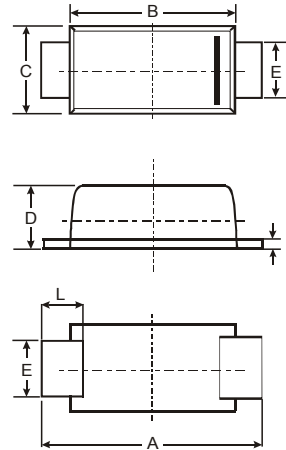


## SURFACE MOUNT FAST RECOVERY RECTIFIER DIODES

## RS1001FL - RS1010FL Vishaymas General Semiconductor

### 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



| 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 |       |      |      |

### Mechanical Data

**Case:** SOD-123FL

plastic body over passivated junction

**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

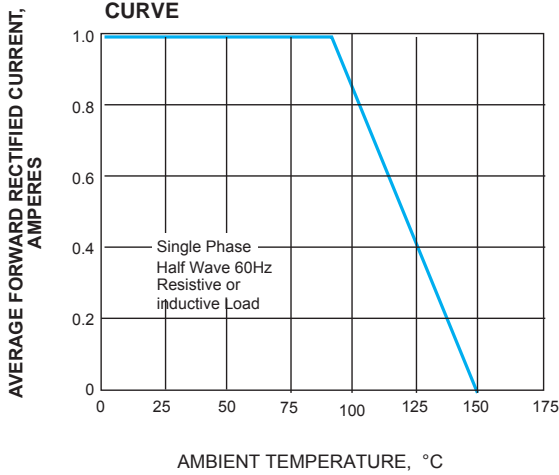
### Maximum Ratings and Electrical Characteristics

TA = 25°C unless otherwise specified Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

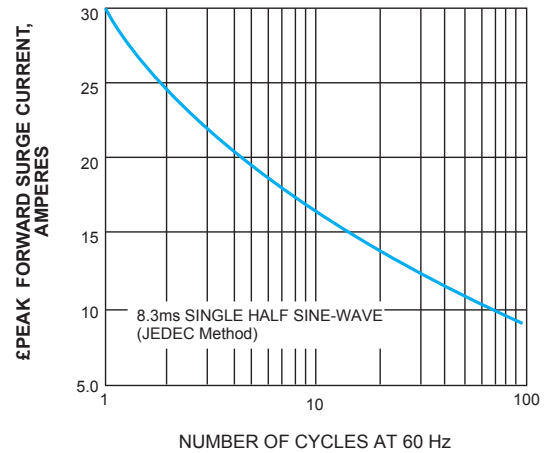
| Characteristic   | Symbol         | RS1001FL    | RS1002FL | RS1004FL | RS1006FL | RS1008FL | RS1010FL | Unit |
|--|----------------|-------------|----------|----------|----------|----------|----------|------|
| Maximum repetitive peak reverse voltage  | $V_{RRM}$      | 100         | 200      | 400      | 600      | 800      | 1000     | V    |
| Maximum RMS voltage  | $V_{RMS}$      | 70          | 140      | 280      | 420      | 560      | 700      | V    |
| Maximum DC blocking voltage  | $V_{DC}$       | 100         | 200      | 400      | 600      | 800      | 1000     | V    |
| Maximum average forward rectified current at TA=65°C (NOTE 1)  | $I_{(AV)}$     | 1.0         |          |          |          |          |          | A    |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) TL=25°C | $I_{FSM}$      | 25.0        |          |          |          |          |          | A    |
| Maximum instantaneous forward voltage at 1.0A  | $V_F$          | 1.3         |          |          |          |          |          | V    |
| Maximum DC reverse current TA=25°C at rated DC blocking voltage TA=125°C                                 | $I_R$          | 5.0<br>50.0 |          |          |          |          |          | µA   |
| Maximum reverse recovery time (NOTE 2)   | $t_{rr}$       | 150         |          | 250      |          | 500      |          | ns   |
| Typical junction capacitance (NOTE 3)  | $C_J$          | 15          |          |          |          |          |          | pF   |
| Operating junction and storage temperature range   | $T_J, T_{STG}$ | -50 to +150 |          |          |          |          |          | °C   |

- Note:**
1. Averaged over any 20ms period.
  2. Measured with  $I_F=0.5A$ ,  $I_R=1A$ ,  $I_{rr}=0.25A$ .
  3. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

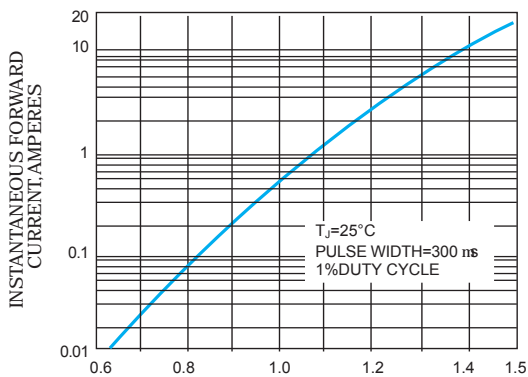
**FIG. 1- FORWARD CURRENT DERATING CURVE**



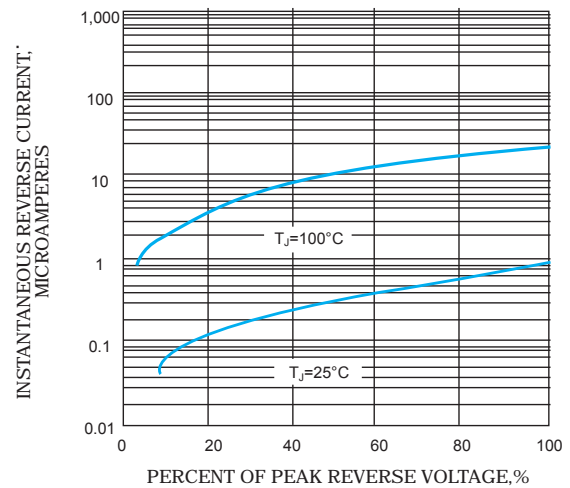
**FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



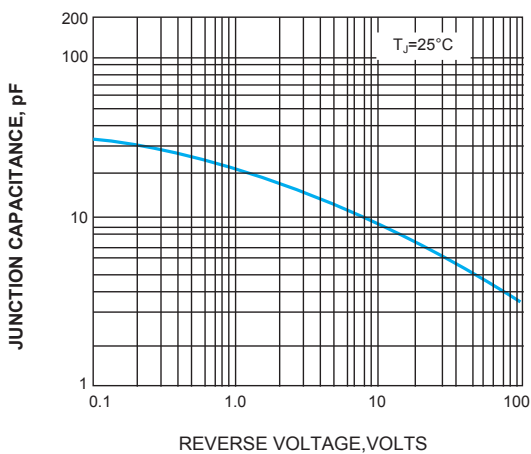
**FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 4-TYPICAL REVERSE CHARACTERISTICS**



**FIG. 5-TYPICAL JUNCTION CAPACITANCE**



**FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE**

