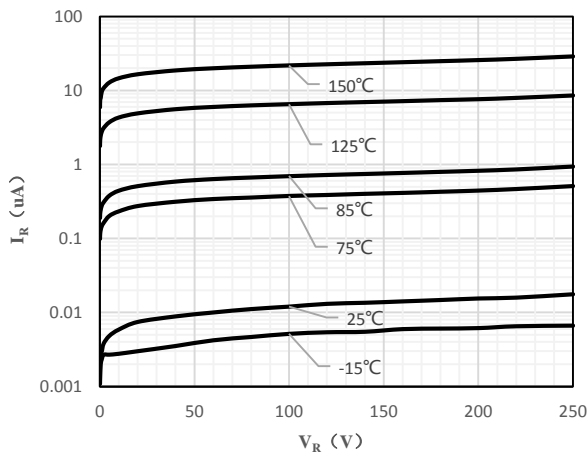


Fig 5 Typical Reverse Characteristic

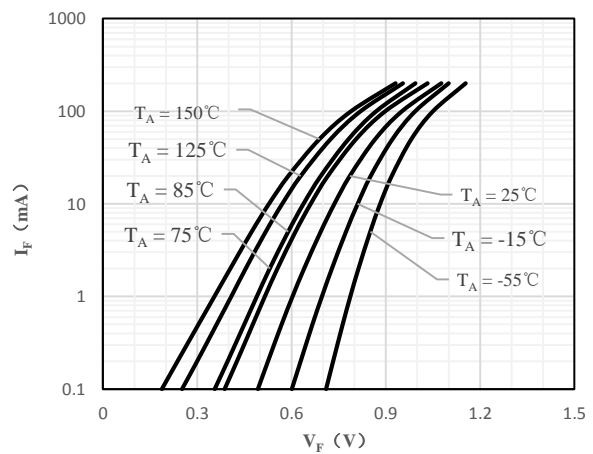
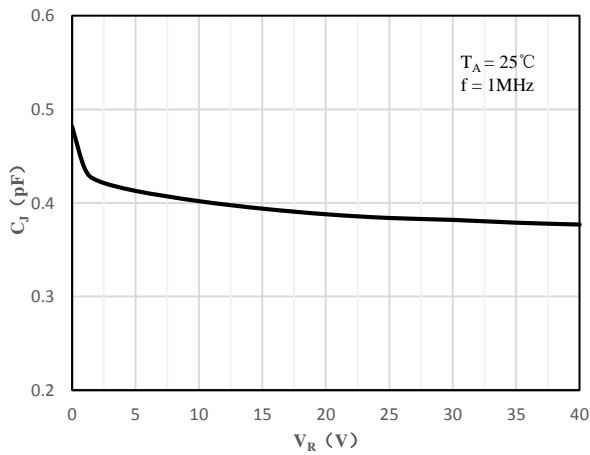
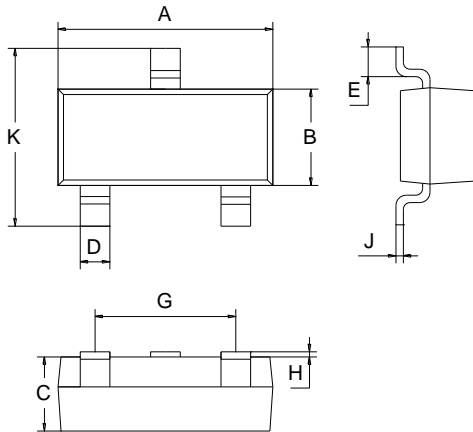


Fig 6 Typical Forward Characteristics



Package Outline Dimensions (Unit: mm)



| SOT-23 | | |
|-----------|------|------|
| Dimension | Min. | Max. |
| A | 2.70 | 3.10 |
| B | 1.10 | 1.50 |
| C | 0.9 | 1.1 |
| D | 0.3 | 0.5 |
| E | 0.35 | 0.48 |
| G | 1.80 | 2.00 |
| H | 0.02 | 0.1 |
| J | 0.05 | 0.15 |
| K | 2.20 | 2.60 |

Package Outline Dimensions (Unit: mm)

SOT-23

