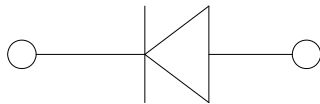
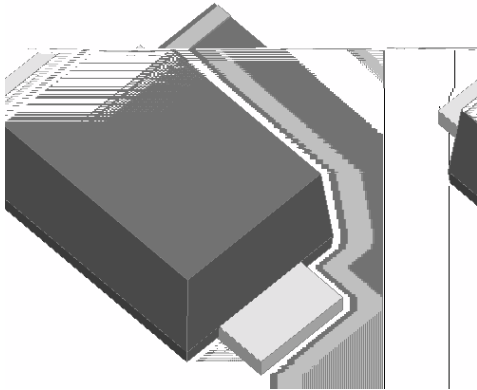


## Surface Mount Schottky Rectifier



### Features

- Low profile package
- Ideal for automated placement
- Guardring for overvoltage protection
- Low power losses, high efficiency
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

### Typical Applications

For use in low voltage high frequency inverters, freewheeling, DC/DC converters, and polarity protection applications.

### Mechanical Date

- **Package:** SOD-123FL  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

### ■ Maximum Ratings ( $T_a=25$ Unless otherwise specified)

| PARAMETER  | SYMBOL    | UNIT | S32       | S33 | S34 | S35       | S36 | S38 | S310 | S315 | S320 |
|--|-----------|------|-----------|-----|-----|-----------|-----|-----|------|------|------|
| Device marking code  |           |      | S32       | S33 | S34 | S35       | S36 | S38 | S310 | S315 | S320 |
| Repetitive peak reverse voltage  | VRRM      | V    | 20        | 30  | 40  | 50        | 60  | 80  | 100  | 150  | 200  |
| Average rectified output current @60Hz sine wave, Resistance load, $T_a$ (FIG.1) | $I_O$     | A    | 3.0       |     |     |           |     |     |      |      |      |
| Surge(non-repetitive)forward current @60Hz half-sine wave,1 cycle, $T_j=25$      | IFSM      | A    | 65        |     |     |           |     |     |      |      |      |
| Storage temperature  | $T_{stg}$ |      | -55 ~+150 |     |     |           |     |     |      |      |      |
| Junction temperature   | $T_j$     |      | -55 ~+125 |     |     | -55 ~+150 |     |     |      |      |      |
| Typical Junction Capacitance measured at 1MHz and Applied on 4.0VD.C             | $C_j$     |      | 165       |     |     |           |     |     |      |      |      |

### ■ Electrical Characteristics $T_a=25$ Unless otherwise specified

| PARAMETER  | SYMBOL | UNIT | TEST CONDITIONS | S32 | S33 | S34 | S35 | S36  | S38 | S310 | S315 | S320 |
|--|--------|------|-----------------|-----|-----|-----|-----|------|-----|------|------|------|
| Maximum instantaneous forward voltage drop per diode                         | $V_F$  | V    | IFM=3.0A        | 0.5 |     | 0.7 |     | 0.85 |     | 0.9  |      |      |
| Maximum DC reverse current at rated DC blocking voltage per diode @ VRM=VRRM | IRRM   | mA   | $T_a=25$        | 0.5 |     |     |     |      | 0.1 |      |      |      |
|  |        |      | $T_a=100$       | 10  |     |     |     |      | 5   |      |      |      |



# S32 THRU S320

## ■ Thermal Characteristics $T_a=25$ Unless otherwise specified

| PARAMETER          | SYMBOL         | UNIT | S32              | S33 | S34 | S35 | S36 | S38 | S310 | S315 | S320 |
|--------------------|----------------|------|------------------|-----|-----|-----|-----|-----|------|------|------|
| Thermal Resistance | R $\theta$ J-A | /W   | 70 <sup>1)</sup> |     |     |     |     |     |      |      |      |
|                    | R $\theta$ J-L |      | 25 <sup>1)</sup> |     |     |     |     |     |      |      |      |

Note

(1) Thermal resistance between junction and ambient and between junction and lead mounted on P.C.B with 3mm\*3mm copper pad areas.

## ■ Characteristics (Typical)

FIG1:Io-TL Curve

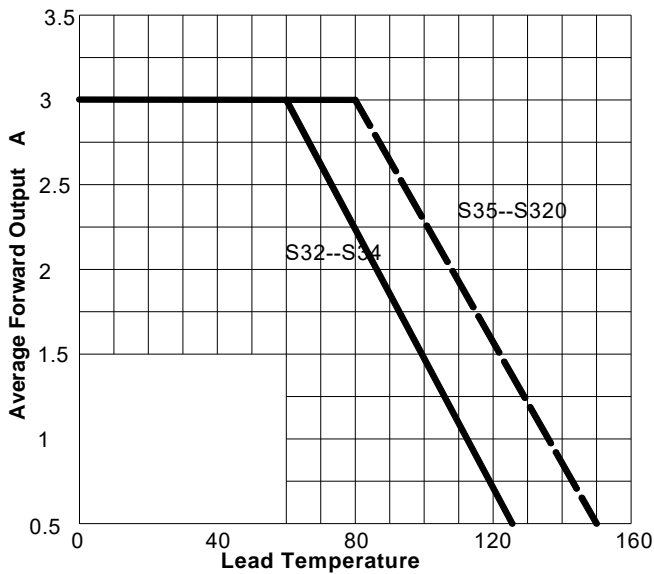


FIG2: Surge Forward Current Capability

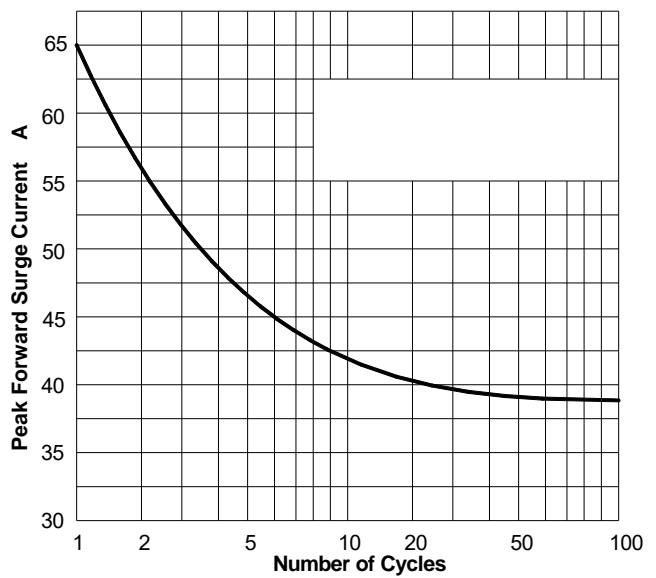


FIG3: Forward Voltage

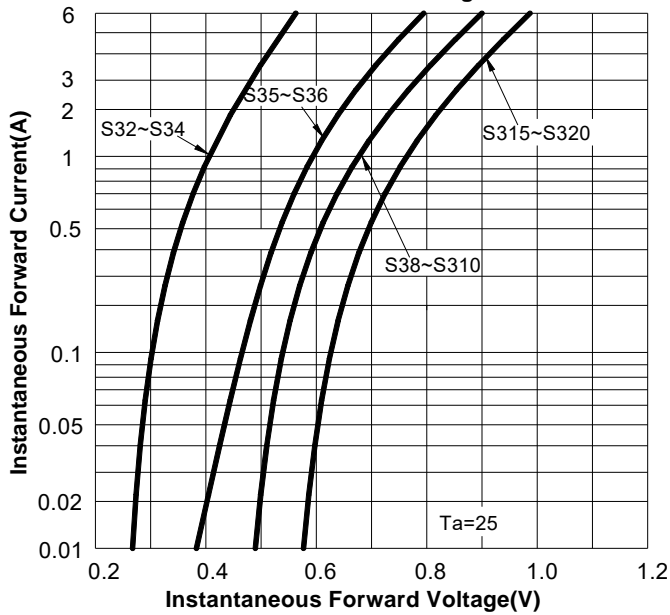
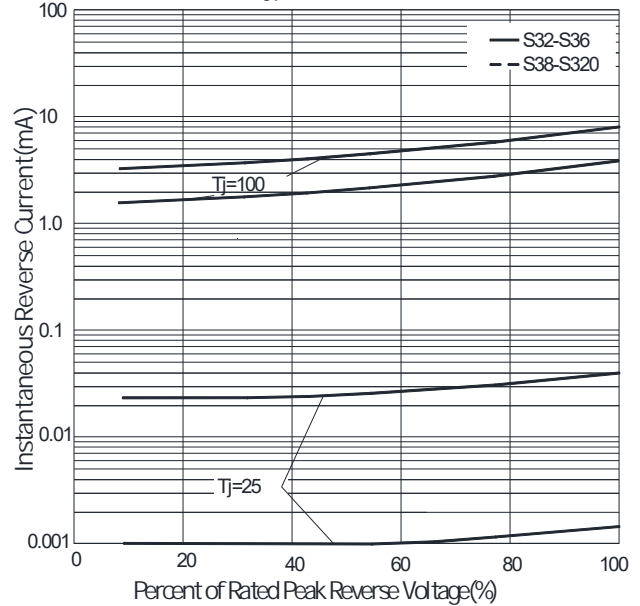


FIG4 Typical Reverse Characteristics



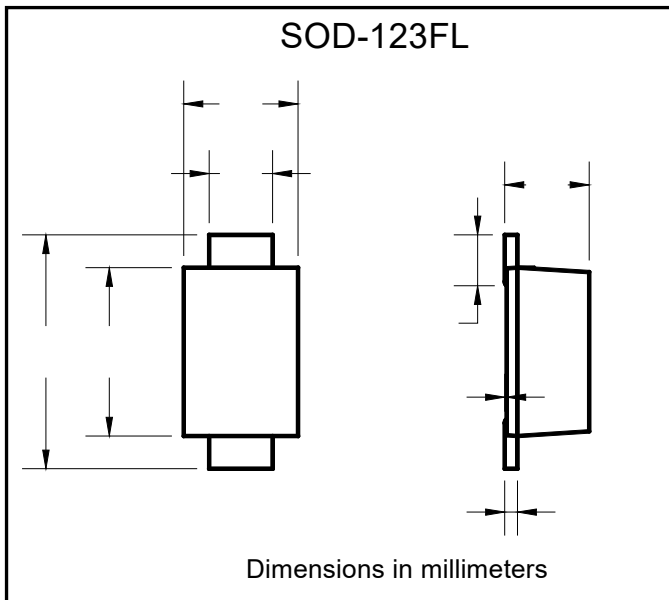


# S32 THRU S320

## Ordering Information (Example)

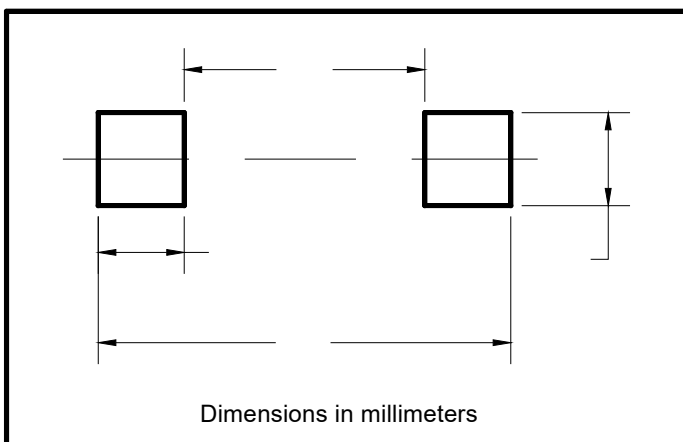
| PREFERED P/N  | PACKING CODE | UNIT WEIGHT(g)     | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|--------------------|----------------------|-------------------------|----------------------------|---------------|
| S32 THRU S320 | F1           | Approximate 0.0169 | 3000                 | 30000                   | 120000                     | 7" reel       |
| S32 THRU S320 | F2           | Approximate 0.0169 | 2500                 | 25000                   | 100000                     | 7" reel       |
| S32 THRU S320 | F3           | Approximate 0.0169 | 10000                | 30000                   | 210000                     | 13" reel      |
| S32 THRU S320 | F4           | Approximate 0.0169 | 3000                 | 27000                   | 108000                     | 7" reel       |
| S32 THRU S320 | F5           | Approximate 0.0169 | 10000                | 20000                   | 160000                     | 13" reel      |
| S32 THRU S320 | F6           | Approximate 0.0169 | 3000                 | 12000                   | 60000                      | 7" reel       |

## Outline Dimensions



| SOD-123FL |      |      |
|-----------|------|------|
| Dim       | Min  | Max  |
| A         | 1.60 | 1.90 |
| B         | 0.90 | 1.10 |
| C         | 2.55 | 2.85 |
| D         | 3.60 | 3.90 |
| E         | 1.00 | 1.20 |
| F         | 0.40 | 0.90 |
| G         | 0.10 | 0.25 |
| H         | 0.02 | 0.05 |

## Suggested pad layout



| SOD-123FL |             |
|-----------|-------------|
| Dim       | Millimeters |
| P1        | 3.90        |
| P2        | 1.90        |
| Q1        | 1.00        |
| Q2        | 1.50        |