SZCJ

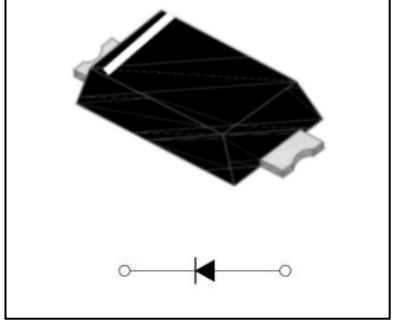
# SMBF Plastic-Encapsulate Diodes

## RS4ABF THRU RS4MBF Fast Recovery Rectifier Diodes

### Features

- $I_{F(AV)}$ 4A
- $V_{RRM}$ 50V-1000V
- High surge current capability
- Polarity: Color band denotes cathode

SMBF



### Applications

- Rectifier

### Marking

- RS4XBF

  X：From A To M

### Limiting Values(Absolute Maximum Rating)

| Item | Symbol | Unit | Test Conditions | RS4 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 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, TL= 100℃ | 4.0 | | | | | | |
| Surge(Non-repetitive)Forward Current | $I_{FSM}$ | A | 60Hz Half-sine wave, 1 cycle, Ta=25℃ | 120 | | | | | | |
| Rating for Fusing | $I^2t$ | $A^2s$ | 60Hz Half-sine wave, 1 cycle, Ta=25℃ | 59.8 | | | | | | |
| Junction Temperature | $T_J$ | ℃ | | -55 ~ +150 | | | | | | |
| Storage Temperature | $T_{STG}$ | ℃ | | -55 ~ +150 | | | | | | |

### Electrical Characteristics (T=25℃ Unless otherwise specified)

| Item | Symbol | Unit | Test Condition | | RS4 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | ABF | BBF | DBF | GBF | JBF | KBF | MBF |
| Peak Forward Voltage | $V_F$ | V | $I_F$=4.0A | | 1.3 | | | | | | |
| Peak Reverse Current | $I_{RRM1}$ | μA | $V_{RM}=V_{RRM}$ | Ta =25℃ | 5 | | | | | | |
| | $I_{RRM2}$ | | | Ta =125℃ | 500 | | | | | | |
| Thermal Resistance(Typical) | $R_{\theta J-A}$ | ℃/W | Between junction and ambient | | 78 | | | | | | |
| Typical junction capactiance per diode | $C_J$ | pF | Measured at 1.0MHz and applied reverse voltage of 4.0 volts. | | 68 | | | | | | |
| Maximum reverse recovery time | $t_{rr}$ | ns | $I_F$=0.5A,$I_R$=1.0A,$I_{rr}$=0.25A | | 150 | | | | 250 | 500 | |

## Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

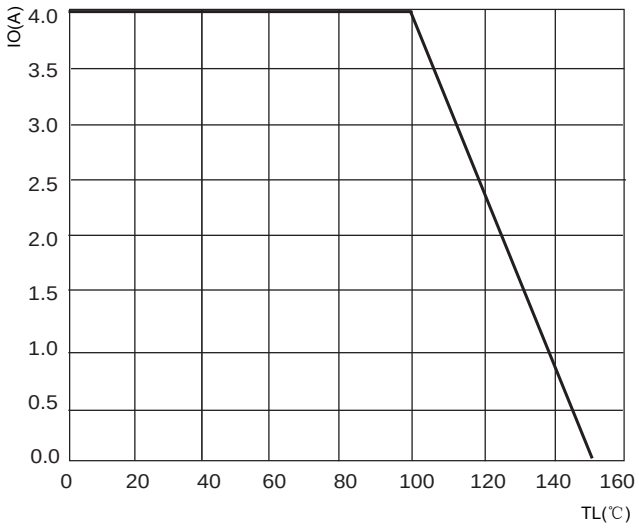



FIG2:Surge Forward Current Capadility

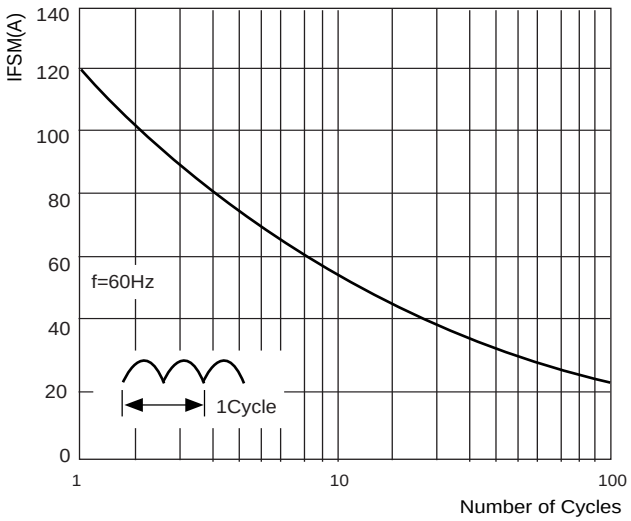



FIG.3: TYPICAL FORWARD CHARACTERISTICS

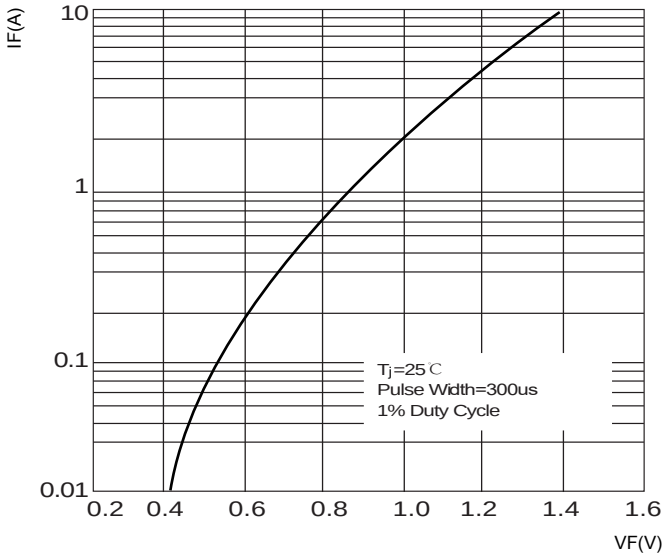



FIG.4 ：TYPICAL REVERSE CHARACTERISTICS

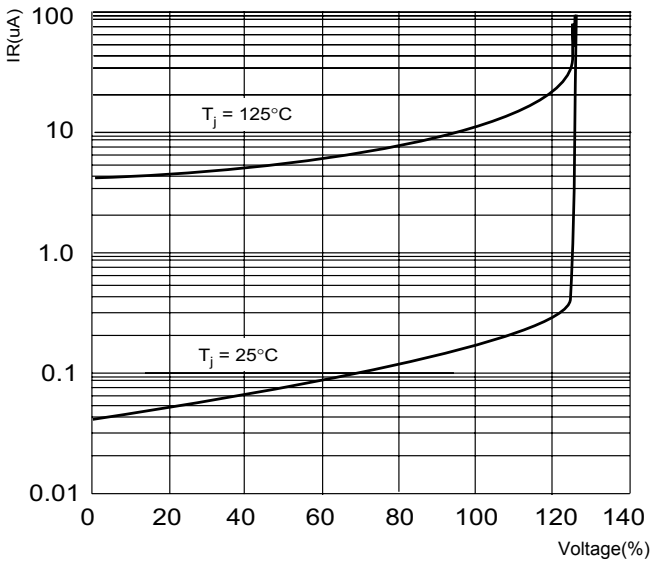
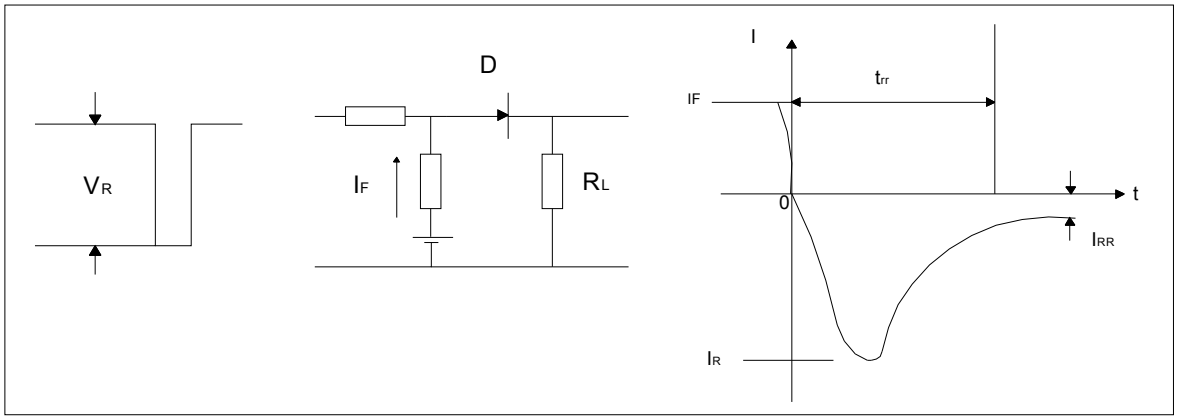
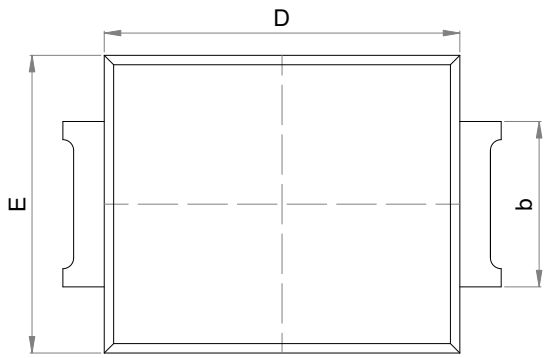


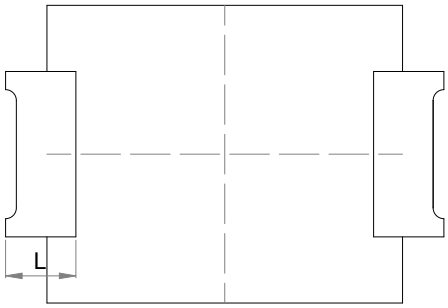

FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



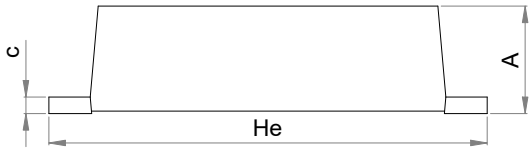
## SMBF Package Outline Dimensions




Top View




Bottom View

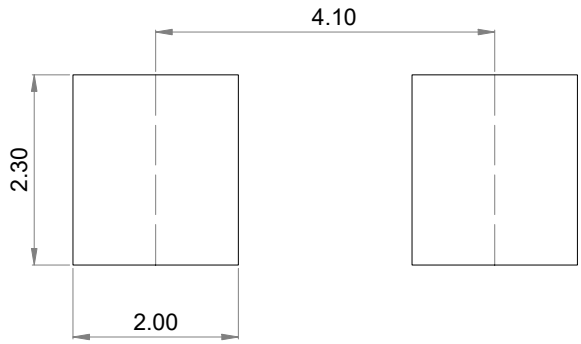



Side View

| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|---|---|---|---|---|
| | Min. | Max. | Min. | Max. |
| A | 1.05 | 1.55 | 0.041 | 0.061 |
| b | 1.90 | 2.10 | 0.075 | 0.083 |
| c | 0.15 | 0.25 | 0.006 | 0.010 |
| D | 4.15 | 4.45 | 0.163 | 0.175 |
| E | 3.45 | 3.75 | 0.136 | 0.148 |
| He | 5.10 | 5.50 | 0.201 | 0.217 |
| L | 0.70 | 1.35 | 0.028 | 0.053 |

Notes：
1 Dimensions exclusive of mold gate burrs.
2 Dimensions exclusive of mold flash and cutting burrs.

## SMBF Suggested Pad Layout




Controlling dimension：in millimeters.

NOTICE

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