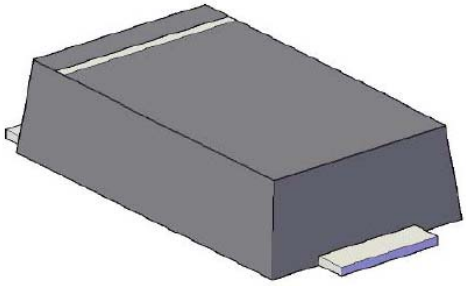
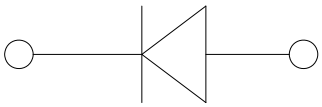
# Surface Mount Schottky Rectifier





## 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-123HE
  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 | S310E |
|---|---|---|---|
| Device marking code | | | S310E |
| Repetitive peak reverse voltage | $V_{RRM}$ | V | 100 |
| Average rectified output current @60Hz sine wave, Resistance load, TL (FIG.1) | $I_O$ | A | 3.0 |
| Surge(non-repetitive)forward current @60Hz half-sine wave,1 cycle, Tj=25℃ | $I_{FSM}$ | A | 65 |
| Storage temperature | $T_{stg}$ | ℃ | -55 ~+175 |
| Junction temperature | $T_j$ | ℃ | -55 ~+175 |
| Typical Junction Capacitance measured at 1MHz and Applied on 4.0VD.C | Cj | pF | 165 |

## ■Electrical Characteristics（$T_a$=25℃ Unless otherwise specified）

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | S310E |
|---|---|---|---|---|
| Maximum instantaneous forward voltage drop per diode | $V_F$ | V | $I_{FM}$=3.0A | 0.85 |
| Maximum DC reverse current at rated DC blocking voltage per diode @ VRM=VRRM | $I_{RRM}$ | mA | $T_a$=25℃ | 0.1 |
| | | | $T_a$=100℃ | 5 |

Note1:Pulse test:300uS pulse widh,1% duty cycle

Note2:Pulse test:pulse widh 40mS

## ■Thermal Characteristics （$T_a$=25℃ Unless otherwise specified）

| PARAMETER | SYMBOL | UNIT | S310E |
|---|---|---|---|
| Thermal Resistance | RθJ-A | ℃/W | 80 |
| | RθJ-L | | 20 |

## ■ Characteristics (Typical)

FIG1:Io-TL Curve

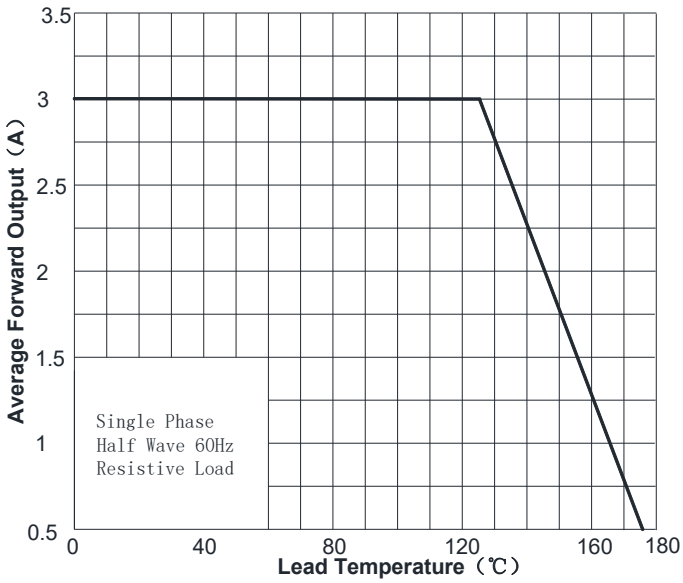



FIG2: Surge Forward Current Capability

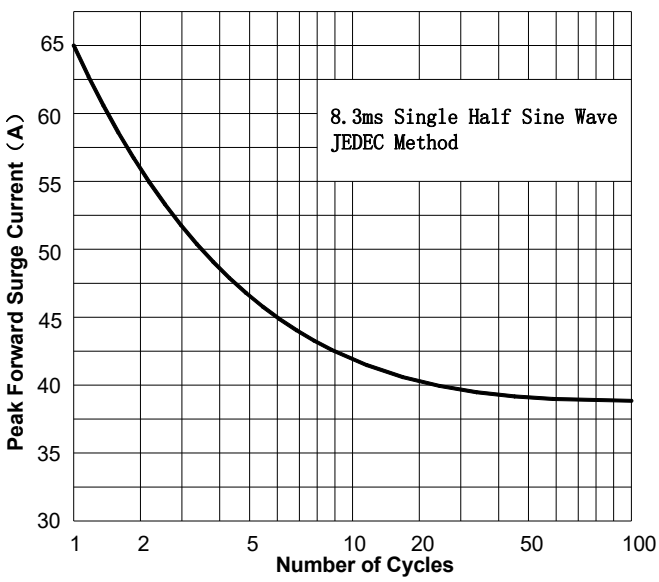



FIG3: Forward Voltage

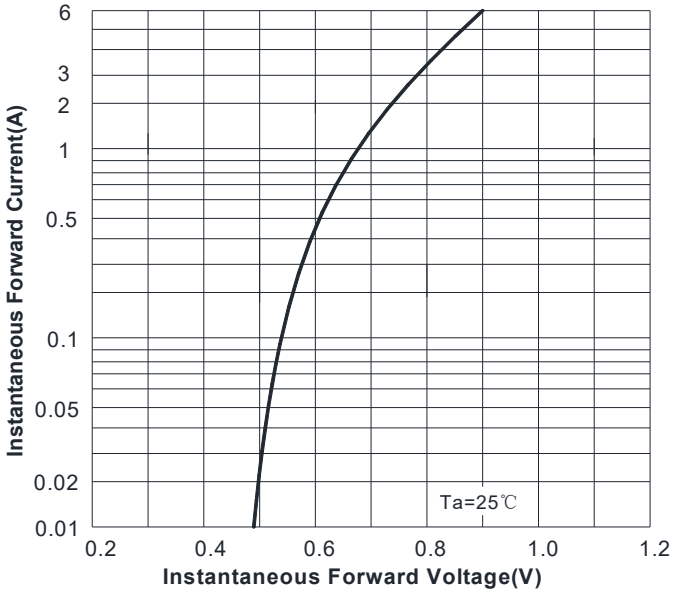
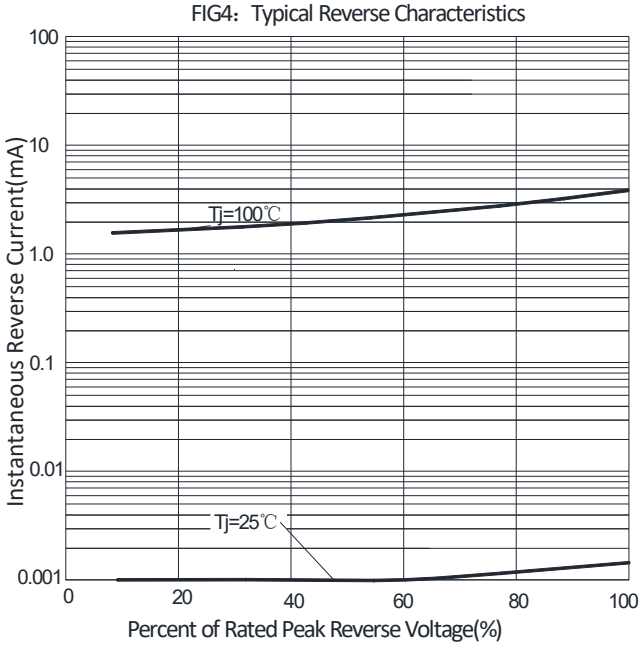
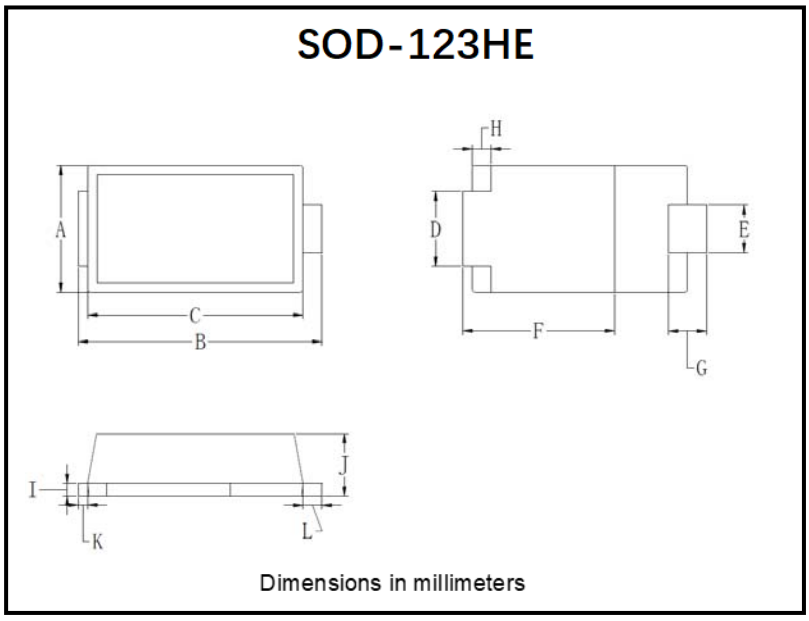



FIG4：Typical Reverse Characteristics

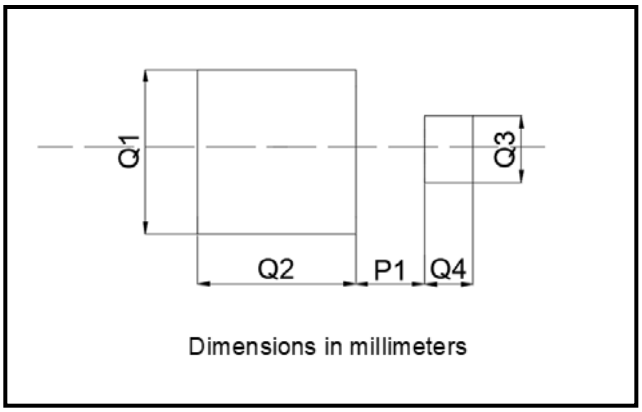


## ■ Outline Dimensions




| SOD-123HE | | |
|---|---|---|
| Dim | Min | Max |
| A | 1.88 | 2.18 |
| B | 3.70 | 4.00 |
| C | 3.19 | 3.61 |
| D | 1.05 | 1.35 |
| E | 0.61 | 0.91 |
| F | 2.20 | 2.90 |
| G | 0.40 | 0.80 |
| H | 0.30 TYP | |
| I | 0.10 | 0.30 |
| J | 0.85 | 1.15 |
| K | 0.00 | 0.30 |
| L | 0.15 | 0.45 |

## ■ Suggested pad layout




| SOD-123HE | |
|---|---|
| Dim | Millimeters |
| P1 | 0.64 |
| Q1 | 2.54 |
| Q2 | 2.67 |
| Q3 | 1.27 |
| Q4 | 0.76 |

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