



# HBR10200S

## 主要参数 MAIN CHARACTERISTICS

|              |                                    |
|--------------|------------------------------------|
| $I_{F(AV)}$  | 10 (2x5) A                         |
| $V_{RRM}$    | 200 V                              |
| $T_j$        | 175 °C                             |
| $V_{F(max)}$ | 0.75V (@ $T_j=125^\circ\text{C}$ ) |

### 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

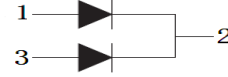
### APPLICATIONS

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

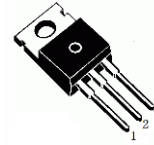
### FEATURES

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

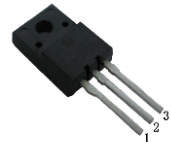
## 封装 Package



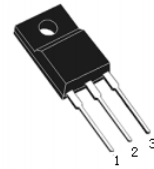
TO-220C



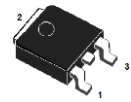
TO-220HF



TO-220MF-K1



TO-263



DPAKM



## 订货信息 ORDER MESSAGE

| 订货型号 Order codes      |                            |                       |                            | 印 记<br>Marking | 封 装<br>Package |
|-----------------------|----------------------------|-----------------------|----------------------------|----------------|----------------|
| 有卤-条管<br>Halogen-Tube | 无卤-条管<br>Halogen Free-Tube | 有卤-编带<br>Halogen-Reel | 无卤-编带<br>Halogen Free-Reel |                |                |
| HBR10200S-C-B         | HBR10200S-C-BR             | N/A                   | N/A                        | HBR10200S      | TO-220C        |
| HBR10200S-FA-B        | HBR10200S-FA-BR            | N/A                   | N/A                        | HBR10200S      | TO-220HF       |
| HBR10200S-F1-B        | HBR10200S-F1-BR            | N/A                   | N/A                        | HBR10200S      | TO-220MF-K1    |
| HBR10200S-S-B         | HBR10200S-S-BR             | HBR10200S-S-A         | HBR10200S-S-AR             | HBR10200S      | TO-263         |
| N/A                   | N/A                        | HBR10200S-RM-A        | HBR10200S-RM-AR            | HBR10200S      | DPAKM          |





## 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>   | 200   | V                  |
| 最大直流阻断电压<br>Maximum DC blocking voltage   | V <sub>DC</sub>    | 200   | 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-220C/263 / DPAKM) | 整个器件<br>per device |
|   |                    | T <sub>C</sub> =125℃<br>(TO-220HF/220MF-K1)   | 单 侧<br>per diode   |
| 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>   | 125   | A                  |
| 最高结温<br>Maximum junction temperature  | T <sub>j</sub>     | 175   | ℃                  |
| 储存温度<br>Storage temperature range   | T <sub>STG</sub>   | -40~+175                                      | ℃                  |

## 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> =5A               |                     | 0.85                | 0.93                | V           |
|                  | T <sub>j</sub> =125℃        |                                  |                     | 0.71                | 0.75                | V           |
|                  | T <sub>j</sub> =25℃         | I <sub>F</sub> =10A              |                     | 0.94                | 0.98                | V           |
|                  | T <sub>j</sub> =125℃        |                                  |                     | 0.81                | 0.86                | V           |

## 热特性 THERMAL CHARACTERISTICS

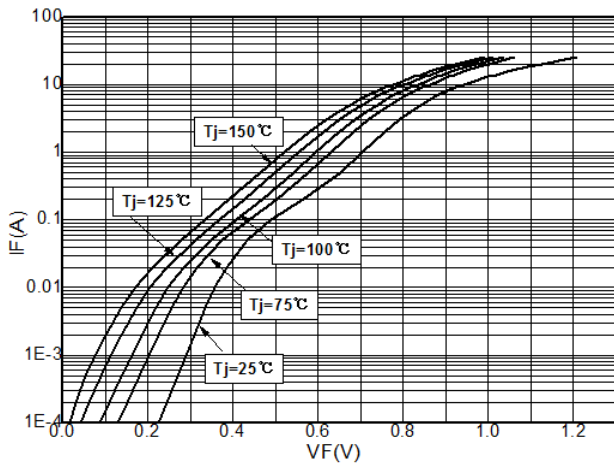
| 项 目<br>Parameter                                    | 符 号<br>Symbol           | 最 小 值<br>Value(min) | 最 大 值<br>Value(max) | 单 位<br>Unit |
|---|-------------------------|---------------------|---------------------|-------------|
| 结到管壳的热阻<br>Thermal resistance from junction to case | R <sub>th(j-c)</sub>    |                     | 1.9                 | ℃/W         |
|   | TO-220C                 |                     | 1.9                 |             |
|   | TO-263                  |                     | 3.0                 |             |
|   | DPAKM                   |                     | 3.5                 |             |
|   | TO-220HF<br>TO-220MF-K1 |                     | 3.5                 |             |



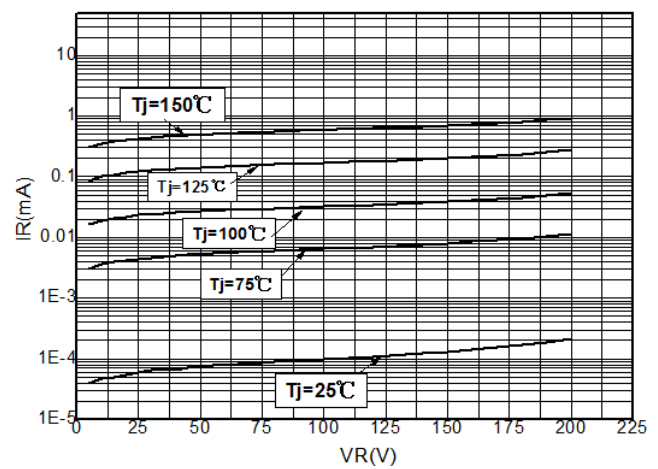


特征曲线 ELECTRICAL CHARACTERISTICS (curves)

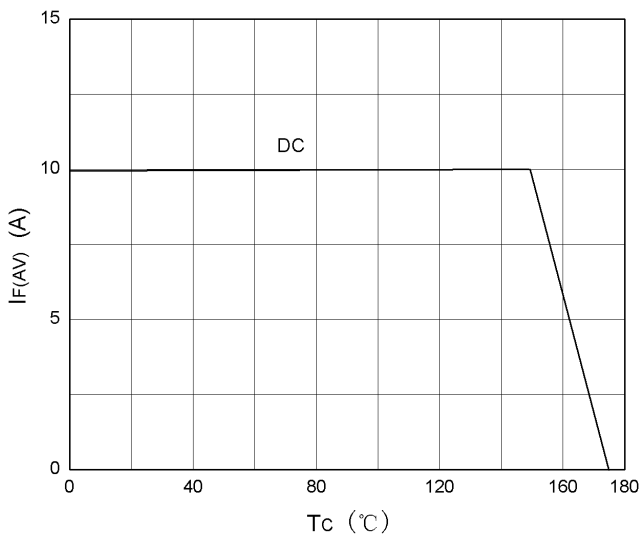
IF vs VF



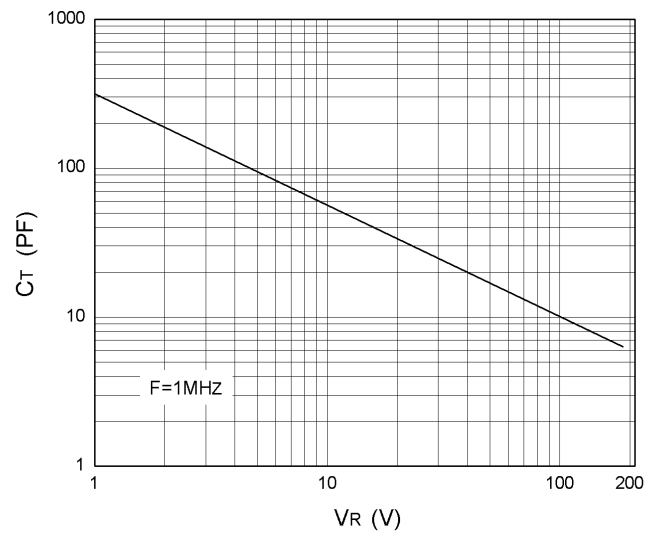
IR vs VR

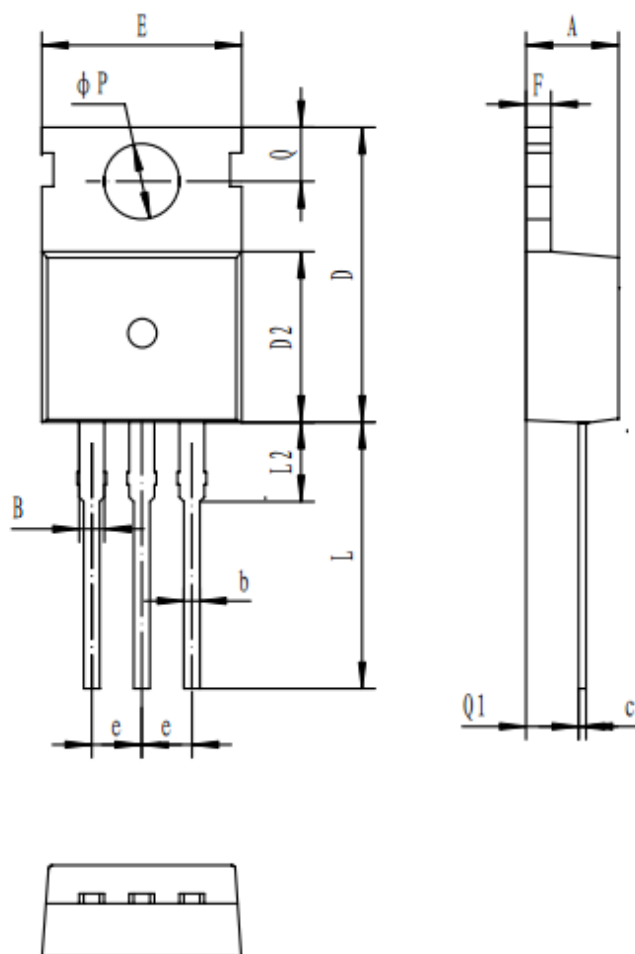


IF(AV) vs Tc

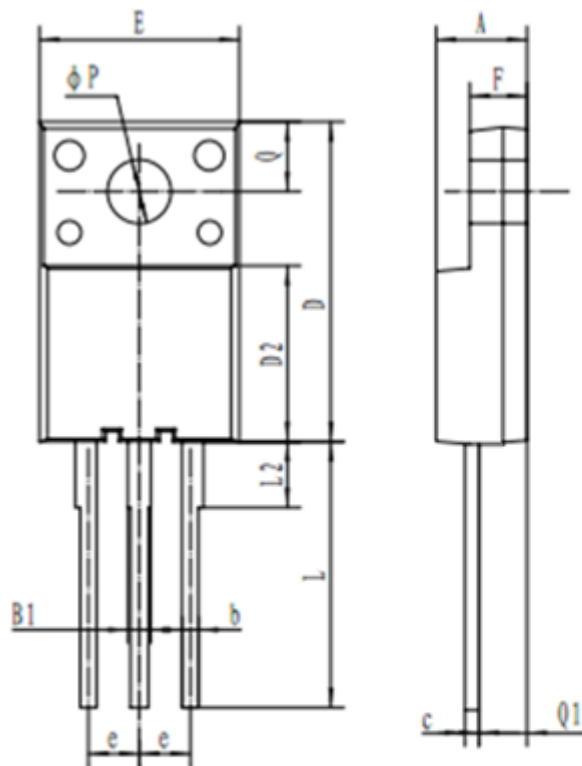


CT vs VR



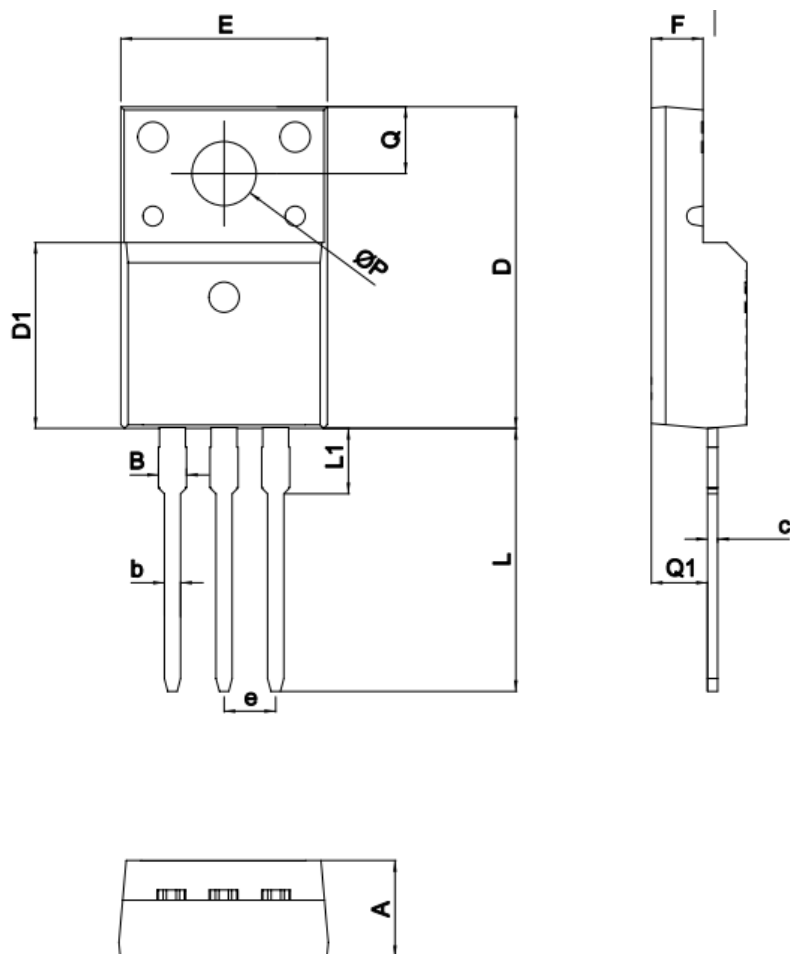


| 符号<br>symbol | MIN   | MAX   |
|--------------|-------|-------|
| A            | 4.30  | 4.70  |
| B            | 1.10  | 1.40  |
| b            | 0.70  | 0.95  |
| c            | 0.40  | 0.65  |
| D            | 15.20 | 16.20 |
| D2           | 9.00  | 9.40  |
| E            | 9.70  | 10.10 |
| e            | 2.39  | 2.69  |
| F            | 1.25  | 1.40  |
| L            | 12.60 | 13.60 |
| L2           | 2.80  | 3.20  |
| Q            | 2.60  | 3.00  |
| Q1           | 2.20  | 2.60  |
| P            | 3.50  | 3.80  |



| 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   |





| SYMBOL | mm       |      |
|--------|----------|------|
|        | MIN      | MAX  |
| A      | 4.5      | 4.9  |
| B      | 1.22     | 1.47 |
| b      | 0.7      | 0.9  |
| c      | 0.45     | 0.60 |
| D      | 15.6     | 16.1 |
| D1     | 9.0      | 9.3  |
| e      | 2.54TYPE |      |
| E      | 9.9      | 10.4 |
| F      | 2.3      | 2.8  |
| L      | 12.6     | 13.3 |
| L1     | 3.1      | 3.4  |
| Q      | 3.2      | 3.4  |
| Q1     | 2.6      | 2.9  |
| ΦP     | 3.0      | 3.5  |

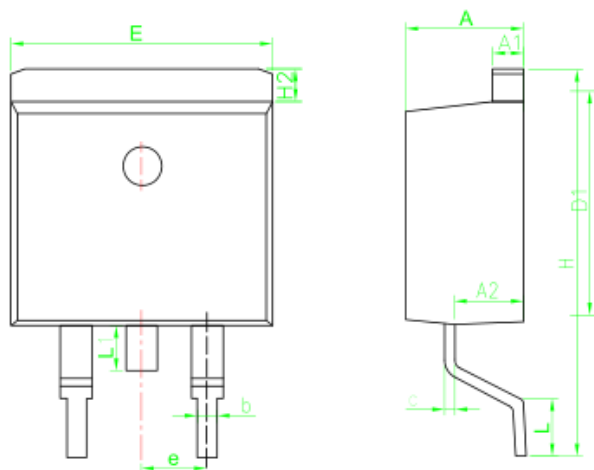




外形尺寸 PACKAGE MECHANICAL DATA

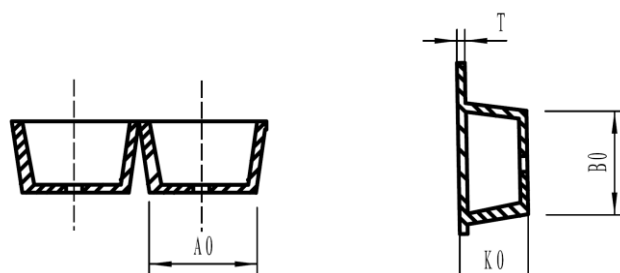
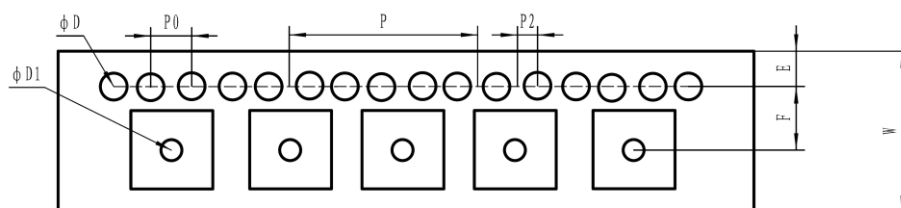
TO-263

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



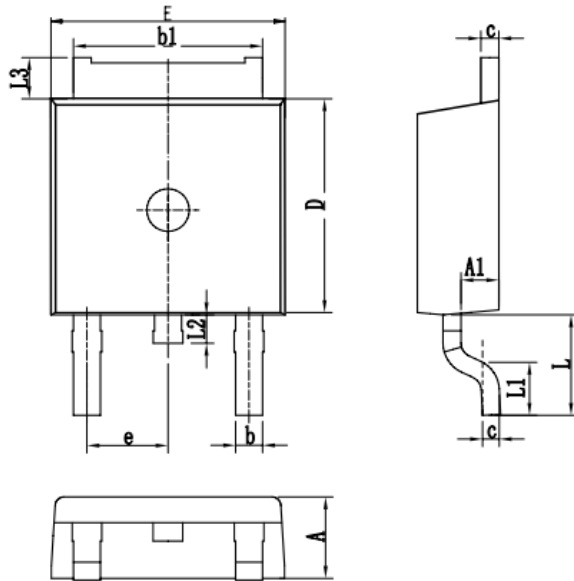
| 产品尺寸规格 (UNIT:mm) |               |            |            |            |               |
|------------------|---------------|------------|------------|------------|---------------|
| 规格               | W             | A0         | E          | F          | D             |
| 尺寸               | 24 ± 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 |            |            |               |





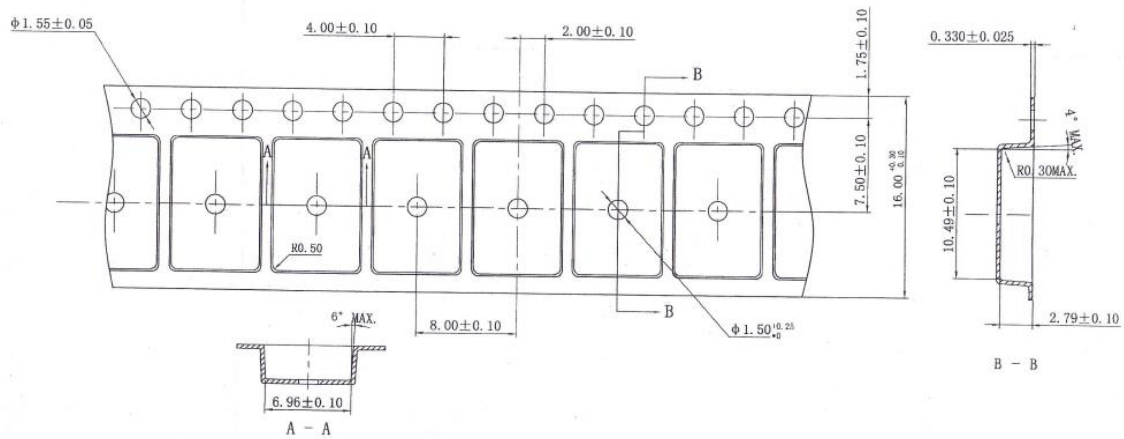
外形尺寸 PACKAGE MECHANICAL DATA  
DPAKM

单位 Unit : mm



| SYMBOL | mm       |      |
|--------|----------|------|
|        | MIN      | MAX  |
| A      | 2.10     | 2.50 |
| A1     | 0.80     | 1.20 |
| b      | 0.66     | 0.96 |
| b1     | 5.10     | 5.50 |
| c      | 0.40     | 0.62 |
| D      | 5.85     | 6.45 |
| E      | 6.30     | 6.90 |
| e      | 2.286BSC |      |
| L      | 2.40     | 3.00 |
| L1     | 0.85     | 1.45 |
| L2     | 0.60     | 1.10 |
| L3     | 0.67     | 1.07 |

编带 REEL







## 注意事项

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4. 本说明书如有版本变更不另外告知

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