



# HBR5200

## 主要参数 MAIN CHARACTERISTICS

|              |                               |
|--------------|-------------------------------|
| $I_{F(AV)}$  | 5A                            |
| $V_{RRM}$    | 200 V                         |
| $T_j$        | 175 °C                        |
| $V_{F(max)}$ | 0.75V (@ $T_j=125^{\circ}C$ ) |

### 用途

- 低压、高频整流
- 低压续流电路和保护电路

### APPLICATIONS

- Low voltage, high frequency rectifier
- Free wheeling diodes, polarity protection applications

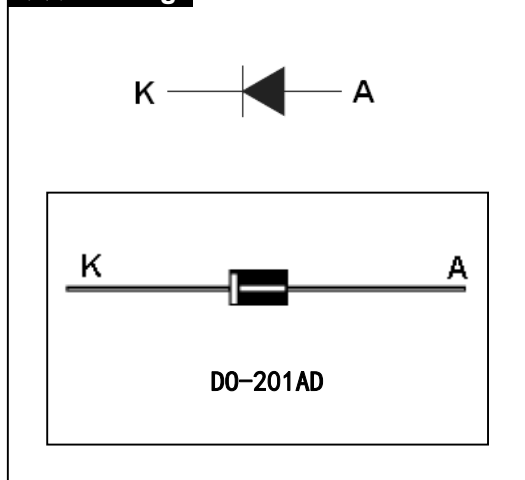
### 产品特性

- 轴向结构
- 低功耗，高效率
- 良好的高温特性
- 有过压保护环，高可靠性
- 环保（RoHS）产品

### FEATURES

- Axial Lead Rectifier
- Low power loss, high efficiency
- High Operating Junction Temperature
- Guard ring for overvoltage protection, High reliability
- RoHS product

### 封装 Package



## 订货信息 ORDER MESSAGE

| 订货型号<br>Order codes | 印记<br>Marking | 封装<br>Package | 无卤素<br>Halogen Free | 包装<br>Packaging | 器件重量<br>Device Weight |
|---------------------|---------------|---------------|---------------------|-----------------|-----------------------|
| HBR5200D            | HBR5200       | DO-201AD      | 否 NO                | 编带 Tape         | 1.1g(approx.)         |
| HBR5200DR           | HBR5200       | DO-201AD      | 是 YES               | 编带 Tape         | 1.1g(approx.)         |
| HBR5200D2           | HBR5200       | DO-201AD-B2   | 否 NO                | 散装 Bulk         | 1.1g(approx.)         |
| HBR5200D2R          | HBR5200       | DO-201AD-B2   | 是 YES               | 散装 Bulk         | 1.1g(approx.)         |
| HBR5200D3           | HBR5200       | DO-201AD-B3   | 否 NO                | 散装 Bulk         | 1.1g(approx.)         |
| HBR5200D3R          | HBR5200       | DO-201AD-B3   | 是 YES               | 散装 Bulk         | 1.1g(approx.)         |
| HBR5200D5           | HBR5200       | DO-201AD-B5   | 否 NO                | 散装 Bulk         | 1.1g(approx.)         |
| HBR5200D5R          | HBR5200       | DO-201AD-B5   | 是 YES               | 散装 Bulk         | 1.1g(approx.)         |



**绝对最大额定值 ABSOLUTE RATINGS** ( $T_c=25^{\circ}\text{C}$ )

| 项 目<br>Parameter                                                                                                                | 符 号<br>Symbol | 数 值<br>Value | 单 位<br>Unit        |
|---------------------------------------------------------------------------------------------------------------------------------|---------------|--------------|--------------------|
| 最大反向重复峰值电压<br>Repetitive peak reverse voltage                                                                                   | $V_{RRM}$     | 200          | V                  |
| 最大直流阻断电压<br>Maximum DC blocking voltage                                                                                         | $V_{DC}$      | 200          | V                  |
| 正向平均整流电流 $T_c=125^{\circ}\text{C}$<br>Average Rectified Forward Current                                                         | $I_{F(AV)}$   | 5            | A                  |
| 正向峰值浪涌电流<br>Surge non repetitive forward current<br>(额定负载 8.3ms 半正弦波—按 JEDEC 方法)<br>8.3 ms single half-sine-wave (JEDEC Method) | $I_{FSM}$     | 120          | A                  |
| 最高结温<br>Maximum junction temperature                                                                                            | $T_j$         | 175          | $^{\circ}\text{C}$ |
| 储存温度<br>Storage temperature range                                                                                               | $T_{STG}$     | -40~+150     | $^{\circ}\text{C}$ |

**电特性 ELECTRICAL CHARACTERISTICS**

| 项 目<br>Parameter | 测试条件<br>Tests conditions    |                   | 最小值<br>Value(min) | 典型值<br>Value(typ) | 最大值<br>Value(max) | 单位<br>Unit    |
|------------------|-----------------------------|-------------------|-------------------|-------------------|-------------------|---------------|
| $I_R$            | $T_j = 25^{\circ}\text{C}$  | $V_R = V_{RRM}$   |                   |                   | 10                | $\mu\text{A}$ |
|                  | $T_j = 125^{\circ}\text{C}$ |                   |                   |                   | 5                 | mA            |
| $V_F$            | $T_j = 25^{\circ}\text{C}$  | $I_F = 5\text{A}$ |                   | 0.81              | 0.85              | V             |
|                  | $T_j = 125^{\circ}\text{C}$ |                   |                   | 0.70              | 0.75              | V             |

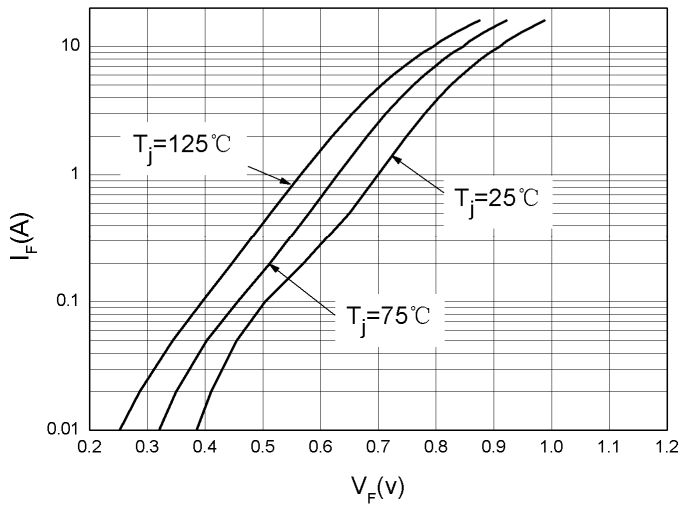
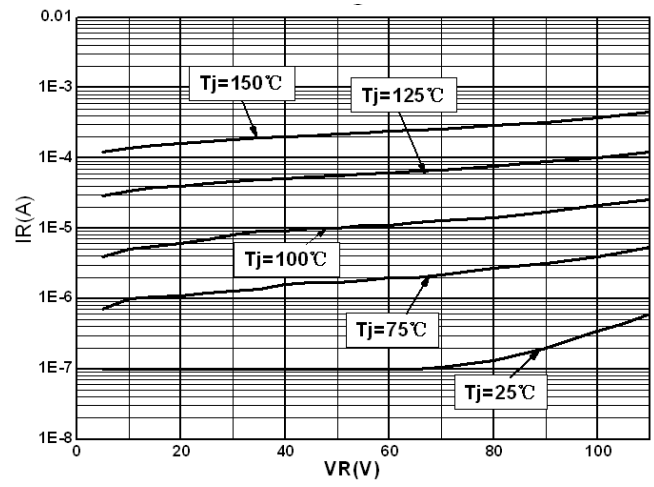
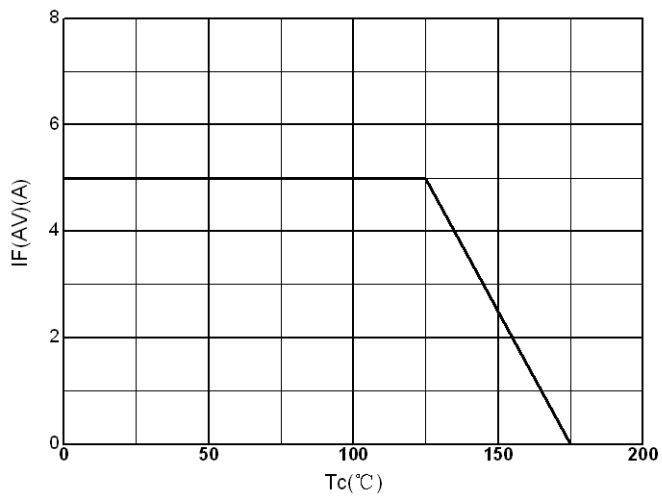
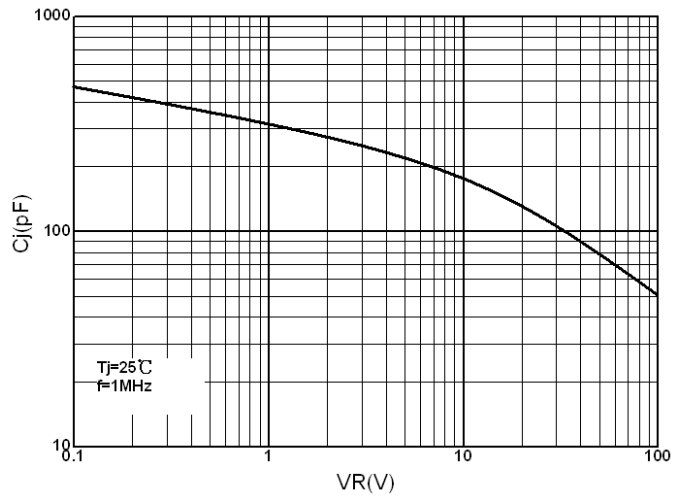
**热特性 THERMAL CHARACTERISTICS**

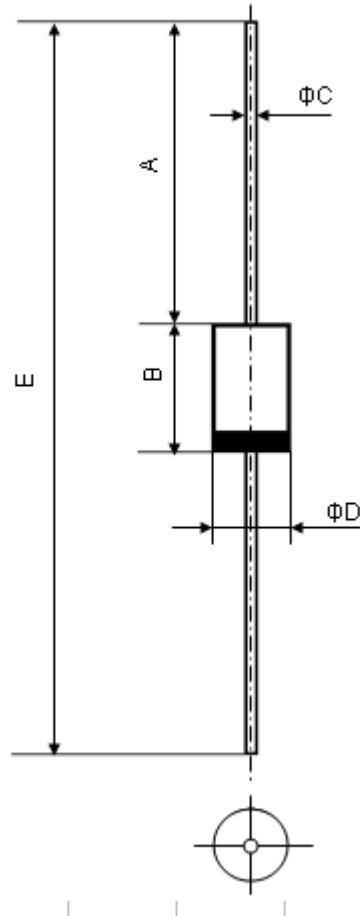
| 项 目<br>Parameter                                       | 符 号<br>Symbol | 最小值<br>Value(min) | 最大值<br>Value(max) | 单 位<br>Unit          |
|--------------------------------------------------------|---------------|-------------------|-------------------|----------------------|
| 结到管壳的热阻<br>Thermal resistance from<br>junction to case | $R_{th(j-c)}$ |                   | 25                | $^{\circ}\text{C/W}$ |





## 特征曲线 ELECTRICAL CHARACTERISTICS (curves)

 $I_F$  vs  $V_F$  $I_R$  vs  $V_R$  $I_F(AV)$  vs  $T_c$  $C_J$  vs  $V_R$ 



| 符号<br>Symbol | Min  | Max |
|--------------|------|-----|
| A            | 25.4 | --  |
| B            | 8.5  | 9.5 |
| C            | 1.2  | 1.3 |
| D            | 5.0  | 5.6 |
| E            | 59.5 | 64  |



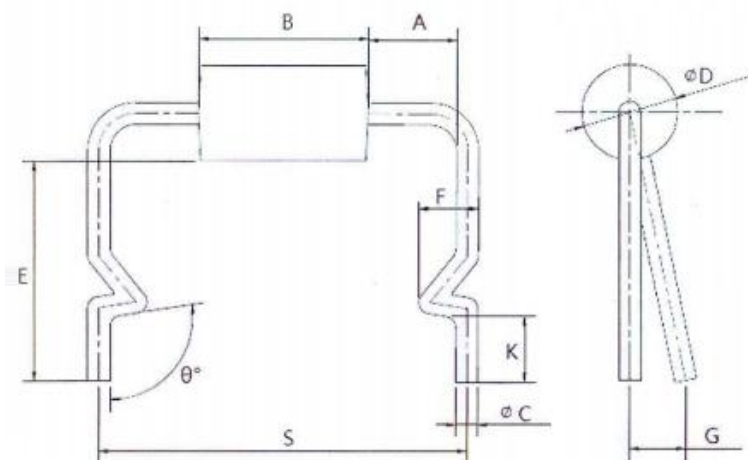


HBR5200

外形尺寸 PACKAGE MECHANICAL DATA

DO-201AD 成型尺寸图

单位 Unit : mm

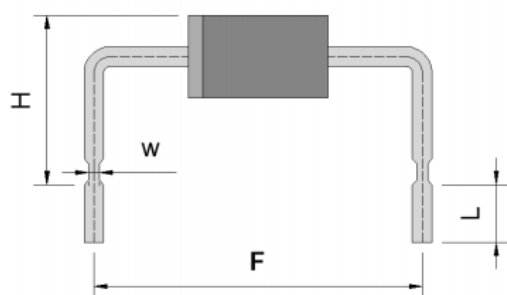


| 符号 <sup>1)</sup><br>Symbol <sup>1)</sup> | Min <sup>2)</sup>    | Max <sup>3)</sup>  |
|------------------------------------------|----------------------|--------------------|
| A <sup>2)</sup>                          | 1.0 <sup>2)</sup>    | — <sup>3)</sup>    |
| B <sup>2)</sup>                          | 8.5 <sup>2)</sup>    | 9.5 <sup>2)</sup>  |
| C <sup>2)</sup>                          | 1.2 <sup>2)</sup>    | 1.3 <sup>2)</sup>  |
| D <sup>2)</sup>                          | 5.0 <sup>2)</sup>    | 5.6 <sup>2)</sup>  |
| E <sup>2)</sup>                          | (12.0) <sup>2)</sup> |                    |
| F <sup>2)</sup>                          | 2.2 <sup>2)</sup>    | 2.8 <sup>2)</sup>  |
| G <sup>2)</sup>                          | — <sup>2)</sup>      | 2.0 <sup>2)</sup>  |
| K <sup>2)</sup>                          | 3.5 <sup>2)</sup>    | 4.0 <sup>2)</sup>  |
| S <sup>2)</sup>                          | 19.5 <sup>2)</sup>   | 20.5 <sup>2)</sup> |
| $\theta^\circ$ <sup>2)</sup>             | 100 <sup>2)</sup>    | 140 <sup>2)</sup>  |

DO-201AD-B2 尺寸

| 符号 <sup>1)</sup><br>Symbol <sup>1)</sup> | Min <sup>2)</sup>    | Max <sup>3)</sup>  |
|------------------------------------------|----------------------|--------------------|
| A <sup>2)</sup>                          | 1.0 <sup>2)</sup>    | — <sup>3)</sup>    |
| B <sup>2)</sup>                          | 8.5 <sup>2)</sup>    | 9.5 <sup>2)</sup>  |
| C <sup>2)</sup>                          | 1.2 <sup>2)</sup>    | 1.3 <sup>2)</sup>  |
| D <sup>2)</sup>                          | 5.0 <sup>2)</sup>    | 5.6 <sup>2)</sup>  |
| E <sup>2)</sup>                          | (12.0) <sup>2)</sup> |                    |
| F <sup>2)</sup>                          | 2.2 <sup>2)</sup>    | 2.8 <sup>2)</sup>  |
| G <sup>2)</sup>                          | — <sup>2)</sup>      | 2.0 <sup>2)</sup>  |
| K <sup>2)</sup>                          | 5.5 <sup>2)</sup>    | 6.0 <sup>2)</sup>  |
| S <sup>2)</sup>                          | 19.5 <sup>2)</sup>   | 20.5 <sup>2)</sup> |
| $\theta^\circ$ <sup>2)</sup>             | 100 <sup>2)</sup>    | 140 <sup>2)</sup>  |

DO-201AD-B3 尺寸



| 符号<br>Symbol | Min  | Max  |
|--------------|------|------|
| F            | 19.5 | 20.5 |
| H            |      | 11.0 |
| L            | 3.0  | 4.0  |
| O            |      | 1.5  |
| E            | 1.8  | 2.2  |
| W            | 0.6  | 0.8  |

DO-201AD-B5 外形图及尺寸



**注意事项**

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3. 在电路设计时请不要超过器件的绝对最大额定值，否则会影响整机的可靠性。
4. 本说明书如有版本变更不另外告知

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3. Please do not exceed the absolute maximum ratings of the device when circuit designing.
4. Jilin Sino-microelectronics co., Ltd reserves the right to make changes in this specification sheet and is subject to change without prior notice.

**联系方式****吉林华微电子股份有限公司**

公司地址：吉林省吉林市深圳街 99 号

邮编：132013

总机：86-432-64678411

传真：86-432-64665812

网址：[www.hwdz.com.cn](http://www.hwdz.com.cn)

**市场营销部**

地址：吉林省吉林市深圳街 99 号

邮编：132013

电话：86-432-64675588

64675688

64678411-3098/3099

传真：86-432-64671533

**CONTACT****JILIN SINO-MICROELECTRONICS CO., LTD.**

ADD: No.99 Shenzhen Street, Jilin City, Jilin Province, China.

Post Code: 132013

Tel: 86-432-64678411

Fax: 86-432-64665812

Web Site: [www.hwdz.com.cn](http://www.hwdz.com.cn)

**MARKET DEPARTMENT**

ADD: No.99 Shenzhen Street, Jilin City, Jilin Province, China.

Post Code: 132013

Tel: 86-432-64675588

64675688

64678411-3098/3099

Fax: 86-432-64671533

**附录 (Appendix): 修订记录 (Revision History)**

| 日期<br>Date | 旧版本<br>Last Rev. | 新版本<br>New Rev. | 修订内容 Description of Changes |
|------------|------------------|-----------------|-----------------------------|
| 2014-12-19 | 201407B          | 201412C         | Added DO-201AD-B5 Spec.     |

