

## SOD-123FL Surface Mount Schottky Barrier Rectifier

### Features

- Low power loss, high efficiency
- High forward surge current capability
- High Current Capability
- For surface mounted applications
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

**Reverse Voltage**  
20-200 V

**Forward Current**  
1 Ampere

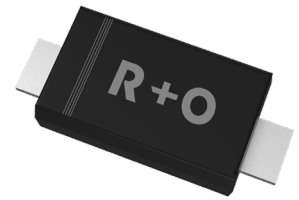
### Applications

These Schottky barrier diodes are designed for high speed switching applications, circuit protection, and voltage clamping.

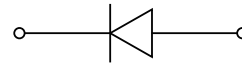
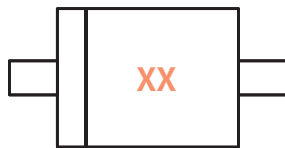
### Mechanical Data

- Case: SOD-123FL  
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode line denotes the cathode end

SOD-123FL



### Function Diagram



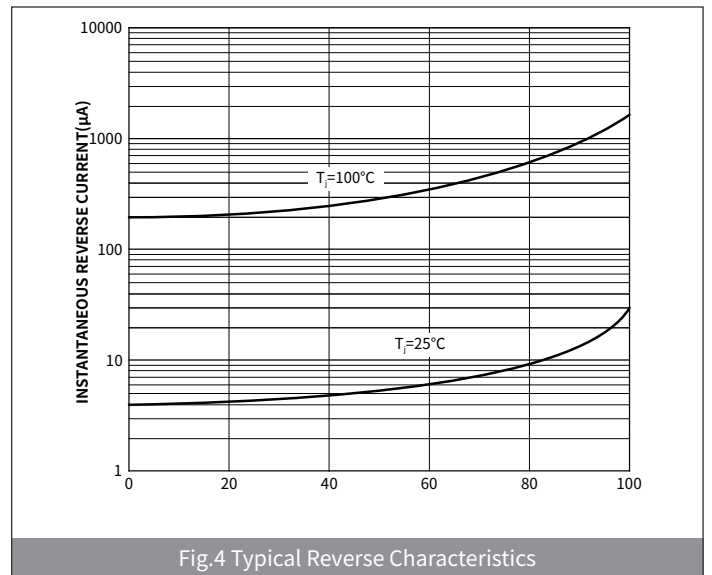
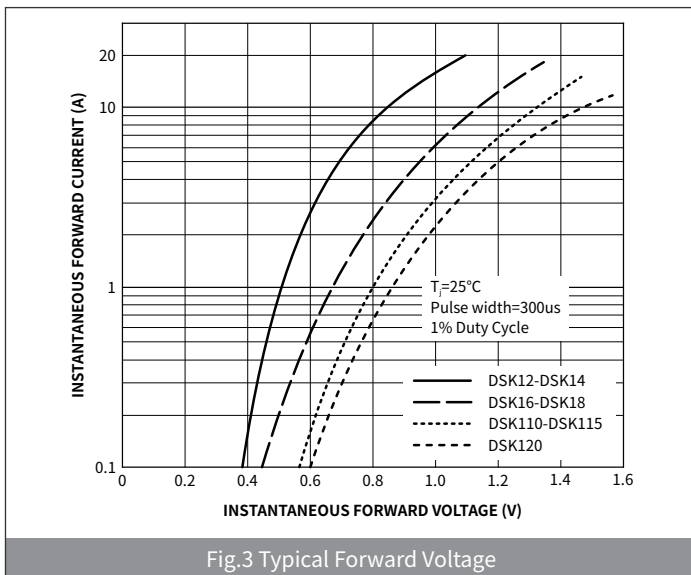
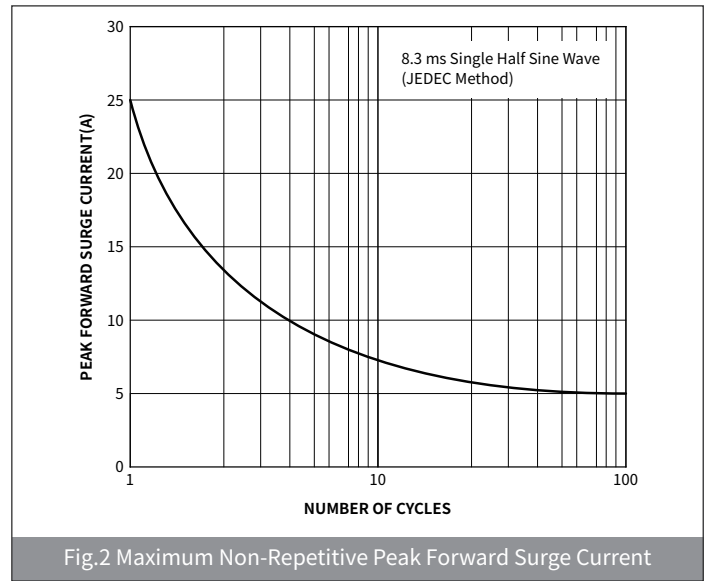
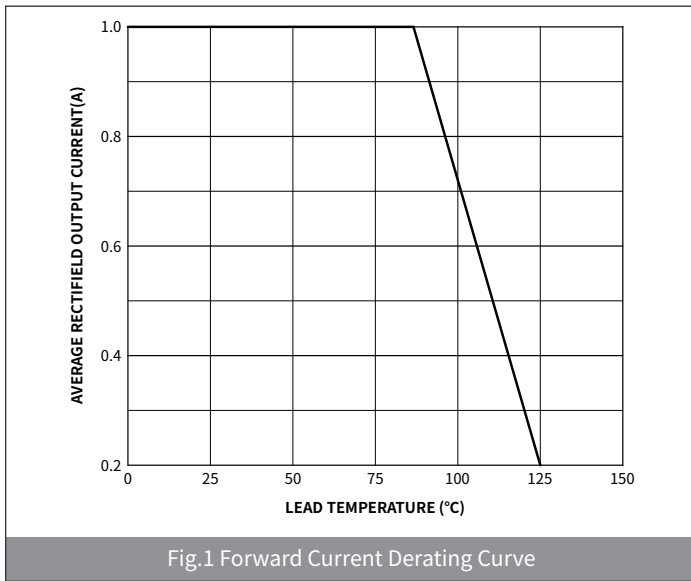
### Maximum Ratings (Ta=25°C Unless otherwise specified)

| PARAMETER   | SYMBOL           | UNIT  | DSK12     | DSK14 | DSK15 | DSK16 | DSK18 | DSK110 | DSK115 | DSK120 |
|---|------------------|-------|-----------|-------|-------|-------|-------|--------|--------|--------|
| Marking Code  |                  |       | K12       | K14   | K15   | K16   | K18   | K110   | K115   | K120   |
| Maximum Repetitive Peak Reverse Voltage                           | $V_{RRM}$        | V     | 20        | 30    | 40    | 60    | 80    | 100    | 150    | 200    |
| Maximum RMS Voltage   | $V_{RMS}$        | V     | 14        | 21    | 28    | 42    | 56    | 70     | 105    | 140    |
| Maximum DC Blocking Voltage                                       | $V_{DC}$         | V     | 20        | 30    | 40    | 60    | 80    | 100    | 150    | 200    |
| Maximum Average Forward Rectified Current                         | $I_{F(AV)}$      | A     | 1.0       |       |       |       |       |        |        |        |
| Non-repetitive Peak Forward Surge Current @t=8.3ms Half-sine wave | $I_{FSM}$        | A     | 25        |       |       |       |       |        |        |        |
| Storage temperature   | $T_{stg}$        | °C    | -55 ~+150 |       |       |       |       |        |        |        |
| Junction temperature  | $T_j$            | °C    | -55 ~+150 |       |       |       |       |        |        |        |
| Typical Thermal Resistance  | $R_{\theta J-A}$ | °C /W | 100       |       |       |       |       |        |        |        |

● **Electrical Characteristics** (Ta=25°C Unless otherwise noted)

| PARAMETER   | TEST CONDITIONS                     | SYMBOL   | UNIT | DSK12 | DSK14 | DSK15 | DSK16 | DSK18 | DSK110 | DSK115 | DSK120 |
|---|-------------------------------------|----------|------|-------|-------|-------|-------|-------|--------|--------|--------|
| Maximum instantaneous forward voltage                   | $I_F=0.5\text{mA}$                  | $V_F$    | V    | 0.55  |       | 0.70  |       | 0.85  |        |        | 0.90   |
| Maximum DC reverse current at rated DC blocking voltage | $V_R=V_{DC}, T_A=25^\circ\text{C}$  | $I_{R1}$ | mA   | 0.2   |       |       |       | 0.05  |        |        |        |
|   | $V_R=V_{DC}, T_A=100^\circ\text{C}$ | $I_{R2}$ |      | 20    |       |       |       | 5.0   |        |        |        |
| Typical junction capacitance                            | $V_R=4.0\text{V}, f=1\text{MHz}$    | $C_J$    | pF   | 30    |       |       |       |       |        |        |        |

● **Ratings And Characteristics Curves** (Ta=25°C Unless otherwise specified)



# DSK12 THRU DSK120

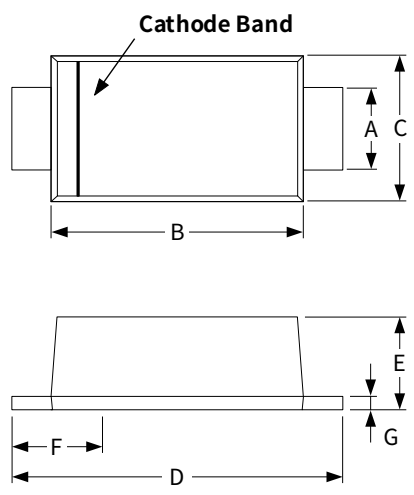
SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

## ● Ordering Information

| PACKAGE   | PACKAGE CODE | UNIT WEIGHT(g) | REEL(pcs) | BOX(pcs) | CARTON(pcs) | DELIVERY MODE |
|-----------|--------------|----------------|-----------|----------|-------------|---------------|
| SOD-123FL | R1           | 0.0169         | 3000      | 45000    | 180000      | 7"            |

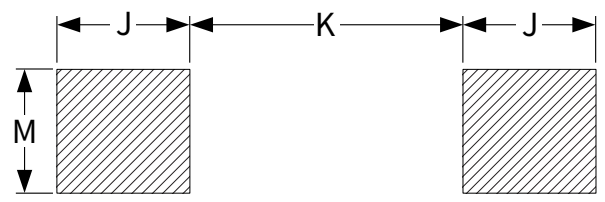
## ● Package Outline Dimensions (SOD -123FL)

| Symbol | Dimensions  |      |        |       |
|--------|-------------|------|--------|-------|
|        | Millimeters |      | Inches |       |
|        | Min.        | Max. | Min.   | Max.  |
| A      | 0.90        | 1.10 | 0.035  | 0.430 |
| B      | 2.55        | 2.85 | 0.100  | 0.111 |
| C      | 1.60        | 1.90 | 0.063  | 0.074 |
| D      | 3.60        | 3.90 | 0.031  | 0.043 |
| E      | 1.00        | 1.20 | 0.031  | 0.035 |
| F      | 0.40        | 0.90 | 0.047  | 0.055 |
| G      | 0.10        | 0.25 | 0.003  | 0.007 |



## ● Suggested Pad Layout

| Symbol | Dimensions  |      |        |       |
|--------|-------------|------|--------|-------|
|        | Millimeters |      | Inches |       |
|        | Min.        | Max. | Min.   | Max.  |
| J      | 1.00        | -    | 0.040  | -     |
| K      | -           | 1.90 | -      | 0.074 |
| M      | 1.50        | -    | 0.059  | -     |



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