



SMBF Plastic-Encapsulate Diodes

RS3ABF THRU RS3MBF Fast Recovery Rectifier Diodes

Features

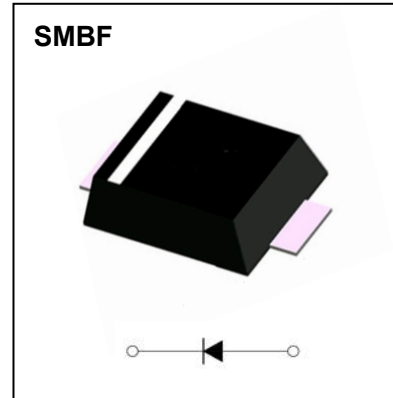
- $I_{F(AV)}$ 3A
- V_{RRM} 50V-1000V
- High surge current capability
- Polarity: Color band denotes cathode

Applications

- Rectifier

Marking

- RS3XBF
X : From A To M



Limiting Values(Absolute Maximum Rating)

| Item | Symbol | Unit | Test Conditions | RS3 | | | | | | |
|--------------------------------------|-------------|------------------|---|------------|-----|-----|-----|-----|-----|------|
| | | | | ABF | BBF | DBF | GBF | JBF | KBF | MBF |
| 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 |
| Average Forward Current | $I_{F(AV)}$ | A | 60Hz Half-sine wave, Resistance load, $T_L=100\text{ }^\circ\text{C}$ | 3.0 | | | | | | |
| Surge(Non-repetitive)Forward Current | I_{FSM} | A | 60Hz Half-sine wave, 1 cycle, $T_a=25\text{ }^\circ\text{C}$ | 100 | | | | | | |
| Junction Temperature | T_J | $^\circ\text{C}$ | | -55 ~ +150 | | | | | | |
| Storage Temperature | T_{STG} | $^\circ\text{C}$ | | -55 ~ +150 | | | | | | |

Electrical Characteristics (T=25°C Unless otherwise specified)

| Item | Symbol | Unit | Test Condition | RS3 | | | | | | |
|--|------------------|--------------------|--|---------------------------------|-----|-----|-----|-----|-----|-----|
| | | | | ABF | BBF | DBF | GBF | JBF | KBF | MBF |
| Peak Forward Voltage | V_F | V | $I_F=3.0\text{A}$ | 1.3 | | | | | | |
| Peak Reverse Current | I_{RRM1} | μA | $V_{RM}=V_{RRM}$ | $T_a=25\text{ }^\circ\text{C}$ | | | | | | |
| | I_{RRM2} | | | $T_a=125\text{ }^\circ\text{C}$ | | | | | | |
| Thermal Resistance(Typical) | $R_{\theta J-A}$ | $^\circ\text{C/W}$ | Between junction and ambient | 78 | | | | | | |
| Typical junction capacitance per diode | C_J | pF | Measured at 1.0MHz and applied reverse voltage of 4.0 volts. | 60 | | | | | | |
| Maximum reverse recovery time | t_{rr} | ns | $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$ | 150 | | | 250 | | 500 | |

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

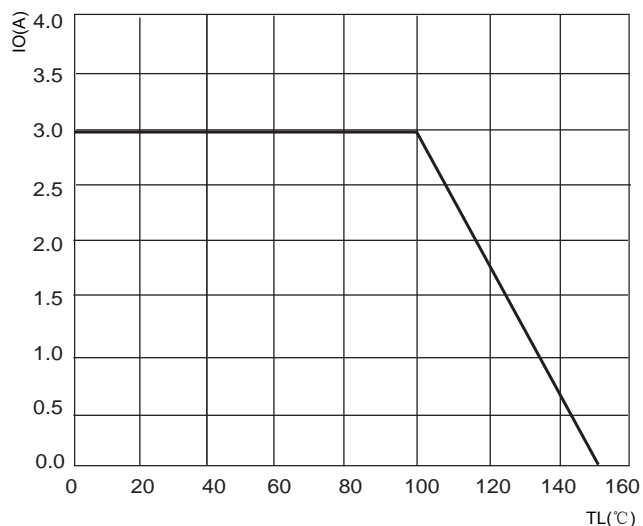


FIG2: Surge Forward Current Capability

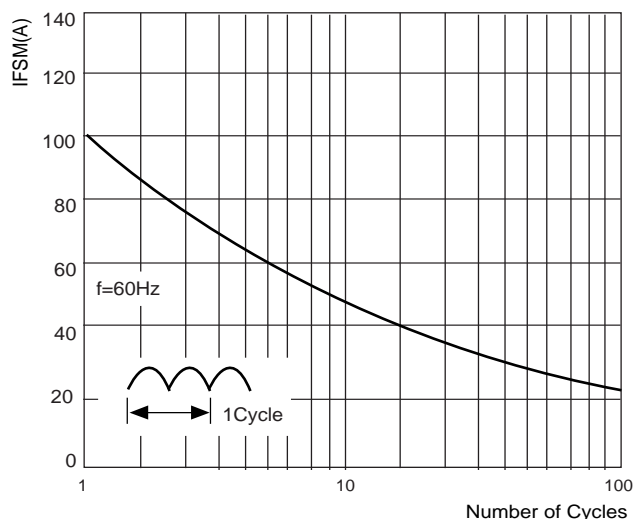


FIG.3: TYPICAL FORWARD CHARACTERISTICS

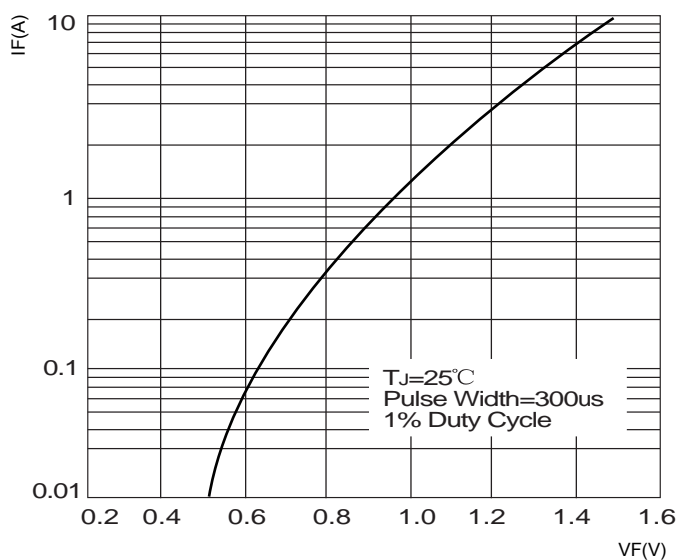


FIG.4 : TYPICAL REVERSE CHARACTERISTICS

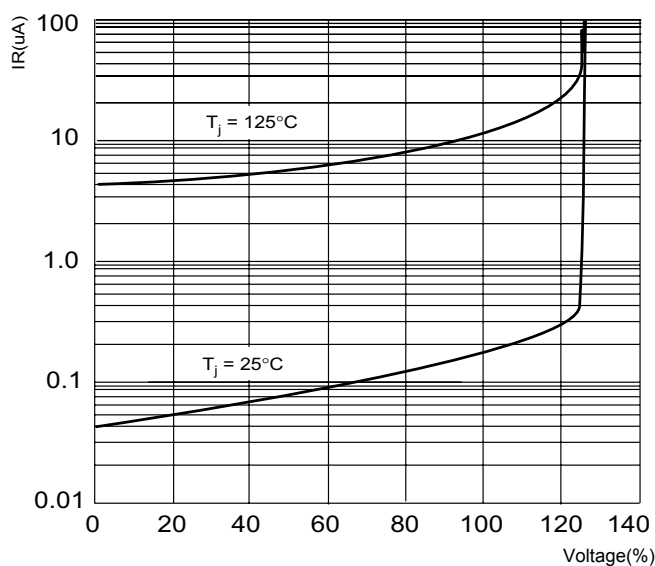
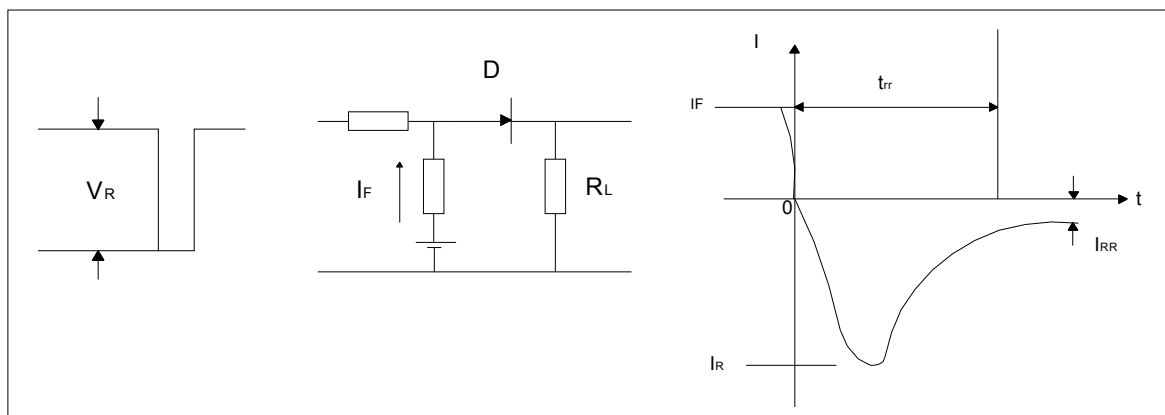
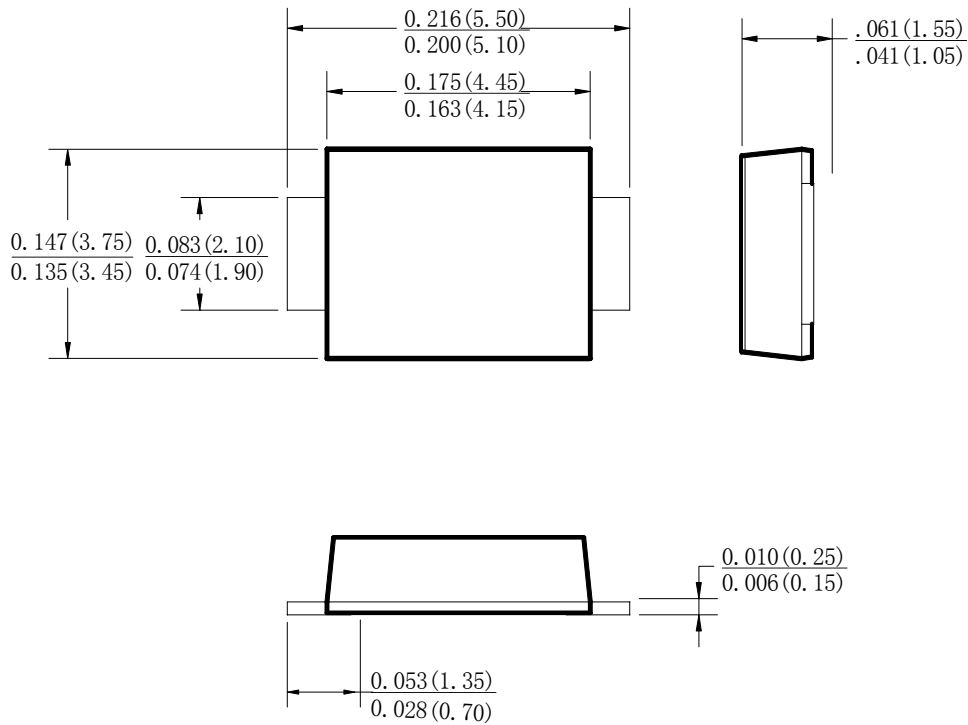


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

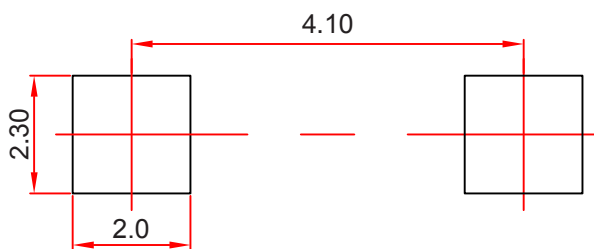


SMBF Package Outline Dimensions



Dimensions in inches and (millimeters)

SMBF Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

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