# RS2A-BF THRU RS2M-BF

## 2.0A Surface Mount General Purpose Rectifiers - 50V-1000V

## Features

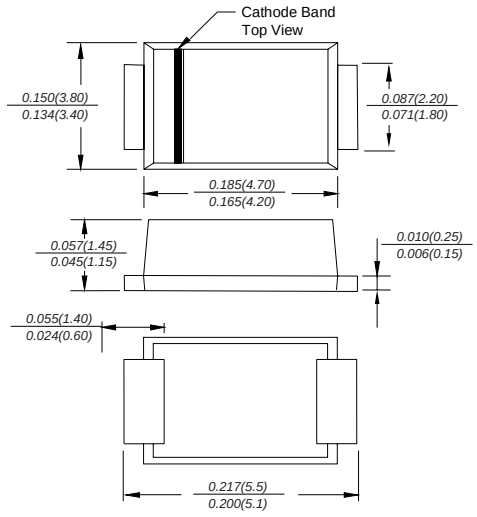
- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Fast switching for high efficiency
- Low reverse leakage
- Built-in strain relief,ideal for automated placement
- High forward surge current capability
- High temperature soldering guaranteed: 250°C/10 seconds at terminals
- Glass passivated chip junction
- Compliant to RoHS Directive 2011/65/EU
- Compliant to Halogen-free

## Mechanical data

- **Case**: JEDEC SMBF molded plastic body
- **Terminals**: Solder plated, solderable per MIL-STD-750, Method 2026
- **Polarity**: Color band denotes cathode end
- **Mounting Position**: Any

## Package outline

**SMBF**




*Dimensions in inches and (millimeters)*

## Maximum ratings and Electrical Characteristics (AT $T_A$=25°C unless otherwise noted)

| PARAMETER | CONDITIONS | Symbol | MIN. | TYP. | MAX. | UNIT |
|---|---|---|---|---|---|---|
| Forward rectified current | See Fig.1 | $I_O$ | | | 2.0 | A |
| Forward surge current | 8.3ms single half sine-wave (JEDEC methode) | $I_{FSM}$ | | | 50 | A |
| Reverse current | $V_R$ = $V_{RRM}$ $T_A$ = 25°C | $I_R$ | | | 5.0 | μA |
| | $V_R$ = $V_{RRM}$ $T_A$ = 100°C | | | | 50 | |
| Thermal resistance | Junction to ambient NOTE 1 | $R_{\theta JA}$ | | 60 | | °C/W |
| Diode junction capacitance | f=1MHz and applied 4V DC reverse voltage | $C_J$ | | 28 | | pF |
| Storage temperature | | $T_{STG}$ | -65 | | +150 | °C |

| SYMBOLS | $V_{RRM}$ *1 (V) | $V_{RMS}$ *2 (V) | $V_R$ *3 (V) | $V_F$ *4 (V) | $t_{rr}$ *5 (ns) | Operating temperature $T_J$, (°C) |
|---|---|---|---|---|---|---|
| RS2A-BF | 50 | 35 | 50 | 1.30 | 150 | -55 to +150 |
| RS2B-BF | 100 | 70 | 100 | | | |
| RS2D-BF | 200 | 140 | 200 | | | |
| RS2G-BF | 400 | 280 | 400 | | | |
| RS2J-BF | 600 | 420 | 600 | | 250 | |
| RS2K-BF | 800 | 560 | 800 | | 500 | |
| RS2M-BF | 1000 | 700 | 1000 | | | |

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@$I_F$=2.0A

*5 Maximum Reverse recovery time, note 2

**Note:** 1.P.C.B. mounted with 2.0x2.0"(5.0x5.0cm) copper pad areas
2. Reverse recovery time test condition, $I_F$=0.5A, $I_R$=1.0A, $I_{RR}$=0.25A

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## Rating and characteristic curves

FIG. 1- FORWARD CURRENT DERATING CURVE

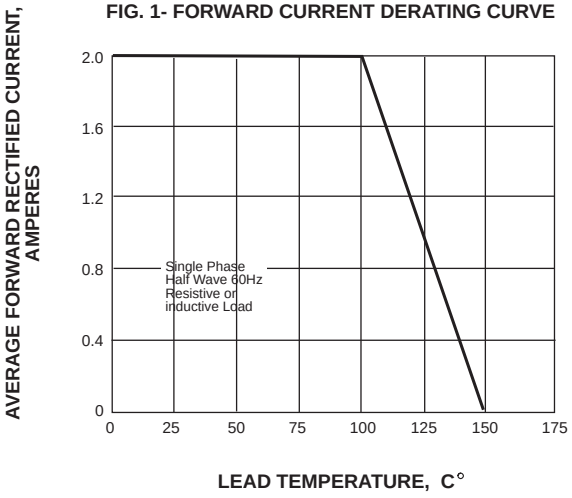



FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

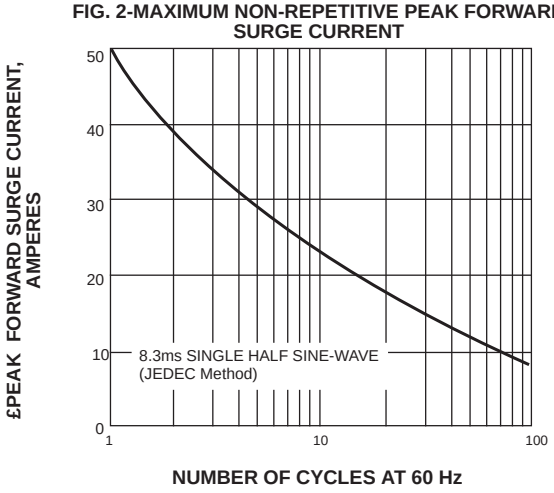



FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

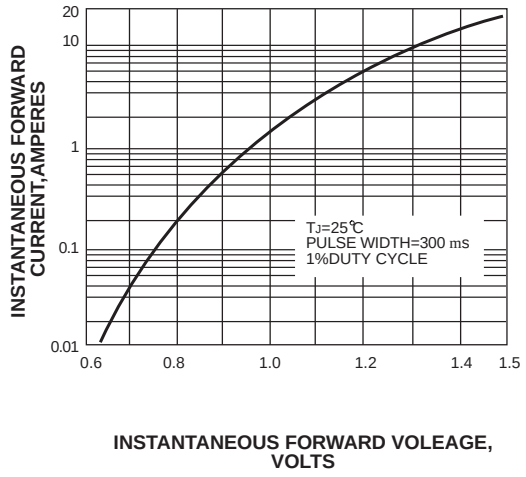



FIG. 4-TYPICAL REVERSE CHARACTERISTICS

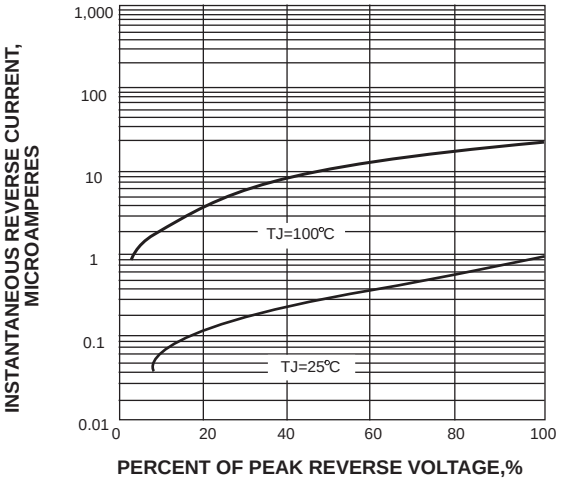



FIG. 5-TYPICAL JUNCTION CAPACITANCE

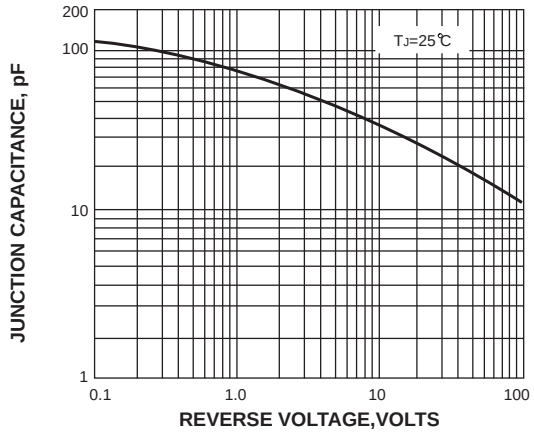
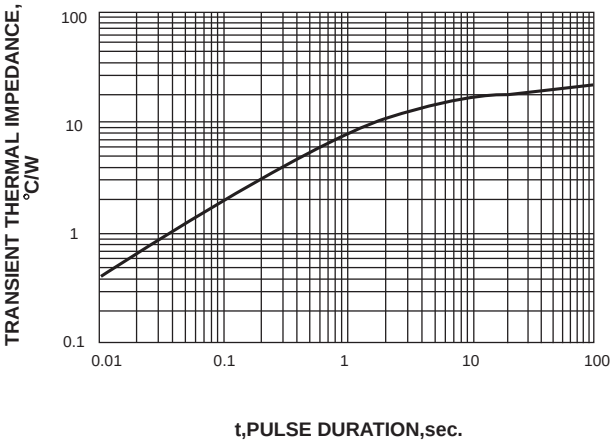



FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE






| Document ID | Issued Date | Revised Date | Revision | Page. |
|---|---|---|---|---|
| AS-3020009 | 2003/03/08 | 2025/04/08 | E1 | 3 |

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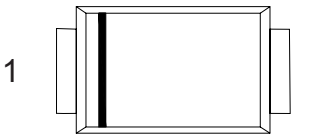
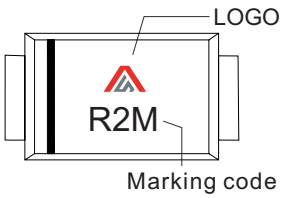
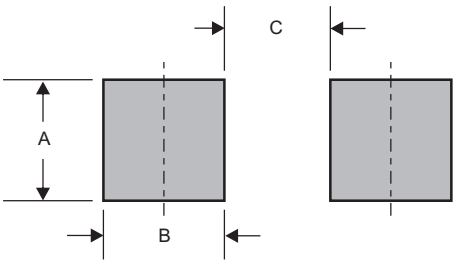
## Pinning information

| Pin | Simplified outline | Symbol |
|---|---|---|
| Pin1 cathode<br>Pin2 anode |  |  |

## Marking

| Type number | Marking code | Example |
|---|---|---|
| RS2A-BF<br>RS2B-BF<br>RS2D-BF<br>RS2G-BF<br>RS2J-BF<br>RS2K-BF<br>RS2M-BF | R2A<br>R2B<br>R2D<br>R2G<br>R2J<br>R2K<br>R2M |  |

## Suggested solder pad layout




Dimensions in inches and (millimeters)

| PACKAGE | A | B | C |
|---|---|---|---|
| SMBF | 0.098 (2.50) | 0.071 (1.80) | 0.118 (3.00) |