

### FEATURES

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- Negligible Reverse Recovery Time
- Low Capacitance

### MECHANICAL DATA

- Case: SOD-123
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight:16mg 0.00056oz

### PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1   | Cathode     |
| 2   | Anode       |

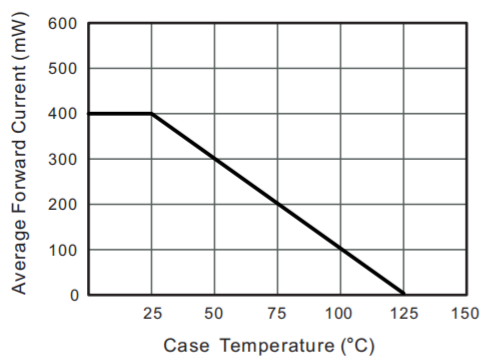
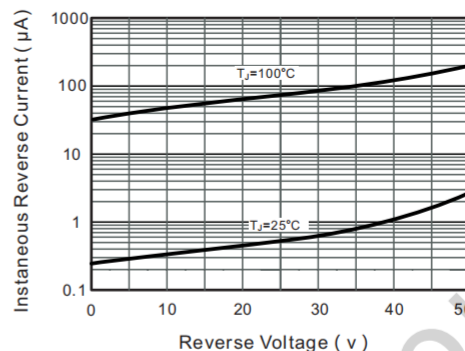
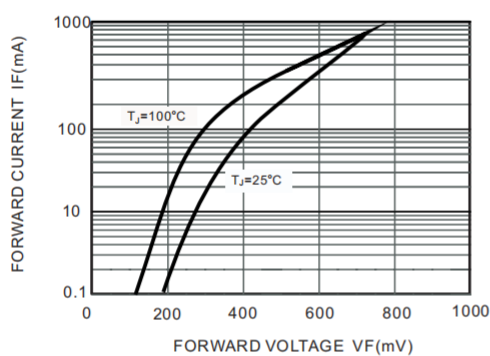
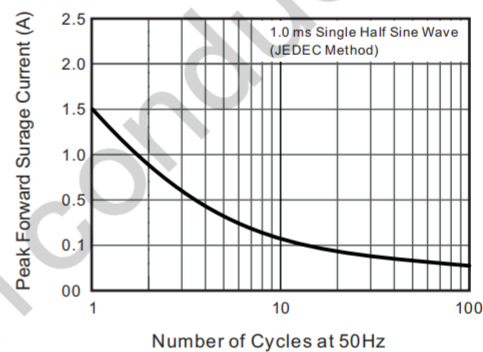
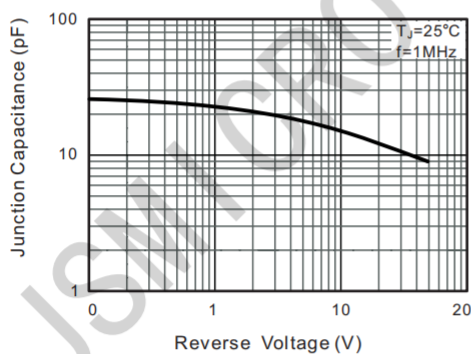


Top View  
Marking Code: B2  
Simplified outline SOD-123 and symbol

### Maximum Ratings and Electrical characteristics

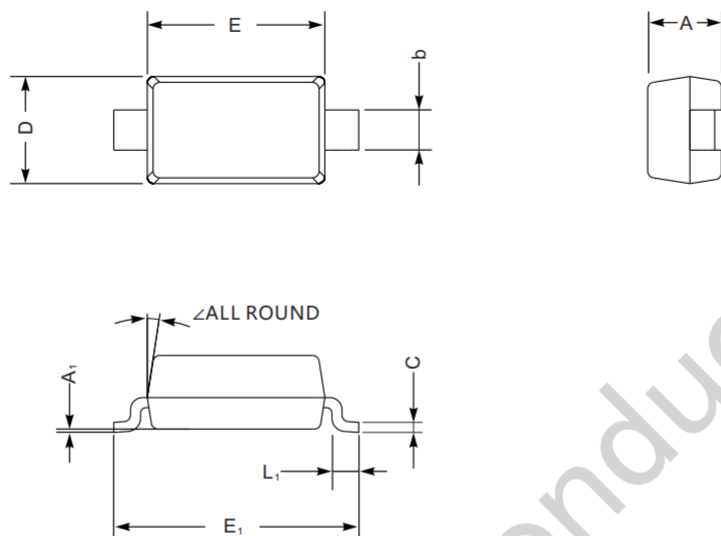
Ratings at 25 °C ambient temperature unless otherwise specified.

| Parameter  | Symbols         | B0520LW      | Units |
|--|-----------------|--------------|-------|
| Peak Repetitive Reverse Voltage  | $V_{RRM}$       | 20           | V     |
| RMS reverse voltage  | $V_{RMS}$       | 28           | V     |
| Working Peak Reverse Voltage   | $V_{DC}$        | 20           | V     |
| Peak Forward Surge Current, 1.0s single half sine-wave superimposed on rated load (JEDEC method) | $I_{FSM}$       | 1.5          | A     |
| Maximum Instantaneous Forward Voltage<br>$I_F=20mA$<br>$I_F=200mA$                               | $V_F$           | 0.37<br>0.60 | V     |
| Power Dissipation  | $P_D$           | 400          | mW    |
| Reverse current $V_R=30V$  | $I_R$           | 5            | uA    |
| Thermal Resistance, Junction to Ambient Air  | $R_{\theta JA}$ | 300          | °C/W  |
| Reverse voltage $I_R=100uA$  | $V_{(BR)}$      | 40           | V     |
| Reverse recovery time $I_F=I_R=200mA, I_{rr}=0.1 \times I_R, R_L=100\Omega$                      | $t_{rr}$        | 10           | ns    |
| Forward Continuous Current   | $I_{FM}$        | 380          | mA    |
| Total capacitance $V_R=0V, f=1MHz$   | $C_{tot}$       | 28           | pF    |
| Junction temperature   | $T_j$           | 125          | °C    |
| Storage temperature  | $T_{stg}$       | -55 ~ +150   | °C    |

**Fig.1 Forward Current Derating Curve**

**Fig.2 Typical Reverse Characteristics**

**Fig.3 Forward Characteristics**

**Fig.4 Maximum Non-Repetitive Peak Forward Surge Current**

**Fig.5 Typical Junction Capacitance**


## Package Information

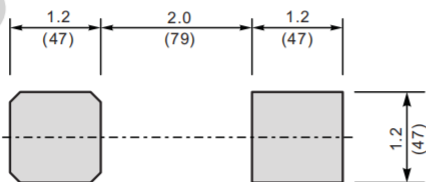
SOD-123



SOD-123 mechanical data

| UNIT |     | A   | C    | D   | E   | E <sub>1</sub> | L <sub>1</sub> | b   | A <sub>1</sub> | ∠  |
|------|-----|-----|------|-----|-----|----------------|----------------|-----|----------------|----|
| mm   | max | 1.3 | 0.22 | 1.8 | 2.8 | 3.9            | 0.45           | 0.7 | 0.2            | 9° |
|      | min | 0.9 | 0.09 | 1.5 | 2.5 | 3.6            | 0.25           | 0.5 | —              |    |
| mil  | max | 51  | 8.7  | 71  | 110 | 154            | 18             | 28  | 8              |    |
|      | min | 35  | 3.5  | 59  | 98  | 142            | 10             | 20  | —              |    |

### The recommended mounting pad size



Unit:  $\frac{\text{mm}}{\text{mil}}$