

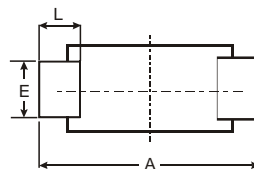
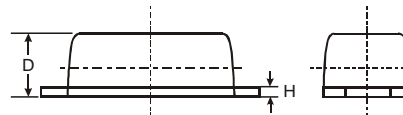
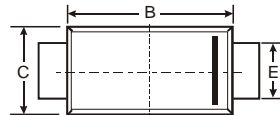
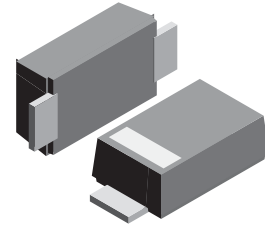
**VOLTAGE RANGE: 50 - 1000V**  
**CURRENT: 0.7A**

### Features

- Glass passivated device
- Ideal for surface mounted applications
- Low leakage current
- Metallurgically bonded construction
- High temperature soldering:  
● 250 /10 seconds at terminals

### Mechanical Data

- Case: JEDEC SOD-123FL molded plastic body over passivated chip
- Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.0007 ounce, 0.02 grams



| SOD-123FL            |       |      |      |
|----------------------|-------|------|------|
| Dim                  | Min   | Max  | Typ  |
| A                    | 3.58  | 3.72 | 3.65 |
| B                    | 2.72  | 2.78 | 2.75 |
| C                    | 1.77  | 1.83 | 1.80 |
| D                    | 1.02  | 1.08 | 1.05 |
| E                    | 0.097 | 1.03 | 1.00 |
| H                    | 0.13  | 0.17 | 0.15 |
| L                    | 0.53  | 0.57 | 0.55 |
| All Dimensions in mm |       |      |      |

### Maximum Ratings and Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise specified

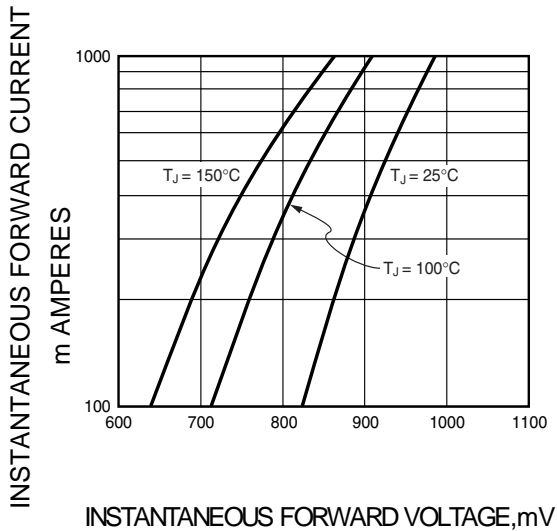
Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Characteristic  | Symbol          | S07A         | S07B | S07D | S07G | S07J | S07K | S07M | Unit             |
|---|-----------------|--------------|------|------|------|------|------|------|------------------|
| Maximum repetitive peak reverse voltage   | $V_{RRM}$       | 50           | 100  | 200  | 400  | 600  | 800  | 1000 | V                |
| Maximum RMS voltage   | $V_{RMS}$       | 35           | 70   | 140  | 280  | 420  | 560  | 700  | V                |
| Maximum DC blocking voltage   | $V_{DC}$        | 50           | 100  | 200  | 400  | 600  | 800  | 1000 | V                |
| Maximum average forward rectified current at $T_A=65^\circ\text{C}$ (NOTE 1)  | $I_{(AV)}$      | 0.7          |      |      |      |      |      |      | A                |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) $T_L=25^\circ\text{C}$ | $I_{FSM}$       | 25.0         |      |      |      |      |      |      | A                |
| Maximum instantaneous forward voltage at 1.0A   | $V_F$           | 1.1          |      |      |      |      |      |      | V                |
| Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=125^\circ\text{C}$                  | $I_R$           | 10.0<br>50.0 |      |      |      |      |      |      | $\mu\text{A}$    |
| Typical junction capacitance (NOTE 2)   | $C_J$           | 15           |      |      |      |      |      |      | pF               |
| Typical thermal resistance (NOTE 3)   | $R_{\theta JA}$ | 180          |      |      |      |      |      |      | K/W              |
| Maximum reverse recovery time (NOTE 5)  | $t_{rr}$        | 1.8          |      |      |      |      |      |      | $\mu\text{S}$    |
| Operating junction and storage temperature range  | $T_J, T_{STG}$  | -50 to +150  |      |      |      |      |      |      | $^\circ\text{C}$ |

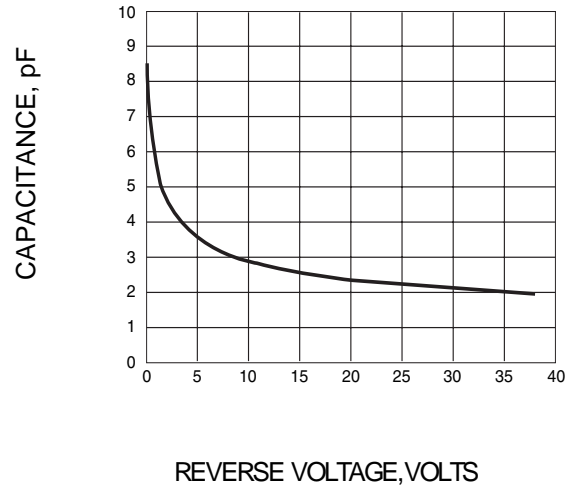
- Note:**
1. Averaged over any 20ms period.
  2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
  3. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted
  4. Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{rr}=0.25\text{A}$ .

## RATINGS AND CHARACTERISTIC CURVES S07A THRU S07M

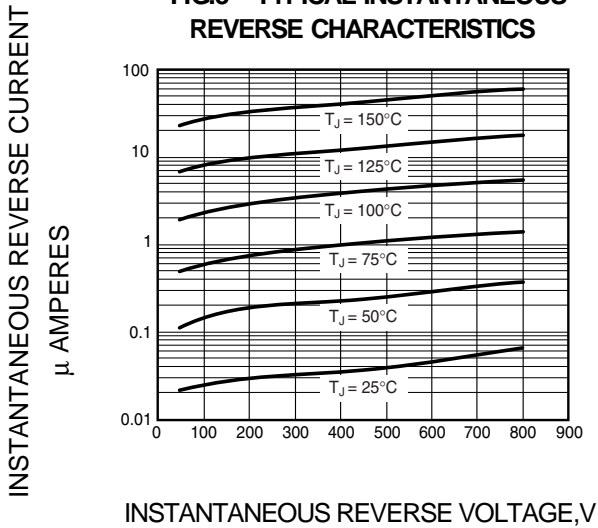
**FIG.1 – TYPICAL FORWARD CHARACTERISTIC**



**FIG.2 – TYPICAL JUNCTION CAPACITANCE**



**FIG.3 – TYPICAL INSTANTANEOUS REVERSE CHARACTERISTICS**



**FIG.4 – FORWARD DERATING CURVE**

