

## Features

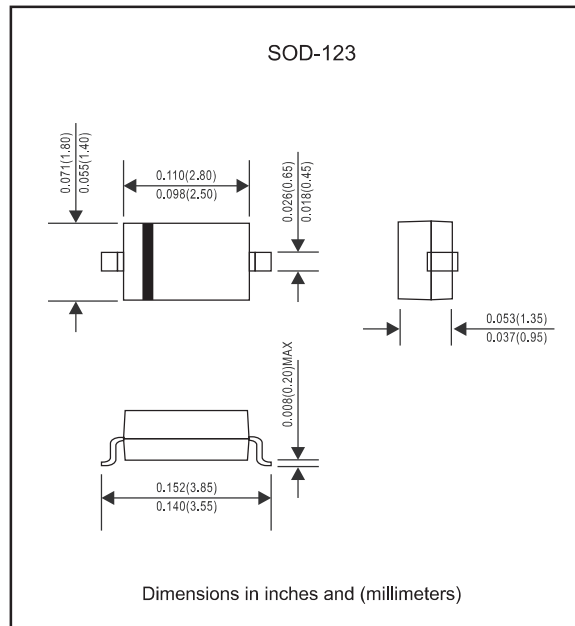
- For use in low voltage, high frequency inverters
- Free wheeling, and polarity protection applications

## Mechanical data

- Case:** JEDEC SOD-123 molded plastic body
- Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity:** Color band denotes cathode end
- Mounting Position:** Any



## Package outline



## Maximum ratings and Electrical Characteristics (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

| Parameter                                                                         | Symbol          | Limit      | Unit                 |
|-----------------------------------------------------------------------------------|-----------------|------------|----------------------|
| Peak repetitive peak reverse voltage                                              | $V_{RRM}$       | 100        | V                    |
| Working peak reverse voltage                                                      | $V_{RWM}$       |            |                      |
| Forward continuous current                                                        | $I_F$           | 150        | mA                   |
| Repetitive peak forward current (Note 1) @ $t_p < 1.0\text{s}$ , Duty Cycle < 50% | $I_{FRM}$       | 350        | mA                   |
| Non-repetitive Peak Forward surge current @ $t = 8.3\text{ms}$                    | $I_{FSM}$       | 750        | mA                   |
| Power dissipation                                                                 | $P_D$           | 500        | mW                   |
| Thermal resistance junction to ambient air                                        | $R_{\theta JA}$ | 200        | $^{\circ}\text{C/W}$ |
| Operating Junction Temperature Range                                              | $T_j$           | -40 ~ +125 | $^{\circ}\text{C}$   |
| Storage Temperature Range                                                         | $T_{STG}$       | -55 ~ +150 | $^{\circ}\text{C}$   |

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

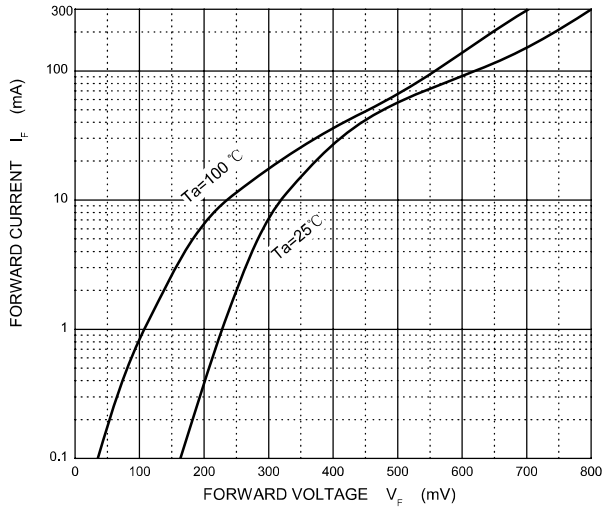
| Parameter                         | Symbol | Test Conditions                   | Min | Typ | Max  | Unit          |
|-----------------------------------|--------|-----------------------------------|-----|-----|------|---------------|
| Reverse breakdown voltage(Note 2) | $V_R$  | $I_R=100\mu\text{A}$              | 100 |     |      | V             |
| Reverse voltage leakage current   | $I_R$  | $V_{R1}=1.5\text{V}$              |     |     | 0.3  | $\mu\text{A}$ |
|                                   |        | $V_{R2}=10\text{V}$               |     |     | 0.5  |               |
|                                   |        | $V_{R3}=50\text{V}$               |     |     | 1    |               |
|                                   |        | $V_{R4}=75\text{V}$               |     |     | 2    |               |
| Forward voltage(Note 2)           | $V_F$  | $I_{F1}=0.1\text{mA}$             |     |     | 0.25 | V             |
|                                   |        | $I_{F2}=10\text{mA}$              |     |     | 0.45 |               |
|                                   |        | $I_{F3}=250\text{mA}$             |     |     | 1    |               |
| Diode capacitance                 | $C_T$  | $V_R=0$ , $f=1\text{MHz}$         |     | 20  |      | pF            |
|                                   |        | $V_R=1\text{V}$ , $f=1\text{MHz}$ |     | 12  |      |               |

Notes: 1. Part mounted on FR-4 board with recommended pad layout.

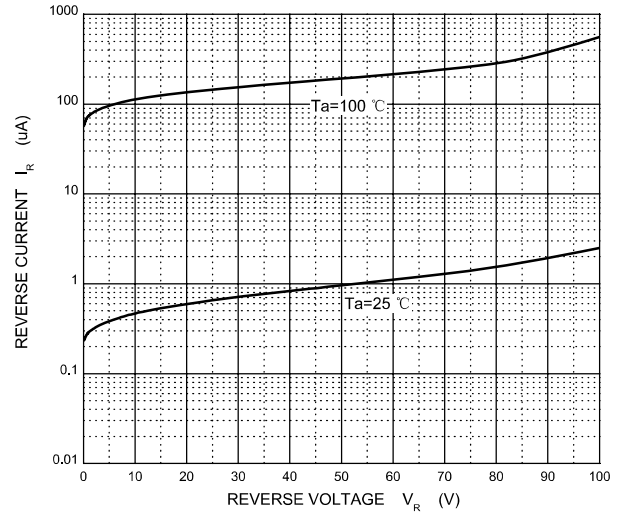
2. Short duration pulse test used to minimize self-heating effect.

## Rating and characteristic curves

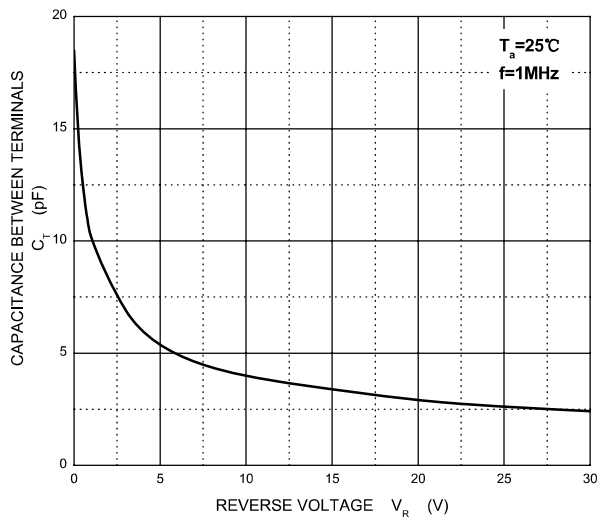
**Forward Characteristics**



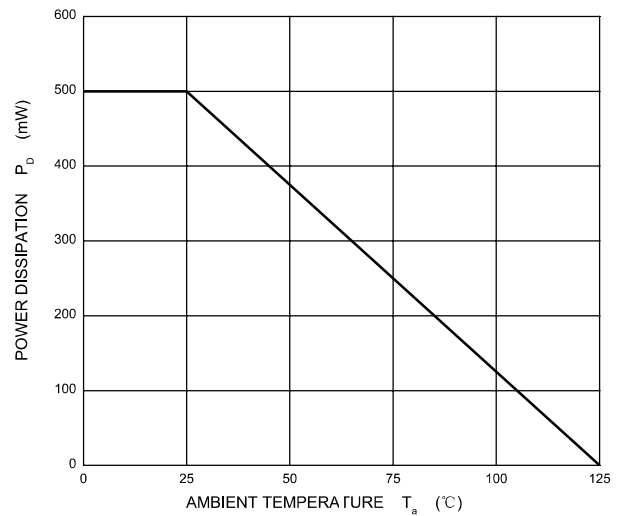
**Reverse Characteristics**



**Capacitance Characteristics**



**Power Derating Curve**



## Marking

| Type number | Marking code |
|-------------|--------------|
| FSLBAT46T1G | S9           |