



# 3DD5602 (I/U/M)

## 主要参数 MAIN CHARACTERISTICS

|                   |       |
|-------------------|-------|
| $I_C$             | 1.0A  |
| $V_{CEO}$         | 800V  |
| $V_{CBO}$         | 1500V |
| $P_C(TO-251/252)$ | 10W   |
| $P_C(TO-126)$     | 20W   |

## 用途

- 充电器
- 高频开关电源
- 高频功率变换
- 一般功率放大电路

## APPLICATIONS

- Battery charger
- High frequency switching power supply
- High frequency power transform
- Commonly power amplifier

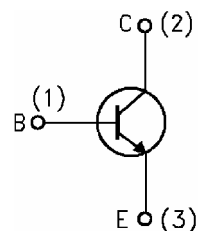
## 产品特性

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

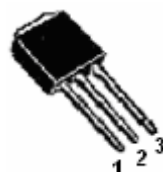
## FEATURES

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

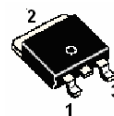
## 封装 Package



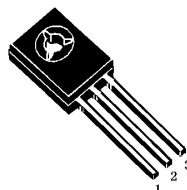
TO-251  
(3DD5602I)



TO-252  
(3DD5602U)



TO-126  
(3DD5602M)



## 订货信息 ORDER MESSAGE

| 订货型号<br>Order codes | 印记<br>Marking | 无卤素<br>Halogen Free | 封装<br>Package | 包装<br>Packaging |
|---------------------|---------------|---------------------|---------------|-----------------|
| 3DD5602I -O- I -N-B | D5602I        | 否 NO                | TO-251        | 条管 Tube         |
| 3DD5602I -O- I -N-C | D5602I        | 否 NO                | TO-251        | 袋装 Bag          |
| 3DD5602U -O- U -N-B | D5602U        | 否 NO                | TO-252        | 条管 Tube         |
| 3DD5602U -O- U -N-C | D5602U        | 否 NO                | TO-252        | 袋装 Bag          |
| 3DD5602M -O- M -N-B | D5602M        | 否 NO                | TO-126        | 条管 Tube         |
| 3DD5602M -O- M -N-C | D5602M        | 否 NO                | TO-126        | 袋装 Bag          |



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—基极<br>Collector- Base Voltage           | $V_{CBO}$     | 1500         | V                  |
| 集电极—发射极直流电压<br>Collector- Emitter Voltage   | $V_{CEO}$     | 800          | V                  |
| 发射极—基极直流电压<br>Emitter-Base Voltage          | $V_{EBO}$     | 6            | V                  |
| 最大集电极直流电流<br>Collector Current (DC)         | $I_C$         | 1.0          | A                  |
| 最大集电极脉冲电流<br>Collector Current (pulse)      | $I_{CP}$      | 2.0          | A                  |
| 最大集电极耗散功率<br>Total Dissipation (TO-251/252) | $P_C$         | 10           | W                  |
| 最大集电极耗散功率<br>Total Dissipation (TO-126)     | $P_C$         | 20           | W                  |
| 最高结温<br>Junction Temperature                | $T_j$         | 150          | $^{\circ}\text{C}$ |
| 贮存温度<br>Storage Temperature                 | $T_{stg}$     | -55~+150     | $^{\circ}\text{C}$ |

## 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    |
|------------------|--------------------------------------------------------------------|-------------------|-------------------|-------------------|---------------|
| $V(BR)_{CEO}$    | $I_C=10\text{mA}, I_B=0$                                           | 800               | 850               | -                 | V             |
| $V(BR)_{CBO}$    | $I_C=1\text{mA}, I_B=0$                                            | 1500              | 1600              | -                 | V             |
| $V(BR)_{EBO}$    | $I_E=1\text{mA}, I_C=0$                                            | 6                 | 8                 | -                 | V             |
| $I_{CBO}$        | $V_{CB}=1400\text{V}, I_E=0$                                       | -                 | -                 | 5                 | $\mu\text{A}$ |
| $I_{CEO}$        | $V_{CE}=780\text{V}, I_B=0$                                        | -                 | -                 | 10                | $\mu\text{A}$ |
| $I_{EBO}$        | $V_{EB}=6\text{V}, I_C=0$                                          | -                 | --                | 5                 | $\mu\text{A}$ |
| hFE              | $V_{CE}=5\text{V}, I_C=100\text{mA}$                               | 20                | 30                | 40                | -             |
|                  | $V_{CE}=5\text{V}, I_C=1.0\text{A}$                                | 3.0               | 5.0               | -                 | -             |
| $V_{CE(sat)}$    | $I_C=0.5\text{A}, I_B=0.1\text{A}$                                 | -                 | 0.3               | 0.8               | V             |
| $V_{BE(sat)}$    | $I_C=1.0\text{A}, I_B=0.2\text{A}$                                 | -                 | 0.8               | 1.2               | V             |
| tf               | $V_{CC}=24\text{V}, I_C=0.25\text{A}, I_{B1}=-I_{B2}=0.05\text{A}$ | -                 | -                 | 0.7               | $\mu\text{S}$ |
| ts               | $V_{CC}=24\text{V}, I_C=0.25\text{A}, I_{B1}=-I_{B2}=0.05\text{A}$ | -                 | -                 | 5                 | $\mu\text{S}$ |
| fT               | $V_{CE}=10\text{V}, I_C=0.1\text{A}$                               | 4                 | -                 | -                 | MHz           |

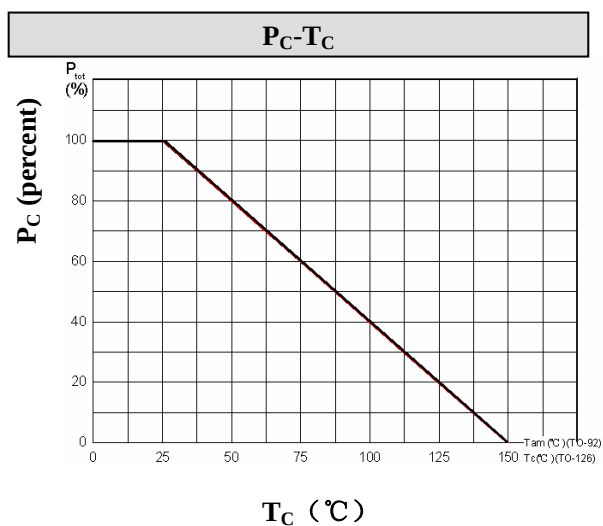
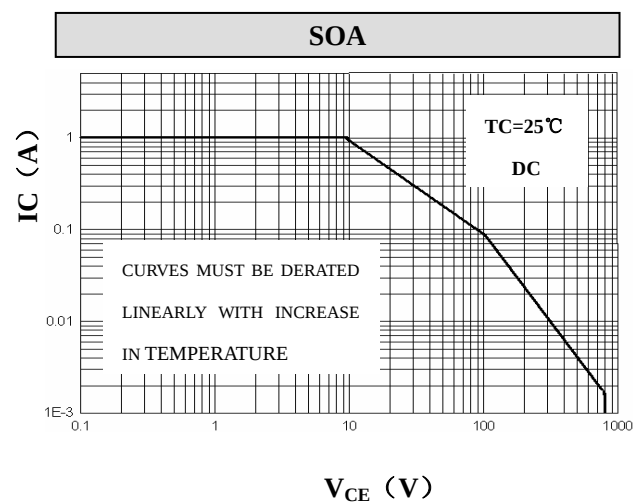
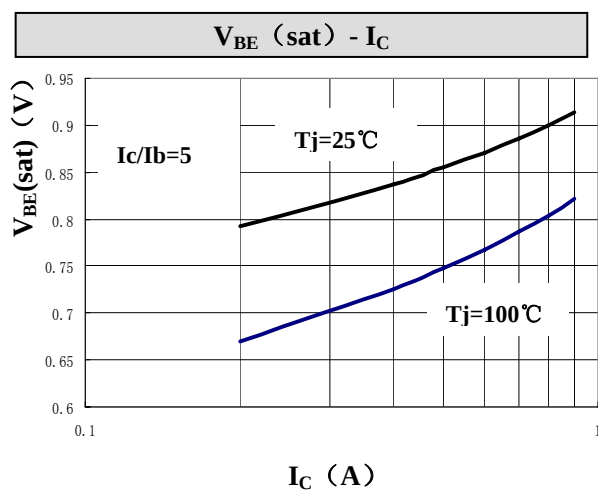
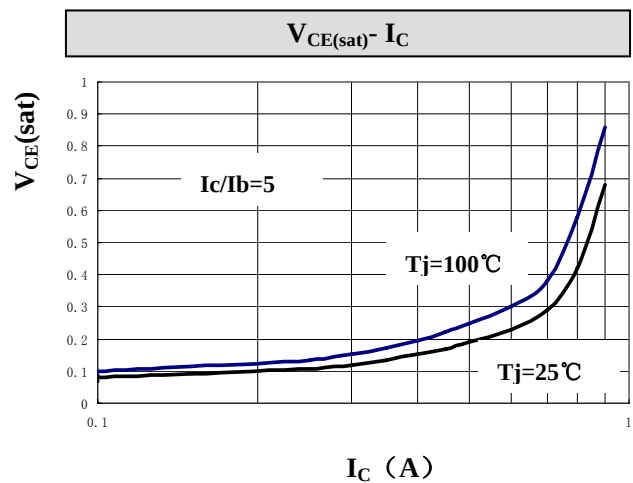
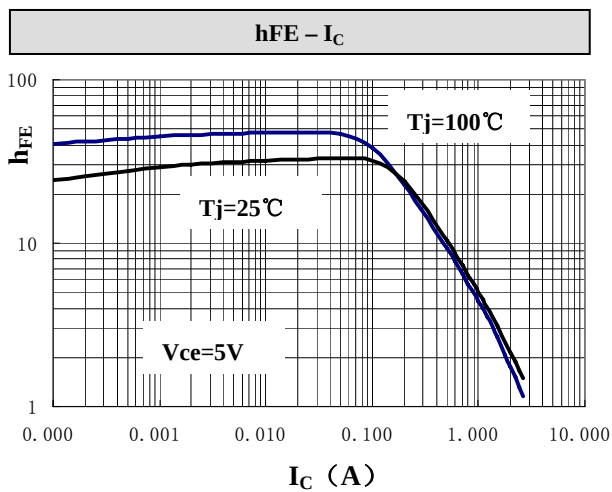
## 热特性 THERMAL CHARACTERISTIC

| 项 目<br>Parameter                                                  | 符 号<br>Symbol | 最小值<br>Value(min) | 最大值<br>Value(max) | 单 位<br>Unit                 |
|-------------------------------------------------------------------|---------------|-------------------|-------------------|-----------------------------|
| 结到环境的热阻 TO-251/252<br>Thermal Resistance Junction Case TO-251/252 | $R_{th(j-c)}$ | -                 | 12.5              | $^{\circ}\text{C}/\text{W}$ |
| 结到管壳的热阻 TO-126<br>Thermal Resistance Junction Case TO-126         | $R_{th(j-c)}$ | -                 | 6.25              | $^{\circ}\text{C}/\text{W}$ |



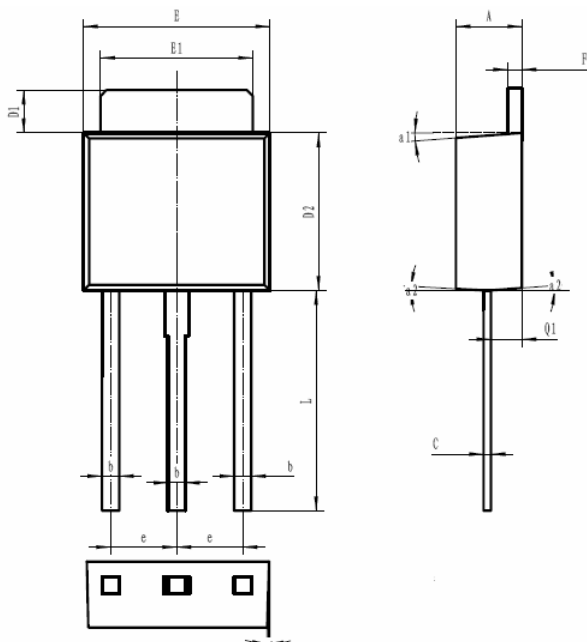


## 特征曲线 ELECTRICAL CHARACTERISTICS (curves)



外形尺寸 PACKAGE MECHANICAL DATA  
TO-251

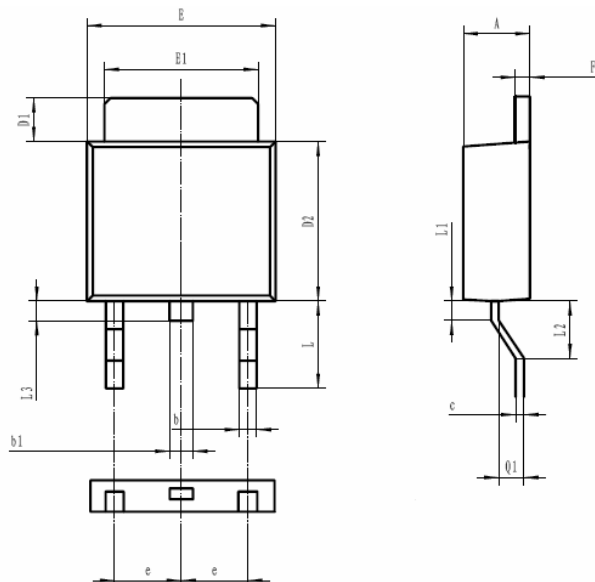
单位 Unit : mm



|    |           |
|----|-----------|
| A  | 2.20-2.40 |
| b  | 0.55-0.65 |
| b1 | 0.70-0.90 |
| C  | 0.45-0.55 |
| D1 | 1.40-1.60 |
| D2 | 5.40-5.60 |
| E  | 6.40-6.60 |
| E1 | 5.20-5.40 |
| e  | 2.25-2.35 |
| F  | 0.45-0.55 |
| L  | 7.60-7.80 |
| Q1 | 1.15-1.25 |
| a1 | 4°-6°     |
| a2 | 4°-6°     |
| a3 | 4°-6°     |

外形尺寸 PACKAGE MECHANICAL DATA  
TO-252

单位Unit : mm

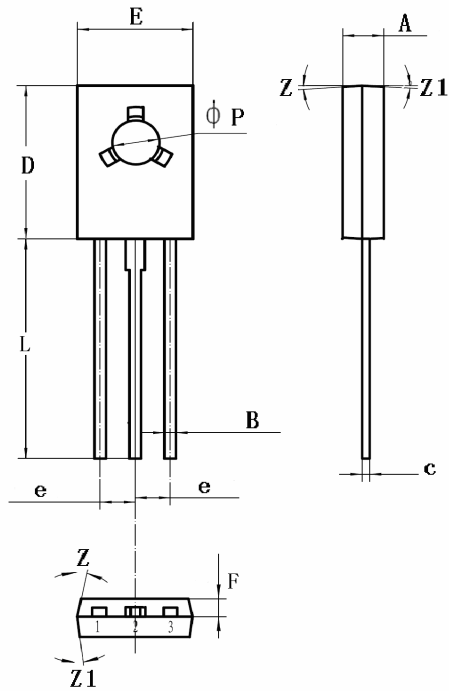


|    |           |
|----|-----------|
| A  | 2.20-2.40 |
| b  | 0.55-0.65 |
| b1 | 0.70-0.90 |
| C  | 0.45-0.55 |
| D1 | 1.40-1.60 |
| D2 | 5.40-5.60 |
| E  | 6.40-6.60 |
| E1 | 5.20-5.40 |
| e  | 2.25-2.35 |
| F  | 0.45-0.55 |
| L  | 2.60-2.80 |
| L1 | 0.90-1.10 |
| L2 | 1.70-1.90 |
| L3 | 0.70-0.90 |
| Q1 | 1.15-1.25 |



外形尺寸 PACKAGE MECHANICAL DATA  
TO-126

单位 Unit : mm



|    |                |
|----|----------------|
| A  | 2.50-2.90      |
| B  | 0.60-0.90      |
| c  | 0.30-0.70      |
| D  | 10.50-11.10    |
| E  | 7.10-8.10      |
| e  | 2.19-2.39      |
| L  | 14.0-17.0      |
| F  | 1.07-1.47      |
| Z  | 4 <sup>°</sup> |
| Z1 | 3 <sup>°</sup> |
| P  | 2.90-3.30      |



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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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**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<br>Description of Changes |
|------------|------------------|-----------------|--------------------------------|
| 2009-6-24  | 200906A          |                 |                                |
| 2009-9-1   | 200906A          | 200909B         | 修正 SOA                         |
| 2009-10-29 | 200909B          | 200910C         | 电话号码                           |

