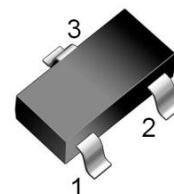
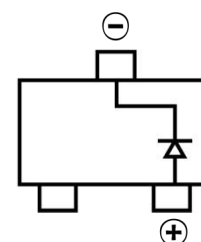


**SWITCHING DIODE****FEATURES**

- Low Forward Voltage
- Fast Reverse Recovery Time
- Surface Mount device
- For General Purpose Switching Applications

**SOT-23****MECHANICAL DATA**

- Case: SOT-23
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Weight: 0.008 grams (approximate)

**MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$  unless otherwise noted)**

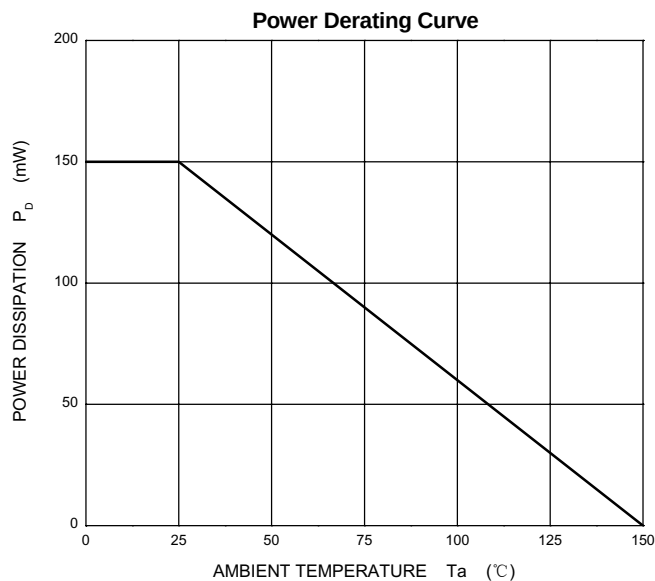
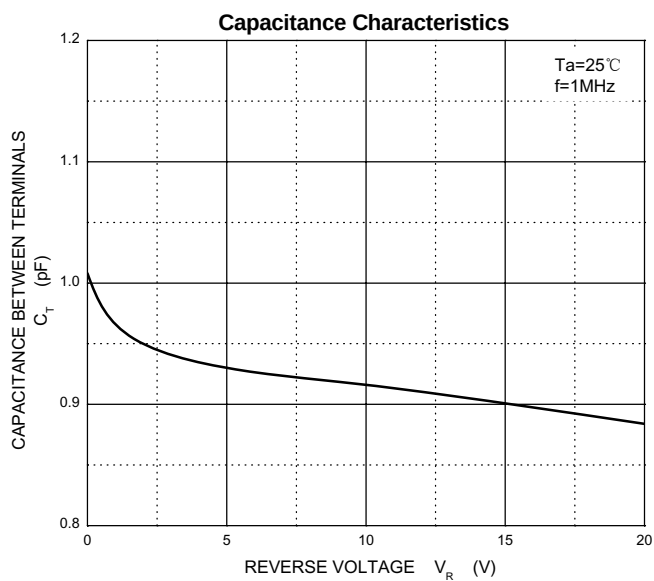
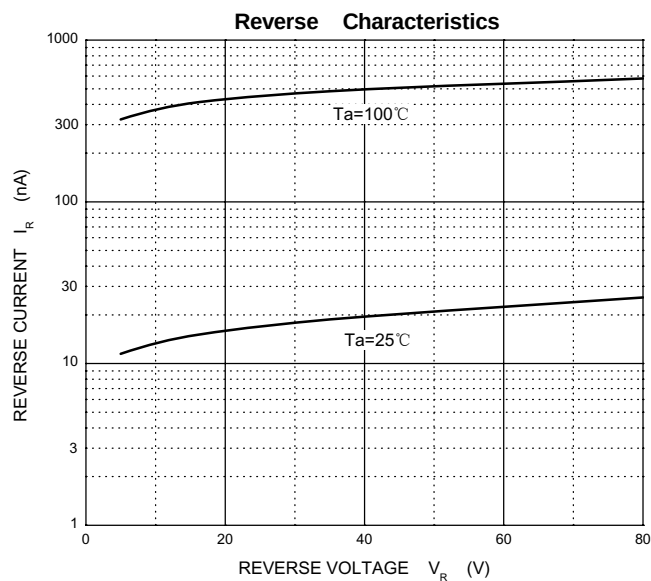
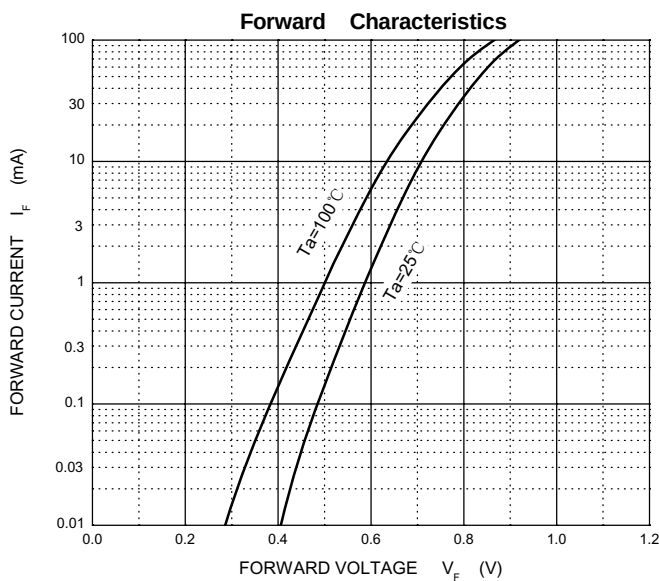
| Parameter                                                        | Symbol          | Value     | Unit               |
|------------------------------------------------------------------|-----------------|-----------|--------------------|
| Non-Repetitive Peak Reverse Voltage                              | $V_{RM}$        | 85        | V                  |
| DC Blocking Reverse Voltage                                      | $V_R$           | 80        | V                  |
| Forward Current                                                  | $I_F$           | 300       | mA                 |
| Average Rectified Output Current                                 | $I_O$           | 100       | mA                 |
| Non-Repetitive Peak Forward Surge Current @ $t_{@}=8.3\text{ms}$ | $I_{FSM}$       | 2.0       | A                  |
| Power Dissipation                                                | $P_D$           | 150       | mW                 |
| Thermal Resistance From Junction To Ambient                      | $R_{\theta JA}$ | 833       | $^\circ\text{C/W}$ |
| Junction Temperature                                             | $T_J$           | 150       | $^\circ\text{C}$   |
| Storage Temperature                                              | $T_{STG}$       | -55 ~+150 | $^\circ\text{C}$   |

**ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$  unless otherwise specified)**

| Parameter                       | Symbol     | Min | Max | Unit          | Conditions                                                    |
|---------------------------------|------------|-----|-----|---------------|---------------------------------------------------------------|
| Reverse breakdown voltage       | $V_{(BR)}$ | 80  |     | V             | $I_R=100\mu\text{A}$                                          |
| Reverse voltage leakage current | $I_R$      |     | 0.5 | $\mu\text{A}$ | $V_R=80\text{V}$                                              |
| Forward voltage                 | $V_F$      |     | 1.2 | V             | $I_F=100\text{mA}$                                            |
| Diode capacitance               | $C_D$      |     | 3   | pF            | $V_R=0\text{V}, f=1\text{MHz}$                                |
| Reverse recovery time           | $T_{rr}$   |     | 4   | nS            | $I_F=I_R=10\text{mA}$ $I_{rr}=0.1 \times I_R$ $R_L=100\Omega$ |

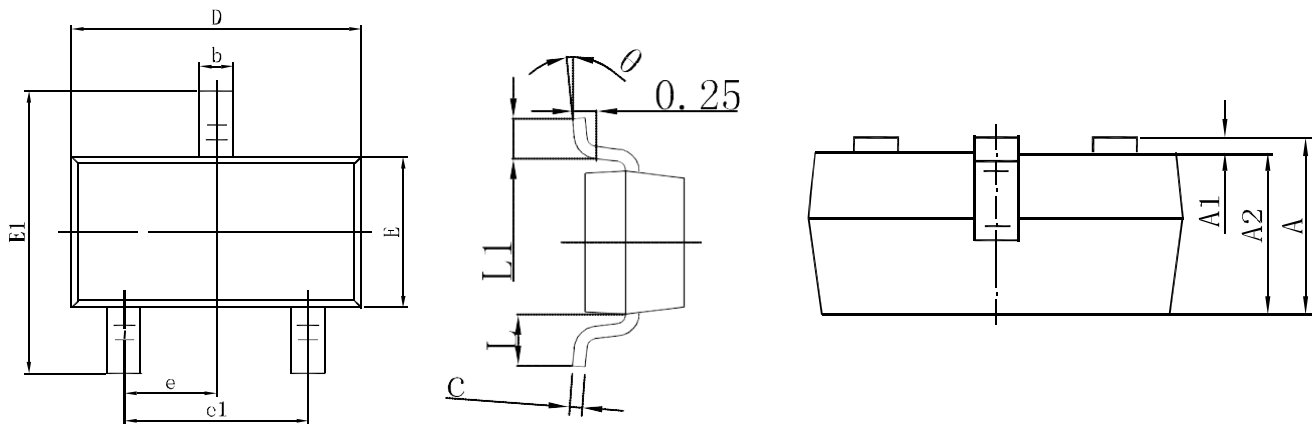
SWITCHING DIODE

Typical Characteristics



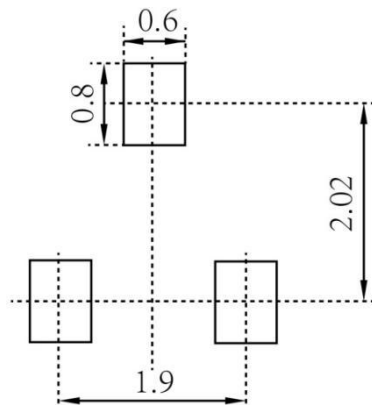
## SWITCHING DIODE

## SOT-23 Package Outline Dimensions



| Symbol   | Dimensions In Millimeters |       | Dimensions In Inches |       |
|----------|---------------------------|-------|----------------------|-------|
|          | Min.                      | Max.  | Min.                 | Max.  |
| A        | 0.900                     | 1.150 | 0.035                | 0.045 |
| A1       | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2       | 0.900                     | 1.050 | 0.035                | 0.041 |
| b        | 0.300                     | 0.500 | 0.012                | 0.020 |
| c        | 0.080                     | 0.150 | 0.003                | 0.006 |
| D        | 2.800                     | 3.000 | 0.110                | 0.118 |
| E        | 1.200                     | 1.400 | 0.047                | 0.055 |
| E1       | 2.250                     | 2.550 | 0.089                | 0.100 |
| e        | 0.950 TYP                 |       | 0.037 TYP            |       |
| e1       | 1.800                     | 2.000 | 0.071                | 0.079 |
| L        | 0.550 REF                 |       | 0.022 REF            |       |
| L1       | 0.300                     | 0.500 | 0.012                | 0.020 |
| $\theta$ | 0°                        | 8°    | 0°                   | 8°    |

## SOT-23 Suggested Pad Layout

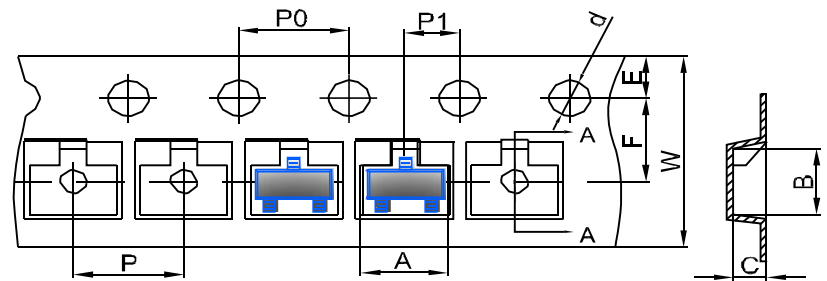
**Note:**

1. Controlling dimension: in millimeters
2. General tolerance:  $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

SWITCHING DIODE

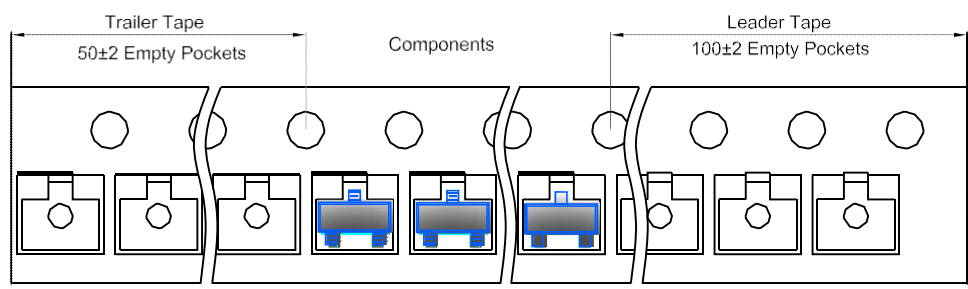
**SOT-23 Tape and Reel**

**SOT-23 Embossed Carrier Tape**

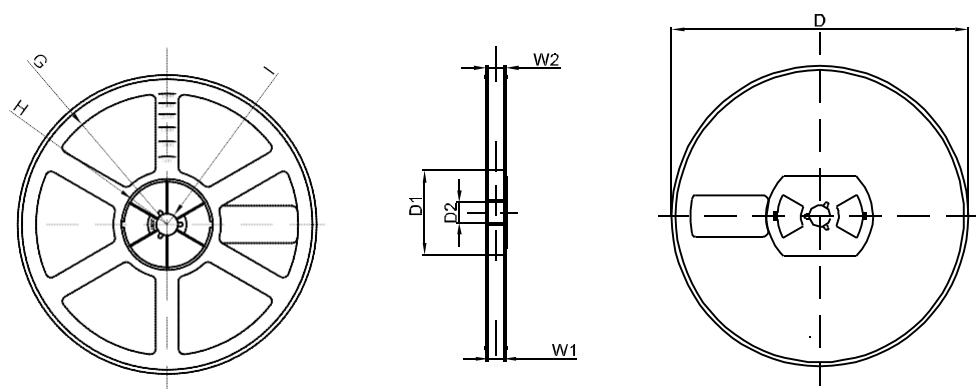


|           | DIMENSIONS ARE IN MILLIMETER |      |      |       |      |      |      |      |      |      |
|-----------|------------------------------|------|------|-------|------|------|------|------|------|------|
| TYPE      | A                            | B    | C    | d     | E    | F    | P0   | P    | P1   | W    |
| SOT-23    | 3.15                         | 2.77 | 1.22 | Ø1.50 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |
| TOLERANCE | ±0.1                         | ±0.1 | ±0.1 | ±0.1  | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 |

**SOT-23 Tape Leader and Trailer**



**SOT-23 Reel**



|             | DIMENSIONS ARE IN MILLIMETER |       |       |     |        |       |      |       |
|-------------|------------------------------|-------|-------|-----|--------|-------|------|-------|
| REEL OPTION | D                            | D1    | D2    | G   | H      | I     | W1   | W2    |
| 7" DIA      | Ø178                         | 54.40 | 13.00 | R78 | R25.60 | R6.50 | 9.50 | 12.30 |
| TOLERANCE   | ±2                           | ±1    | ±1    | ±1  | ±1     | ±1    | ±1   | ±1    |