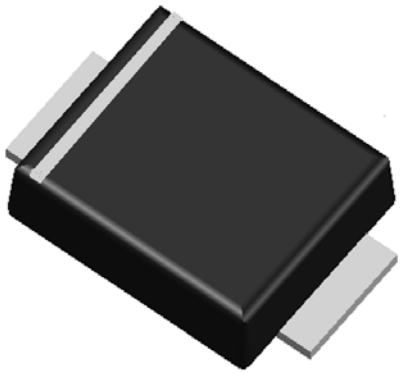
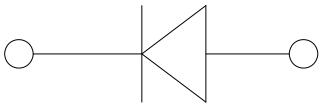
# Surface Mount General Purpose Rectifier





## Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

## Typical Applications

For use in general purpose rectification of power supplies, inverters, converters, and freewheeling diodes for consumer, and telecommunication.

## Mechanical Data

- **Package**: SMBF
  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 | GS3ABF | GS3BBF | GS3DBF | GS3GBF | GS3JBF | GS3KBF | GS3MBF |
|---|---|---|---|---|---|---|---|---|---|
| Device marking code | | | GS3ABF | GS3BBF | GS3DBF | GS3GBF | GS3JBF | GS3KBF | GS3MBF |
| Maximum Repetitive peak reverse voltage | $V_{RRM}$ | V | 50 | 100 | 200 | 400 | 600 | 800 | 1000 |
| Maximum RMS Voltage | $V_{RMS}$ | V | 35 | 70 | 140 | 280 | 420 | 560 | 700 |
| Maximum DC Blocking Voltage | $V_{DC}$ | V | 50 | 100 | 200 | 400 | 600 | 800 | 1000 |
| Average rectified output current @60Hz sine wave, resistance load, TL (Fig.1) | IO | A | 3.0 | | | | | | |
| Forward Surge Current (Non-repetitive) @60Hz Half-sine wave,1 cycle, Tj=25℃ | $I_{FSM}$ | A | 100 | | | | | | |
| Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25℃ | | | 200 | | | | | | |
| Current squared time @1ms≤t≤8.3ms Tj=25℃ | $I^2t$ | $A^2s$ | 41.5 | | | | | | |
| Storage temperature | Tstg | ℃ | -55 ~ +150 | | | | | | |
| Junction temperature | Tj | ℃ | -55 ~ +150 | | | | | | |

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

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | GS3ABF | GS3BBF | GS3DBF | GS3GBF | GS3JBF | GS3KBF | GS3MBF |
|---|---|---|---|---|---|---|---|---|---|---|
| Maximum instantaneous forward voltage | VF | V | IFM=3.0A | 1.1 | | | | | | |
| Maximum DC reverse current at rated DC blocking voltage | IR | μA | $T_j$=25℃ | 5 | | | | | | |
| | | | $T_j$=125℃ | 100 | | | | | | |
| Typical junction capacitance | Cj | pF | Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C | 25 | | | | | | |

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

| PARAMETER | SYMBOL | UNIT | GS3ABF | GS3BBF | GS3DBF | GS3GBF | GS3JBF | GS3KBF | GS3MBF |
|---|---|---|---|---|---|---|---|---|---|
| Typical Thermal Resistance | $R_{\theta J-A}$(1) | ℃/W | 60 | | | | | | |
| | $R_{\theta J-L}$(1) | | 20 | | | | | | |
| | $R_{\theta J-C}$(1) | | 15 | | | | | | |

Note:
(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad areas

## ■ Characteristics (Typical)

FIG.1: Io-TL Curve

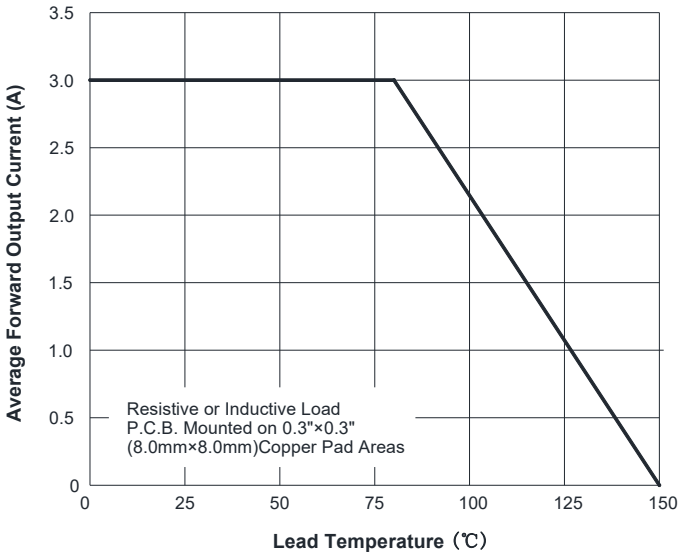



FIG.2: Forward Surge Current Capability

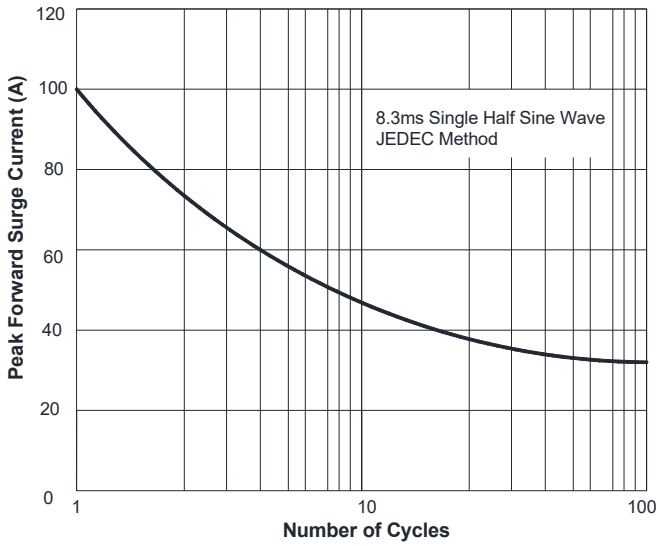



FIG.3: Typical Forward Voltage

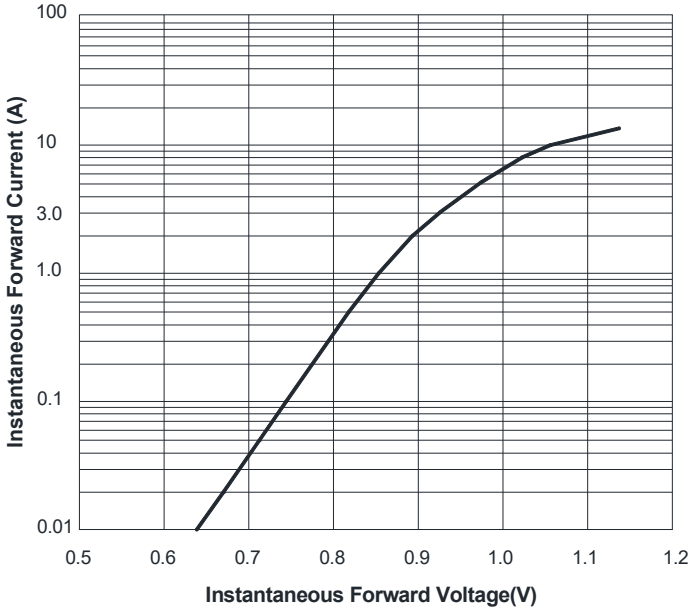
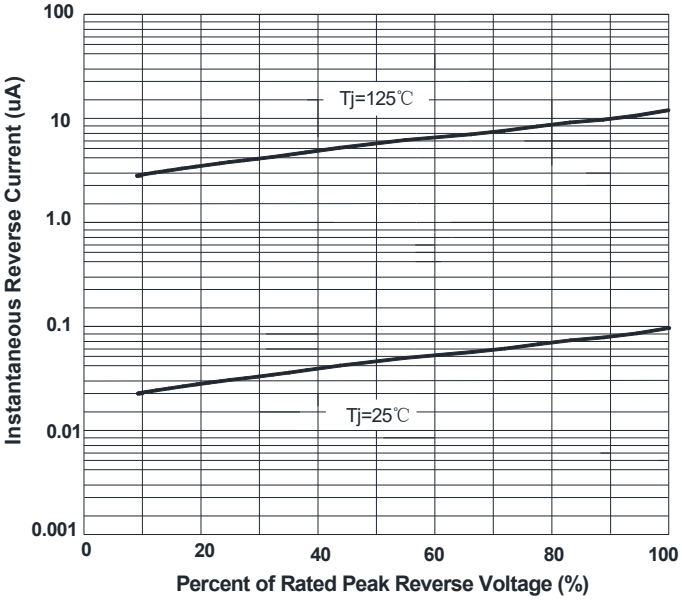


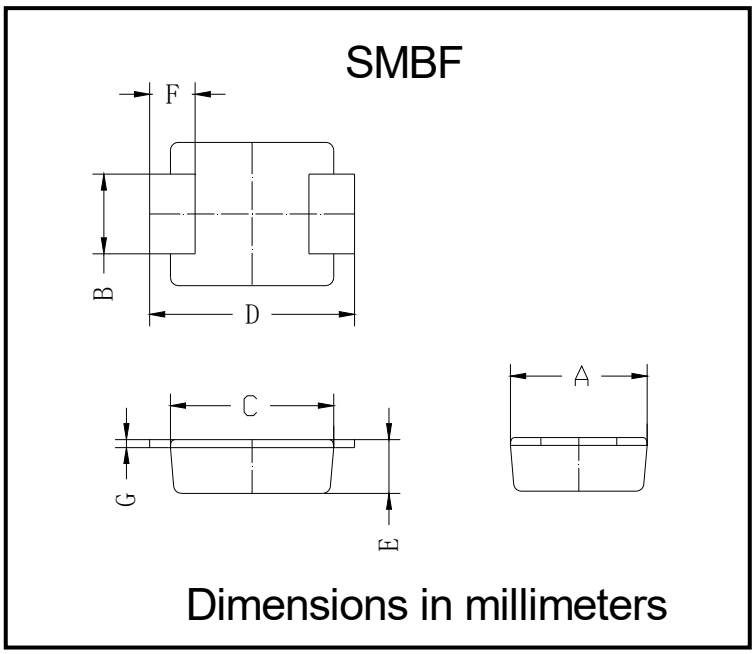

FIG.4: Typical Reverse Characteristics



## ■Ordering Information (Example)

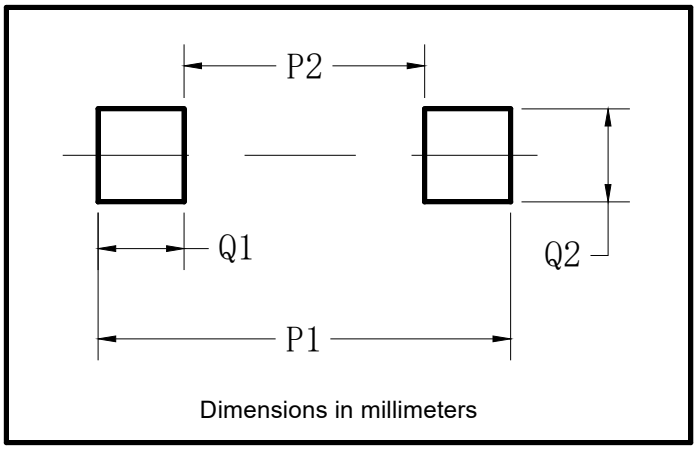
| PREFERED P/N | PACKING CODE | UNIT WEIGHT(g) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---|---|---|---|---|---|---|
| GS3ABF – GS3MBF | F1 | Approximate 0.065 | 5000 | / | 80000 | 13” reel |

## ■ Outline Dimensions




| SMBF | | |
|---|---|---|
| Dim | Min | Max |
| A | 3.40 | 3.80 |
| B | 1.90 | 2.10 |
| C | 4.15 | 4.45 |
| D | 5.10 | 5.60 |
| E | 1.05 | 1.55 |
| F | 0.70 | 1.35 |
| G | 0.15 | 0.25 |

## ■ Suggested pad layout




| Dim | Milimeters |
|---|---|
| P1 | 6.20 |
| P2 | 2.40 |
| Q1 | 1.90 |
| Q2 | 2.20 |

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