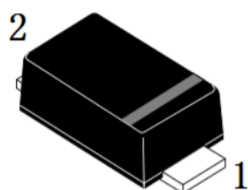


### FEATURES

- Low power losses, high efficiency.
- Guardring for over voltage protection.
- For use in low voltage high frequency inverters, free wheeling, and polarity protection applications
- We declare that the material of product compliance with RoHS requirements and Halogen Free.



SOD123FL



### Electrical Characteristic

**Maximum & Thermal Characteristics Ratings** at 25°C ambient temperature unless otherwise specified.

| Parameter Symbol                                                                                 | symbol          |             | Unit               |
|--------------------------------------------------------------------------------------------------|-----------------|-------------|--------------------|
| Maximum repetitive peak reverse voltage                                                          | $V_{RRM}$       | 30          | V                  |
| Maximum RMS voltage                                                                              | $V_{RMS}$       | 21          | V                  |
| Maximum DC blocking voltage                                                                      | $V_{DC}$        | 30          | V                  |
| Maximum average forward rectified current at $T_C = 75^\circ\text{C}$                            | $I_{F(AV)}$     | 2.0         | A                  |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$       | 50          | A                  |
| Typical thermal resistance (Note 1)                                                              | $R_{\theta JA}$ | 85          | $^\circ\text{C/W}$ |
| Operating junction temperature range                                                             | $T_J$           | -55 to +150 | $^\circ\text{C}$   |
| storage temperature range                                                                        | $T_{STG}$       | -65 to +175 | $^\circ\text{C}$   |

**Electrical Characteristics Ratings** at 25°C ambient temperature unless otherwise specified.

| Parameter Symbol                                                                                              | symbol |           | Unit |
|---------------------------------------------------------------------------------------------------------------|--------|-----------|------|
| Maximum instantaneous forward voltage at 2.0A                                                                 | $V_F$  | 0.50      | V    |
| Maximum DC reverse current at rated DC blocking voltage $T_A = 25^\circ\text{C}$<br>$T_J = 100^\circ\text{C}$ | $I_R$  | 0.5<br>20 | mA   |
| Typical junction capacitance at 4.0V, 1MHz                                                                    | $C_J$  | 160       | PF   |

**Ratings and Characteristic Curves** (TA = 25°C unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

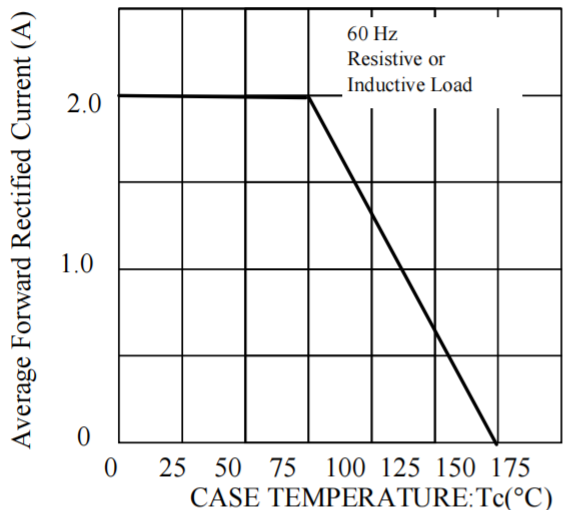


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

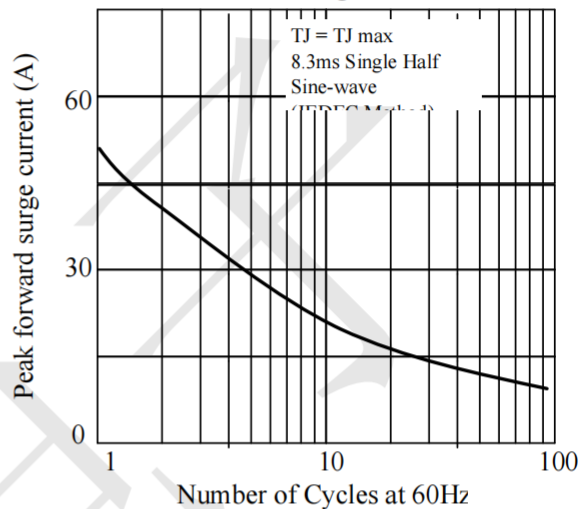


Fig. 3 - Typical Instantaneous Forward Characteristics

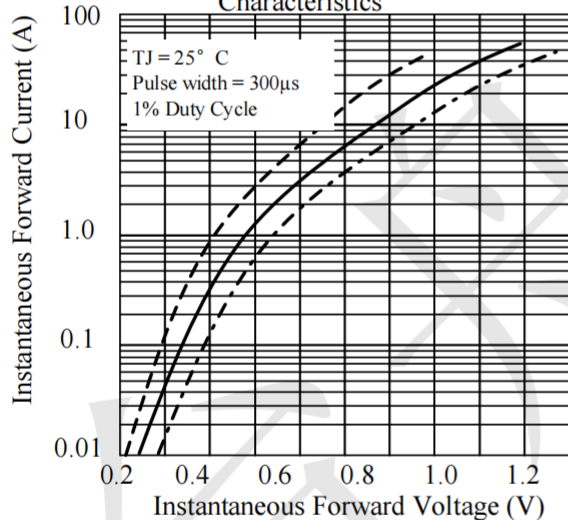


Fig. 4 - Typical Reverse Characteristics

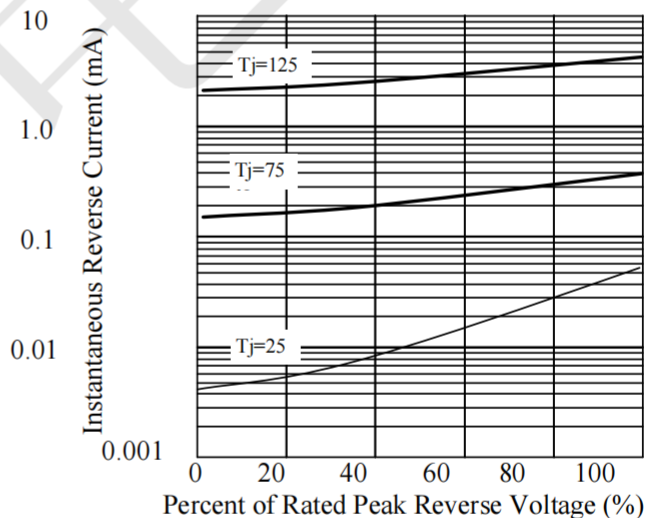


Fig. 5 - typical transient thermal impedance

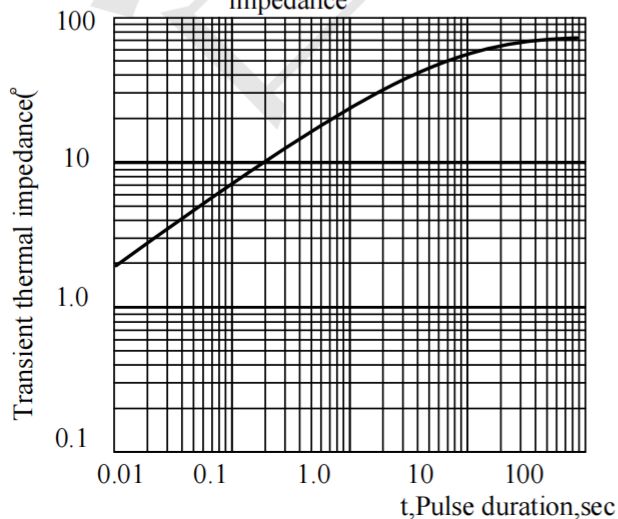
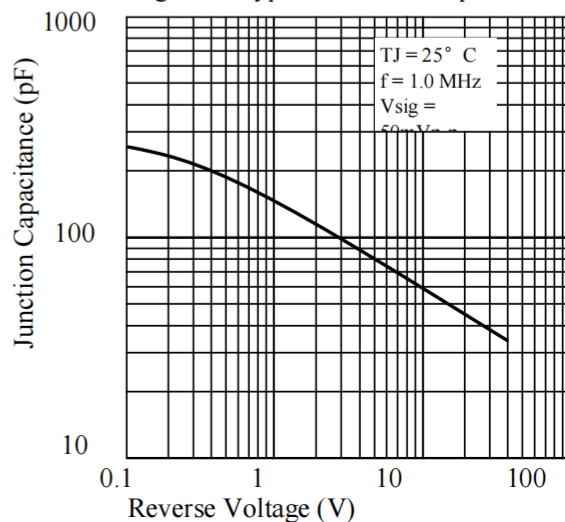
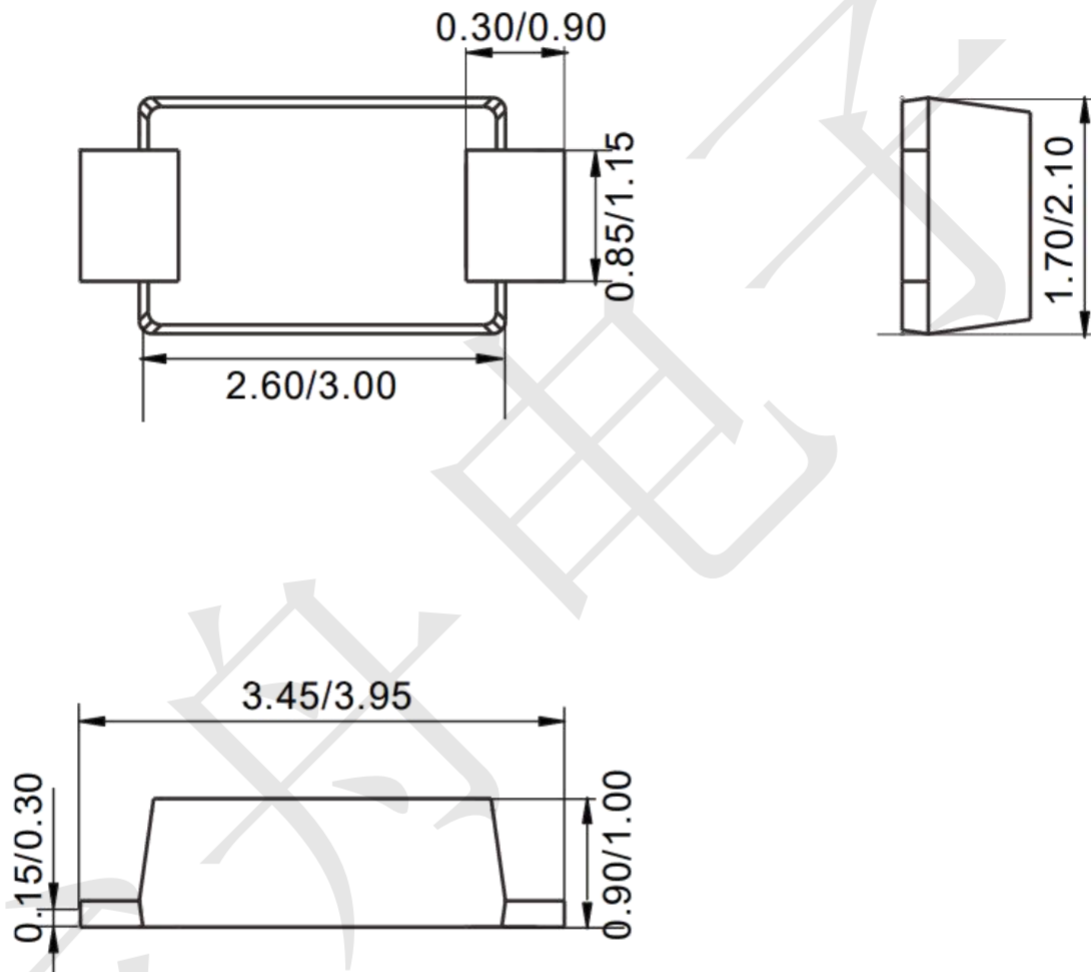


Fig. 6 - Typical Junction Capacitance



**Package Outline Dimensions (unit: mm)**

SOD-123FL



**Mounting Pad Layout (unit: mm)**

