

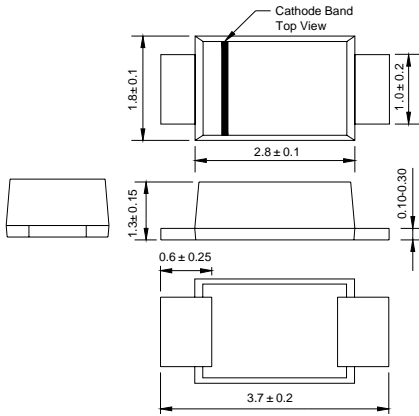


# RS07A THRU RS07M

## SURFACE MOUNT FAST RECOVERY RECTIFIER

Reverse Voltage - 50 to 1000 Volts Forward Current - 0.7 Ampere

### SOD-123FL



### FEATURES

- ◆ Glass passivated device
- ◆ Ideal for surface mounted applications
- ◆ Low reverse leakage
- ◆ Metallurgically bonded construction
- ◆ High temperature soldering guaranteed:  
250°C/10 seconds, 0.375" (9.5mm) lead length,  
5 lbs. (2.3kg) tension

### MECHANICAL DATA

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

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

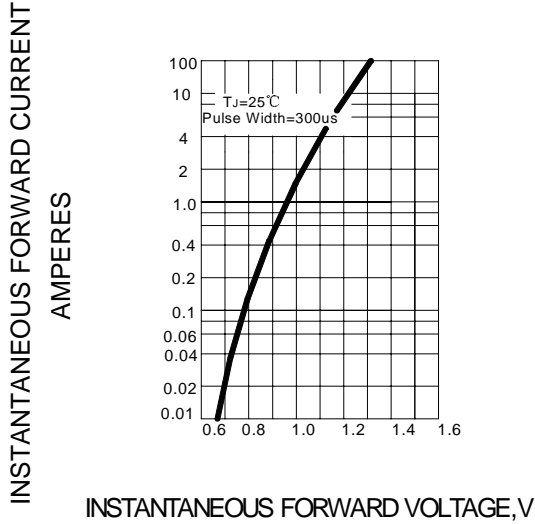
Ratings at 25°C ambient temperature unless otherwise specified.  
 Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

| MDD Catalog Number   | SYMBOLS         | RS07A        | RS07B | RS07D | RS07G | RS07J | RS07K | RS07M | UNITS            |
|--|-----------------|--------------|-------|-------|-------|-------|-------|-------|------------------|
|  |                 | RA           | RB    | RD    | RG    | RJ    | RK    | RM    |                  |
| Maximum repetitive peak reverse voltage  | $V_{RRM}$       | 50           | 100   | 200   | 400   | 600   | 800   | 1000  | VOLTS            |
| Maximum RMS voltage  | $V_{RMS}$       | 35           | 70    | 140   | 280   | 420   | 560   | 700   | VOLTS            |
| Maximum DC blocking voltage  | $V_{DC}$        | 50           | 100   | 200   | 400   | 600   | 800   | 1000  | VOLTS            |
| Maximum average forward rectified current at $T_A=65^\circ\text{C}$ (NOTE 1)   | $I_{(AV)}$      | 0.7          |       |       |       |       |       |       | Amp              |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed on rated load (JEDEC Method) $T_L=25^\circ\text{C}$ | $I_{FSM}$       | 25.0         |       |       |       |       |       |       | Amps             |
| Maximum instantaneous forward voltage at 0.7A  | $V_F$           | 1.15         |       |       |       |       |       |       | Volts            |
| Maximum DC reverse current $T_A=25^\circ\text{C}$<br>at rated DC blocking voltage $T_A=125^\circ\text{C}$                  | $I_R$           | 10.0<br>50.0 |       |       |       |       |       |       | $\mu\text{A}$    |
| Maximum reverse recovery time (NOTE 2)   | $t_{rr}$        | 150          |       |       |       | 250   | 500   |       | ns               |
| Typical junction capacitance (NOTE 3)  | $C_J$           | 4            |       |       |       |       |       |       | pF               |
| Typical thermal resistance (NOTE 4)  | $R_{\theta JA}$ | 180          |       |       |       |       |       |       | K/W              |
| Operating junction and storage temperature range   | $T_J, T_{STG}$  | -50 to +150  |       |       |       |       |       |       | $^\circ\text{C}$ |

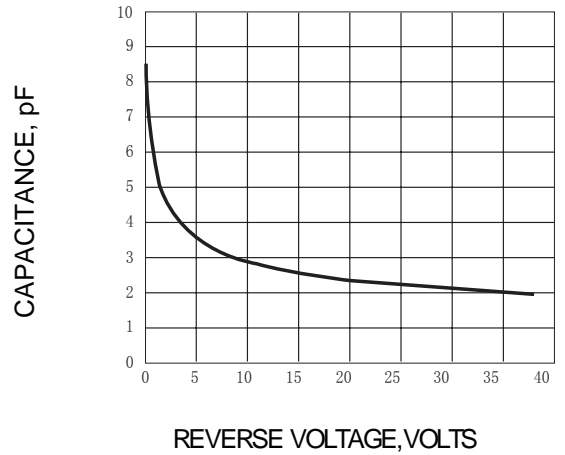
- Note:**
1. Averaged over any 20ms period.
  2. Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{rr}=0.25\text{A}$ .
  3. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
  4. Thermal resistance junction to ambient, 6.0 mm<sup>2</sup> copper pads to each terminal.

# RATINGS AND CHARACTERISTIC CURVES RS07A THRU RS07M

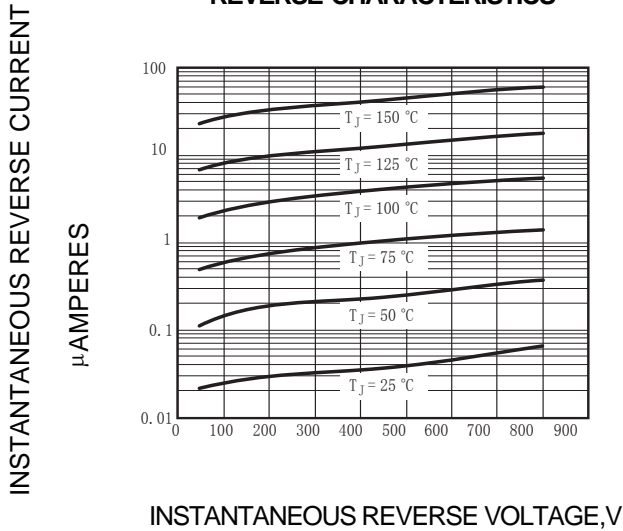
**FIG.1 – TYPICAL FORWARD CHARACTERISTIC**



**FIG.2 – TYPICAL JUNCTION CAPACITANCE**



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



**FIG.4 – FORWARD DERATING CURVE**

