



# 3DD4515

## 主要参数 MAIN CHARACTERISTICS

|                         |      |
|-------------------------|------|
| $I_C$                   | 15A  |
| $V_{CEO}$               | 400V |
| $P_C(TO-3PN(B)/TO-247)$ | 120W |

### 用途

- 节能灯
- 电子镇流器
- 高频开关电源
- 高频功率变换
- 一般功率放大电路

### APPLICATIONS

- Energy-saving light
- Electronic ballasts
- High frequency switching power supply
- High frequency power transform
- Commonly power amplifier

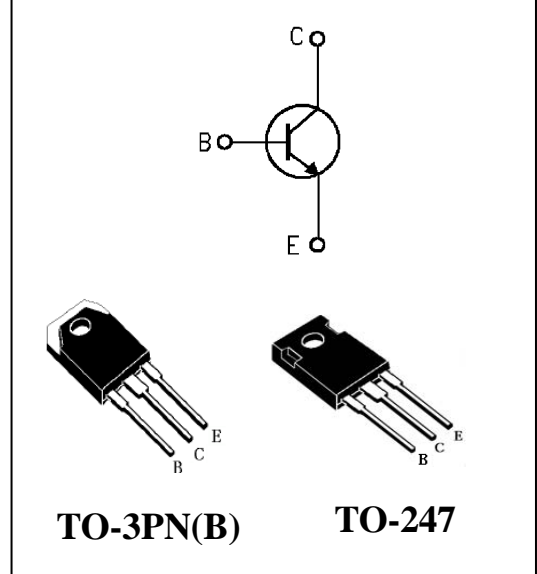
### 产品特性

- 高耐压
- 高电流容量
- 高开关速度
- 高可靠性
- 环保 (RoHS) 产品

### FEATURES

- High breakdown voltage
- High current capability
- High switching speed
- High reliability
- RoHS product

## 封装 Package



## 订货信息 ORDER MESSAGE

| 订货型号 Order codes |                   |              |                  | 印 记 Marking | 封 装 Package |
|------------------|-------------------|--------------|------------------|-------------|-------------|
| 有卤-条管            | 有卤-条管             | 有卤-袋装        | 有卤-袋装            |             |             |
| Halogen-Tube     | Halogen-Free-Tube | Halogen-Bag  | Halogen-Free-Bag | 4515        | TO-247      |
| 3DD4515-GE-B     | 3DD4515-GE-BR     | 3DD4515-GE-C | 3DD4515-GE-CR    | 4515        | TO-3PN (B)  |
| 3DD4515-GD-B     | 3DD4515-GD-BR     | 3DD4515-GD-C | 3DD4515-GD-CR    | 4515        | TO-3PN (B)  |



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 |                    |
|------------------|---|--------------|-------------|--------------------|
| 集电极—发射极直流电压      | Collector- Emitter Voltage ( $V_{BE}=0$ ) | $V_{CES}$    | 700         | V                  |
| 集电极—发射极直流电压      | Collector- Emitter Voltage ( $I_B=0$ )    | $V_{CEO}$    | 400         | V                  |
| 发射极—基极直流电压       | Emitter-Base Voltage                      | $V_{EBO}$    | 9           | V                  |
| 最大集电极直流电流        | Collector Current (DC)                    | $I_C$        | 15          | A                  |
| 最大集电极脉冲电流        | Collector Current (pulse)                 | $I_{CP}$     | 30          | A                  |
| 最大基极直流电流         | Base Current (DC)                         | $I_B$        | 7           | A                  |
| 最大基极脉冲电流         | Base Current (pulse)                      | $I_{BP}$     | 14          | A                  |
| 最大集电极耗散功率        | Total Dissipation (TO-3PN(B)/TO-247)      | $P_C$        | 120         | W                  |
| 最高结温             | Junction Temperature                      | $T_j$        | 150         | $^{\circ}\text{C}$ |
| 贮存温度             | Storage Temperature                       | $T_{stg}$    | -55~+150    | $^{\circ}\text{C}$ |

注: pulse电流宽度为小于5ms的非重复单脉冲。 Pulse Test: Pulse Width = 5.0 ms, Duty Cycle < 10%.

## 电特性 ELECTRICAL CHARACTERISTIC

| 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   |
|------------------|--|-------------------|-------------------|-------------------|---------------|
| $V_{(BR)CEO}$    | $I_C=10\text{mA}, I_B=0$                                       | 400               | -                 | -                 | V             |
| $V_{(BR)CBO}$    | $I_C=1\text{mA}, I_B=0$  | 700               | -                 | -                 | V             |
| $V_{(BR)EBO}$    | $I_E=1\text{mA}, I_C=0$  | 9                 | -                 | -                 | V             |
| $I_{CBO}$        | $V_{CB}=700\text{V}, I_E=0$                                    | -                 | -                 | 100               | $\mu\text{A}$ |
| $I_{CEO}$        | $V_{CE}=400\text{V}, I_B=0$                                    | -                 | -                 | 50                | $\mu\text{A}$ |
| $I_{EBO}$        | $V_{EB}=9\text{V}, I_C=0$                                      | -                 | -                 | 10                | $\mu\text{A}$ |
| Hfe(1)           | $V_{CE}=5\text{V}, I_C=2\text{A}$                              | 15                | -                 | 50                |               |
| Hfe(2)           | $V_{CE}=5\text{V}, I_C=6\text{A}$                              | 10                | -                 | 45                |               |
| hFE(3)           | $V_{CE}=5\text{V}, I_C=10\text{A}$                             | 8                 | -                 | -                 |               |
| $V_{CE(sat)}$    | $I_C=10\text{A}, I_B=2\text{A}$                                | -                 | -                 | 1.0               | V             |
| $V_{BE(sat)}$    | $I_C=10\text{A}, I_B=2\text{A}$                                | -                 | -                 | 1.5               | V             |
| tf               | $V_{CC}=24\text{V}, I_C=6\text{A}, I_{B1}=-I_{B2}=1.2\text{A}$ | -                 | -                 | 0.7               | $\mu\text{S}$ |
| ts               |  | -                 | -                 | 3                 | $\mu\text{S}$ |
| fT               | $V_{CE}=10\text{V}, I_C=0.5\text{A}$                           | 4                 | -                 | -                 | MHz           |

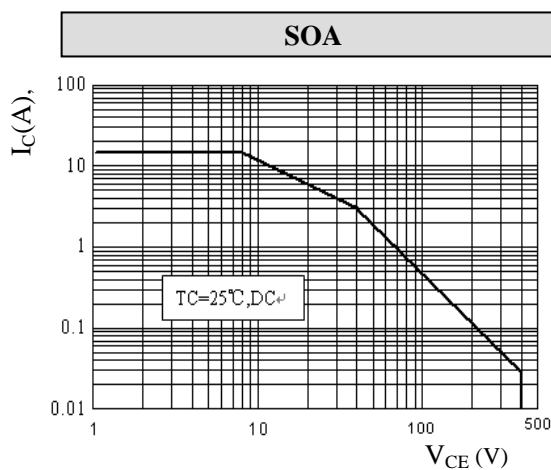
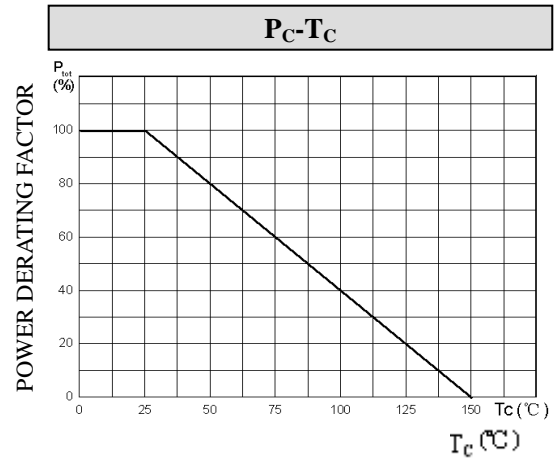
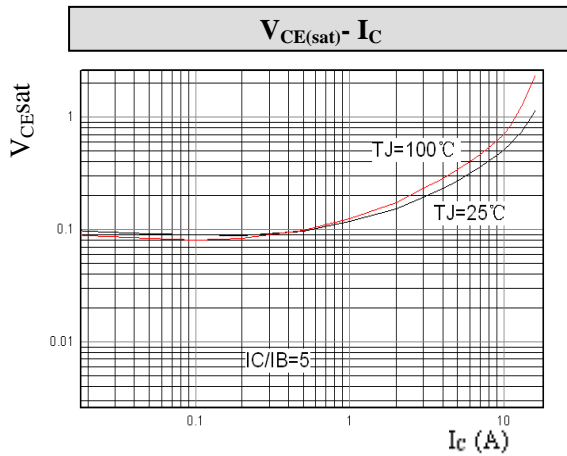
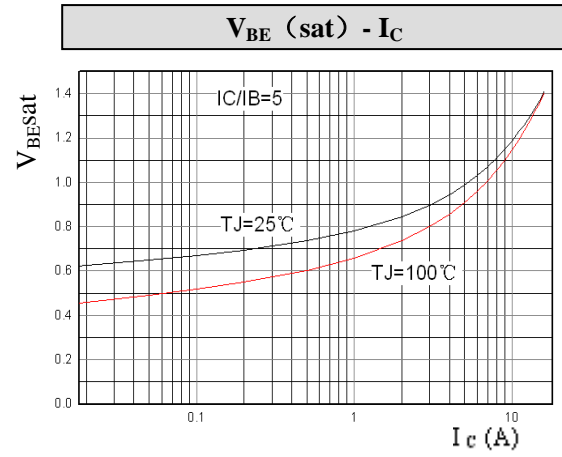
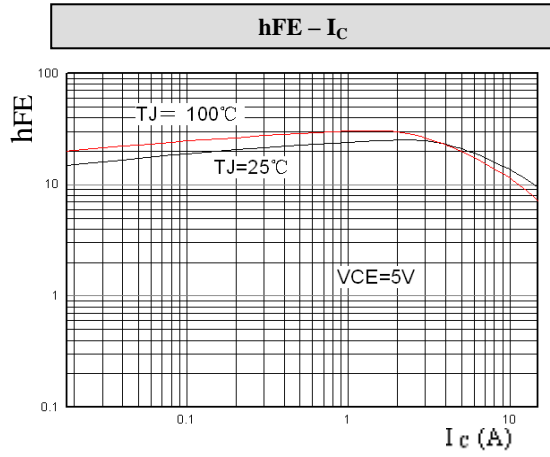
## 热特性 THERMAL CHARACTERISTIC

| 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 TO-3PN(B)/TO-247<br>Thermal Resistance Junction Case<br>TO-3PN(B)/TO-247 | $R_{th(j-c)}$ | -                 | 1.05              | $^{\circ}\text{C/W}$ |





## 特征曲线 ELECTRICAL CHARACTERISTICS (curves)

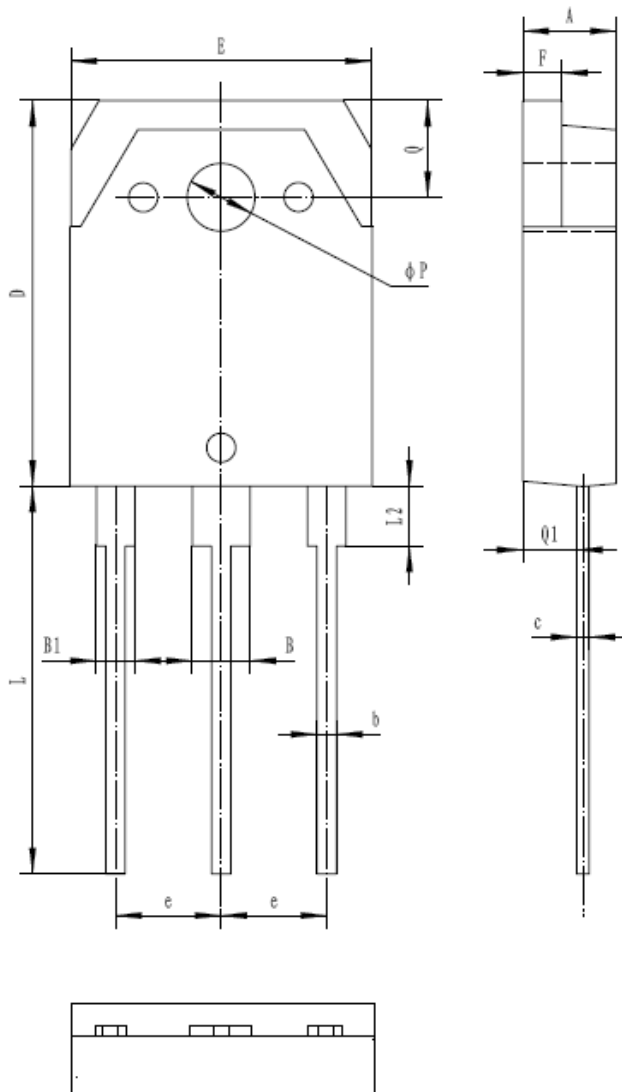




## 外形尺寸 PACKAGE MECHANICAL DATA

单位 Unit : mm

## TO-3PN



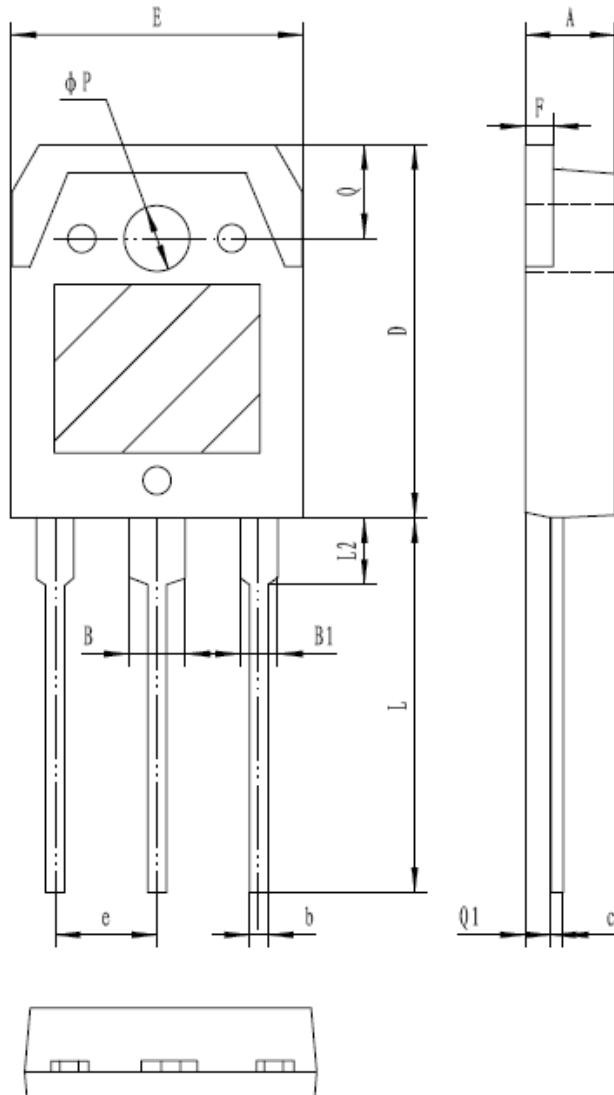
| 符号<br>symbol | MIN       | MAX   |
|--------------|-----------|-------|
| A            | 4.55      | 4.95  |
| B            | 2.90      | 3.20  |
| B1           | 1.90      | 2.20  |
| b            | 0.90      | 1.10  |
| c            | 0.40      | 0.80  |
| D            | 19.70     | 20.10 |
| E            | 15.30     | 15.70 |
| e            | 5.45(TYP) |       |
| F            | 1.90      | 2.10  |
| L            | 19.50     | 20.50 |
| L2           | 3.05      | 3.25  |
| Q            | 4.90      | 5.10  |
| Q1           | 2.60      | 3.00  |
| P            | 3.30      | 3.70  |



## 外形尺寸 PACKAGE MECHANICAL DATA

单位 Unit : mm

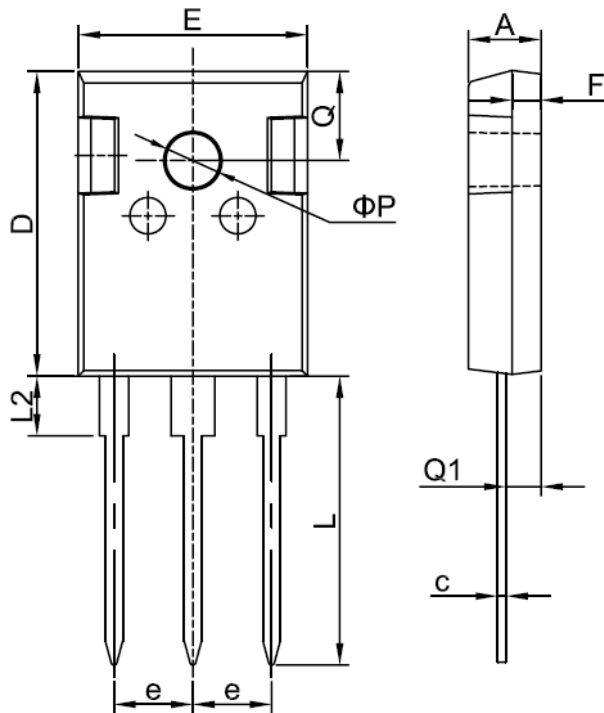
## TO-3PN (B)



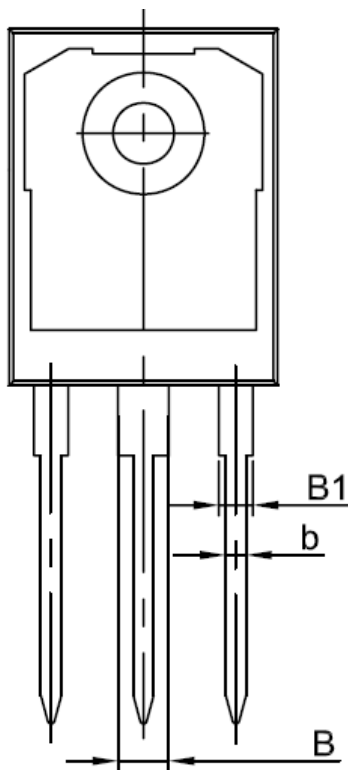
| 符号<br>symbol | MIN       | MAX   |
|--------------|-----------|-------|
| A            | 4.60      | 5.00  |
| B            | 2.90      | 3.20  |
| B1           | 1.90      | 2.20  |
| b            | 0.90      | 1.10  |
| c            | 0.50      | 0.70  |
| D            | 19.40     | 20.40 |
| E            | 15.40     | 15.80 |
| e            | 5.45(TYP) |       |
| F            | 1.40      | 1.60  |
| L            | 19.50     | 20.50 |
| L2           | 3.30      | 3.70  |
| Q            | 4.90      | 5.10  |
| Q1           | 1.30      | 1.50  |
| P            | 3.10      | 3.50  |



## TO-247



| 符号<br>symbol | MIN   | MAX   |
|--------------|-------|-------|
| A            | 4.90  | 5.10  |
| B            | 2.95  | 3.35  |
| B1           | 1.95  | 2.35  |
| b            | 1.15  | 1.35  |
| c            | 0.50  | 0.70  |
| D            | 20.90 | 21.10 |
| E            | 15.70 | 15.90 |
| e            | 5.34  | 5.54  |
| F            | 1.90  | 2.10  |
| L            | 19.40 | 20.40 |
| L2           | 4.03  | 4.23  |
| Q            | 6.00  | 6.40  |
| Q1           | 2.30  | 2.50  |
| P            | 3.50  | 3.70  |



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