



# HBR30150C

## 主要参数 MAIN CHARACTERISTICS

|              |                               |
|--------------|-------------------------------|
| $I_{F(AV)}$  | 30 (2×15) A                   |
| $V_{RRM}$    | 150 V                         |
| $T_j$        | 175 °C                        |
| $V_{F(max)}$ | 0.80V (@ $T_j=125^{\circ}C$ ) |

### 用途

- 高频开关电源
- 低压续流电路和保护电路

### 产品特性

- 共阴结构
- 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

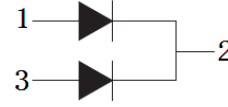
### APPLICATIONS

- High frequency switch power supply
- Free wheeling diodes, polarity protection applications

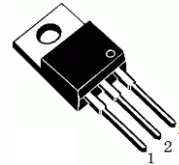
### FEATURES

- Common cathode structure
- Low power loss, high efficiency
- High Operating Junction Temperature
- Guard ring for overvoltage protection, High reliability
- RoHS product

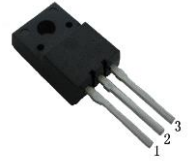
## 封装 Package



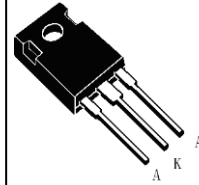
T0-220



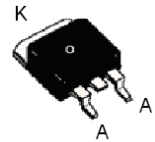
T0-220HF



T0-247



T0-263



## 订货信息 ORDER MESSAGE

| 订货型号 Order codes   |                         |                    |                         | 印记 Marking | 封装 Package |
|--------------------|-------------------------|--------------------|-------------------------|------------|------------|
| 有卤-条管 Halogen-Tube | 无卤-条管 Halogen Free-Tube | 有卤-编带 Halogen-Reel | 无卤-编带 Halogen Free-Reel |            |            |
| HBR30150C-CA-B     | HBR30150C-CA-BR         | N/A                | N/A                     | HBR30150C  | TO-220     |
| HBR30150C-FA-B     | HBR30150C-FA-BR         | N/A                | N/A                     | HBR30150C  | TO-220HF   |
| HBR30150C-GE-B     | HBR30150C-GE-BR         | N/A                | N/A                     | HBR30150C  | TO-247     |
| HBR30150C-S-B      | HBR30150C-S-BR          | HBR30150C-S-A      | HBR30150C-S-AR          | HBR30150C  | TO-263     |



## 绝对最大额定值 ABSOLUTE RATINGS (Tc=25℃)

| 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 <sub>RRM</sub>   | 150   | V           |
| 最大直流阻断电压<br>Maximum DC blocking voltage   | V <sub>DC</sub>    | 150   | V           |
| 正向平均整流电流<br>Average forward current   | I <sub>F(AV)</sub> | T <sub>C</sub> =150℃<br>(TO-220/TO-263<br>TO-247)<br>整个器件<br>per device | 30          |
|   |                    | T <sub>C</sub> =125℃<br>(TO-220HF)<br>单 侧<br>per diode                  | 15          |
| 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 <sub>FSM</sub>   | 200   | A           |
| 最高结温<br>Maximum junction temperature  | T <sub>j</sub>     | -40~+175  | ℃           |
| 储存温度<br>Storage temperature range   | T <sub>STG</sub>   | -40~+150  | ℃           |

## 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 <sub>R</sub>   | T <sub>j</sub> =25℃      | V <sub>R</sub> =V <sub>RRM</sub> |                   |                   | 10                | μA          |
|                  | T <sub>j</sub> =125℃     |                                  |                   |                   | 5                 | mA          |
| V <sub>F</sub>   | T <sub>j</sub> =25℃      | I <sub>F</sub> =10A              |                   | 0.82              | 0.87              | V           |
|                  | T <sub>j</sub> =125℃     |                                  |                   | 0.65              | 0.75              | V           |
|                  | T <sub>j</sub> =25℃      | I <sub>F</sub> =15A              |                   | 0.86              | 0.92              | V           |
|                  | T <sub>j</sub> =125℃     |                                  |                   | 0.70              | 0.80              | V           |

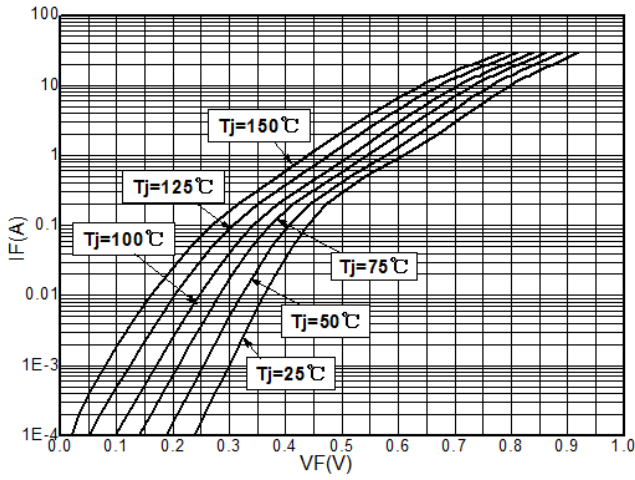
## 热特性 THERMAL CHARACTERISTICS

| 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 <sub>th(j-c)</sub> |                   | 1.7<br>1.7<br>3.5<br>1.9 | ℃/W         |

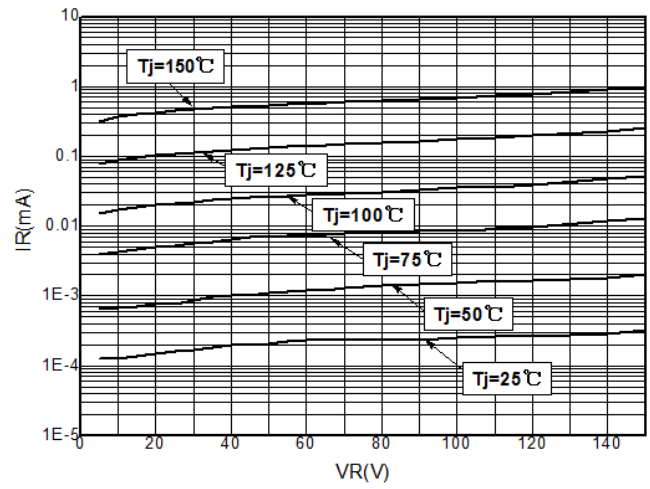


特征曲线 ELECTRICAL CHARACTERISTICS (curves)

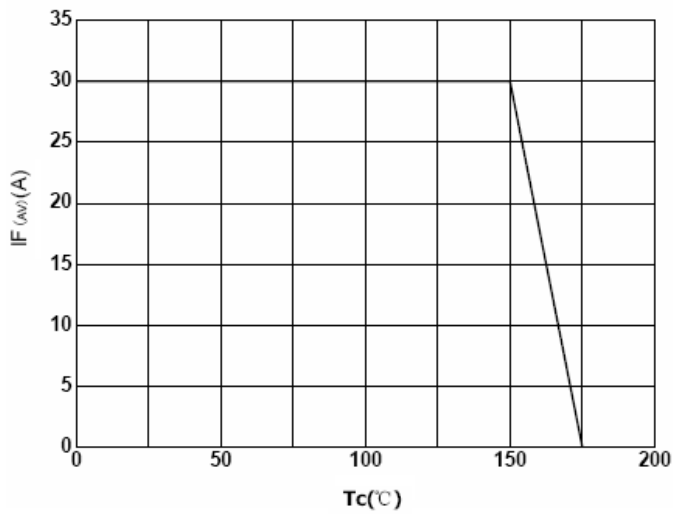
IF vs VF



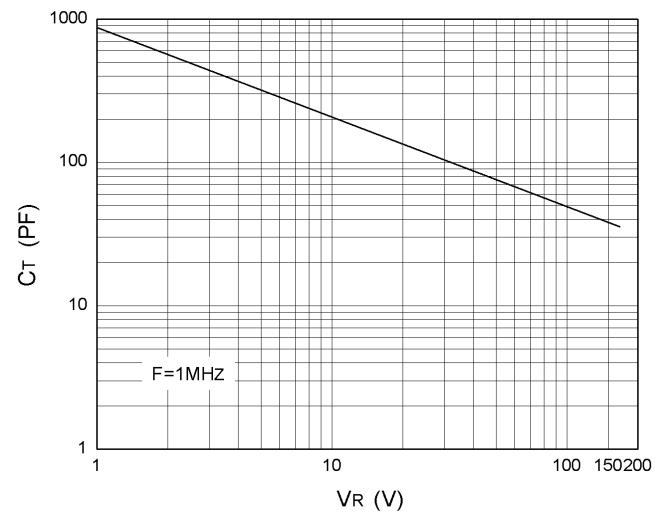
IR vs VR

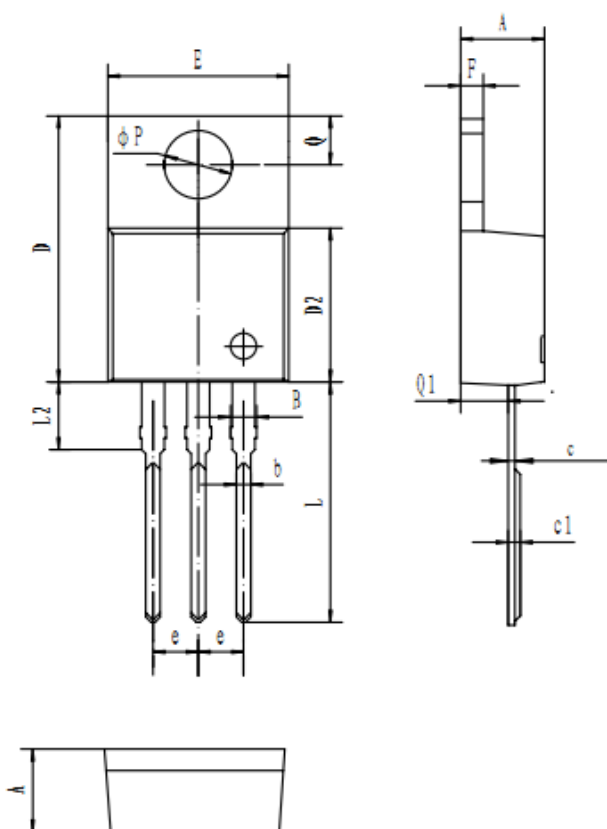


IF(AV) vs Tc



CT vs VR



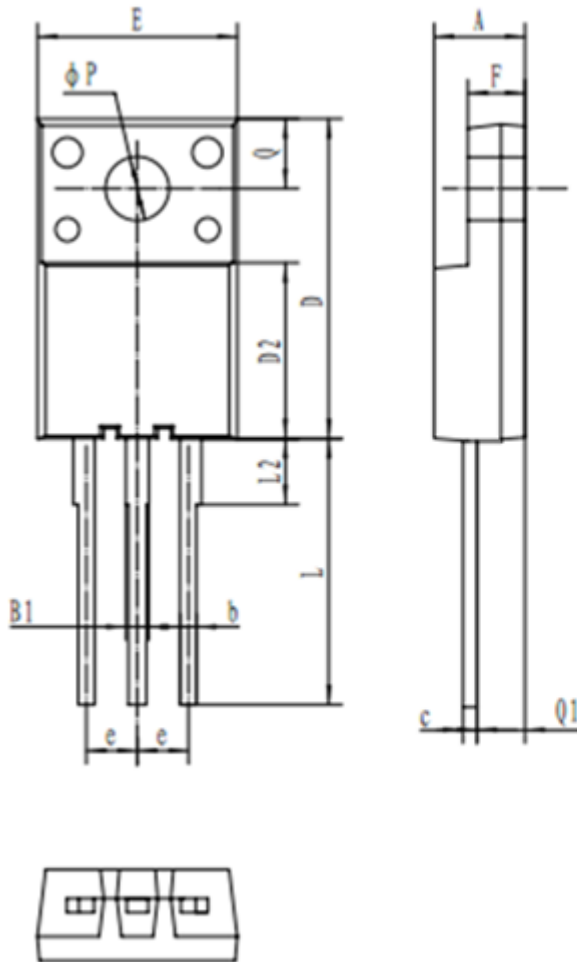


| 符号<br>symbol | MIN   | MAX   |
|--------------|-------|-------|
| A            | 4.40  | 4.80  |
| B            | 1.10  | 1.40  |
| b            | 0.70  | 0.95  |
| c            | 0.28  | 0.48  |
| c1           | 0.32  | 0.52  |
| D            | 14.45 | 16.00 |
| D2           | 8.20  | 9.20  |
| E            | 9.60  | 10.40 |
| e            | 2.39  | 2.69  |
| F            | 1.20  | 1.35  |
| L            | 13.05 | 14.05 |
| L2           | 3.70  | 3.90  |
| Q            | 2.40  | 3.00  |
| Q1           | 2.20  | 2.90  |
| P            | 3.50  | 4.00  |

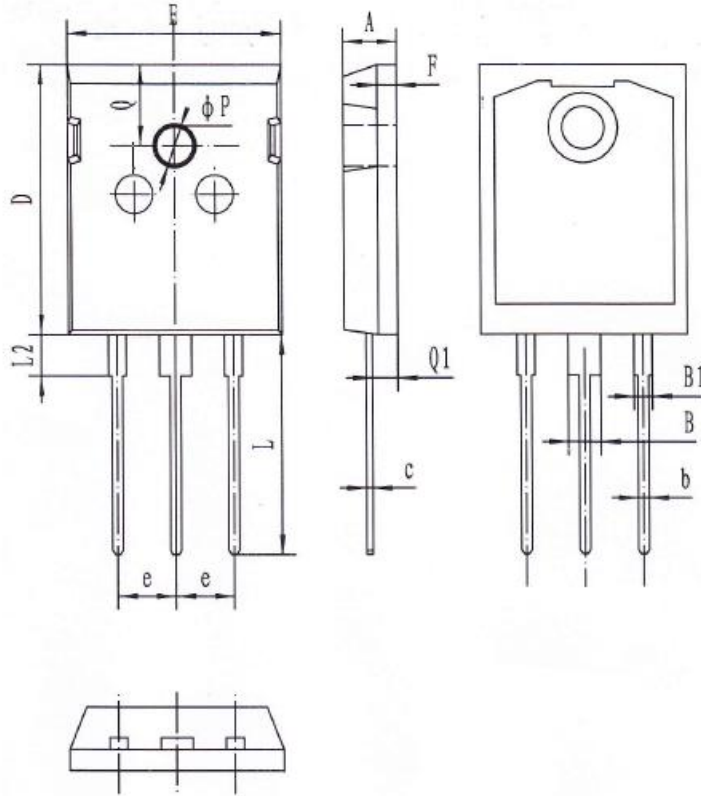


外形尺寸 PACKAGE MECHANICAL DATA  
TO-220HF

单位 Unit : mm



| 符号<br>symbol | MIN      | MAX   |
|--------------|----------|-------|
| A            | 4.0      | 5.0   |
| B1           | 0.87     | 1.27  |
| b            | 0.72     | 0.92  |
| c            | 0.5      | 0.7   |
| D            | 15.0     | 16.5  |
| D2           | 7.8      | 9.4   |
| E            | 9.62     | 10.62 |
| e            | 2.54 TYP |       |
| F            | 2.3      | 3.3   |
| L            | 13.0     | 14.0  |
| L2           | 3.1      | 3.5   |
| $\phi P$     | 3.0      | 3.4   |
| Q            | 3.15     | 3.55  |
| Q1           | 2.2      | 2.5   |

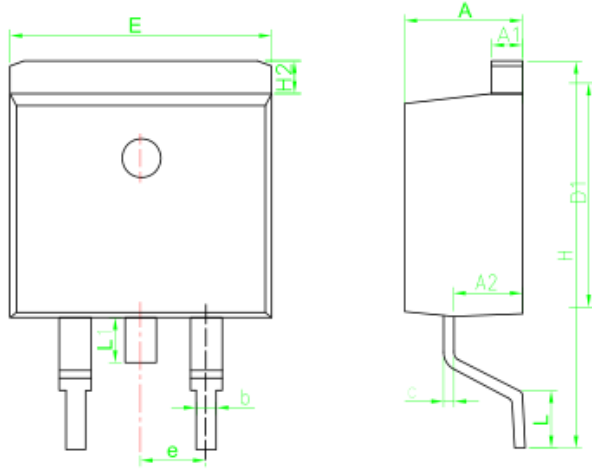


| 符号<br>symbol | MIN     | MAX   |
|--------------|---------|-------|
| A            | 4.90    | 5.10  |
| B            | 2.85    | 3.11  |
| B1           | 1.95    | 2.05  |
| b            | 1.15    | 1.25  |
| c            | 0.60TYP |       |
| D            | 20.77   | 21.07 |
| E            | 15.77   | 16.03 |
| e            | 5.32    | 5.58  |
| F            | 1.92    | 2.08  |
| L            | 20.05   | 20.31 |
| L2           | 4.22    | 4.32  |
| Q            | 6.00    | 6.20  |
| Q1           | 2.33    | 2.43  |
| P            | 3.65    | 3.75  |



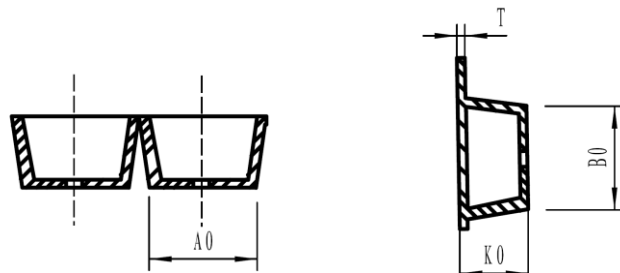
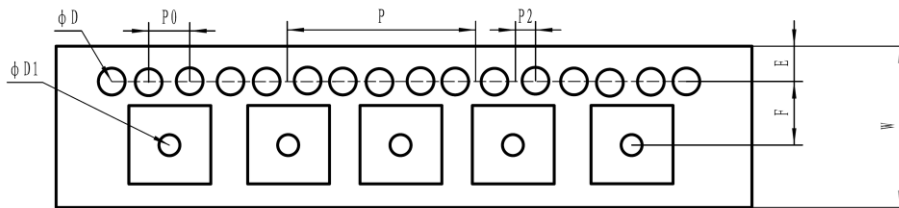
外形尺寸 PACKAGE MECHANICAL DATA  
TO-263

单位 Unit : mm



| SYMBOL | MM      |       |
|--------|---------|-------|
|        | MIN     | MAX   |
| A      | 4.30    | 4.80  |
| A1     | 1.12    | 1.42  |
| A2     | 2.54    | 2.84  |
| b      | 0.67    | 1.00  |
| c      | 0.29    | 0.52  |
| D1     | 8.40    | 9.00  |
| E      | 9.80    | 10.46 |
| e      | 2.54BSC |       |
| H      | 14.00   | 16.00 |
| H2     | 1.12    | 1.45  |
| L      | 1.50    | 3.10  |
| L1     | 1.45    | 1.70  |

编带 REEL



| 产品尺寸规格 (UNIT: mm) |               |            |            |            |               |
|-------------------|---------------|------------|------------|------------|---------------|
| 规格                | W             | A0         | E          | F          | D             |
| 尺寸                | 24 ± 0.3      | 10.9 ± 0.2 | 1.75 ± 0.2 | 11.5 ± 0.2 | 1.5 +0.2/-0.1 |
| 规格                | D1            | P0         | P2         | P          | T             |
| 尺寸                | 1.5 +0.2/-0.1 | 4 ± 0.2    | 2 ± 0.2    | 16 ± 0.2   | 0.35 ± 0.05   |
| 规格                | K0            | B0         |            |            |               |
| 尺寸                | 4.9 ± 0.2     | 16.0 ± 0.2 |            |            |               |



## 注意事项

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