

NPN MJE 系列晶体管/MJE SERIES TRANSISTORS

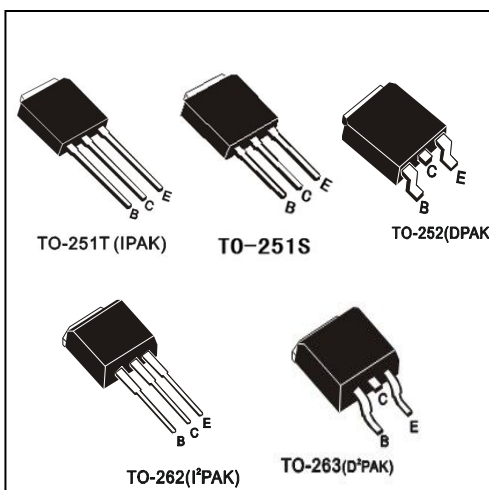
MJE13005

- 特点: 耐高压 开关速度快 安全工作区宽 符合 RoHS 规范
- FEATURES: ■HIGH VOLTAGE CAPABILITY ■HIGH SPEED SWITCHING ■WIDE SOA ■RoHS COMPLIANT
- 应用: 节能灯 电子镇流器 电子变压器 开关电源
- APPLICATION: ■FLUORESCENT LAMP ■ELECTRONIC BALLAST ■ELECTRONIC TRANSFORMER
■SWITCH MODE POWER SUPPLY

●最大额定值 (Tc=25°C)

●Absolute Maximum Ratings (Tc=25°C) TO-251T/251S/252/262/263

| 参数 PARAMETER | 符号 SYMBOL | 额定值 VALUE | 单位 UNIT |
|----------------------------------------|------------------|--------------------------------------|------------|
| 集电极-基极电压 Collector-Base Voltage | V _{CB0} | 700 | V |
| 集电极-发射极电压 Collector-Emitter Voltage | V _{CEO} | 400 | V |
| 发射极-基极电压 Emitter-Base Voltage | V _{EBO} | 9 | V |
| 集电极电流 Collector Current | I _c | 5.0 | A |
| 集电极耗散功率 Total Power Dissipation | P _c | TO-251T/251S/252:50 TO-262/263:65 | W |
| 最高工作温度 Junction Temperature | T _j | 150 | °C |
| 贮存温度 Storage Temperature | T _{stg} | -65-150 | °C |



●电特性 (Tc=25°C)

●Electronic Characteristics (Tc=25°C)

| 参数名称 CHARACTERISTICS | 符号 SYMBOL | 测试条件 TEST CONDITION | 最小值 MIN | 最大值 MAX | 单位 UNIT |
|-----------------------------------------------------|--------------------|--------------------------------------------------------|------------|------------|------------|
| 集电极-基极截止电流 Collector-Base Cutoff Current | I _{CB0} | V _{CB} =700V | | 100 | μA |
| 集电极-发射极截止电流 Collector-Emitter Cutoff Current | I _{CEO} | V _{CE} =400V, I _B =0 | | 250 | μA |
| 集电极-基极电压 Collector-Base Voltage | V _{CB0} | I _c =1mA, I _E =0 | 700 | | V |
| 集电极-发射极电压 Collector-Emitter Voltage | V _{CEO} | I _c =10mA, I _B =0 | 400 | | V |
| 发射极-基极电压 Emitter-Base Voltage | V _{EBO} | I _E =1mA, I _C =0 | 9 | | V |
| 集电极-发射极饱和电压 Collector-Emitter Saturation Voltage | V _{cesat} | I _c =1.0A, I _B =0.2A | | 0.5 | V |
| | | I _c =4.0A, I _B =1.0A | | 1.1 | |
| 发射极-基极饱和电压 Base-Emitter Saturation Voltage | V _{besat} | I _c =1A, I _B =0.2A | | 1.1 | V |
| 电流放大倍数 DC Current Gain | h _{FE} | V _{CE} =5V, I _c =10mA | 7 | | |
| | | V _{CE} =5V, I _c =1.0A | 10 | 40 | |
| | | V _{CE} =5V, I _c =4A | 5 | | |
| 贮存时间/Storage Time | t _s | V _{CC} =5V, I _c =0.5A, (UI9600) | 2.0 | 3.5 | μs |
| 下降时间/Falling Time | t _f | | | 0.8 | |

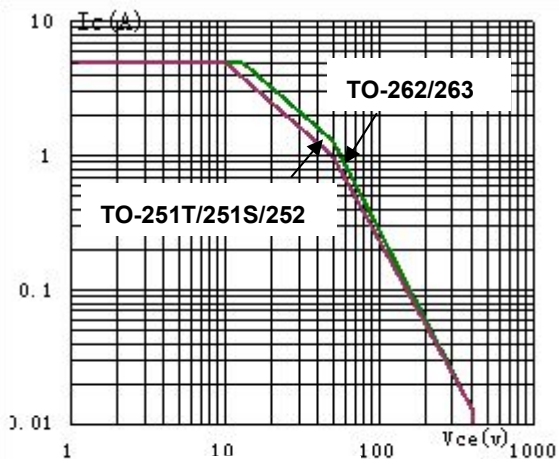
●订单信息/ORDERING INFORMATION:

| 包装形式/PACKING | 订货编码/ORDERING CODE | |
|---------------------------------------|-------------------------------------------------|----------------------------------------------------------|
| | 普通塑封料 Normal Package Material | 无卤塑封料 Halogen Free |
| TO-251T 或 251S 普通袋装/NORMAL PACKING | MJE13005 TO-251T 或 251S | MJE13005 TO-251T-HF 或 251S-HF |
| TO-252 或 251T 或 251S 条管装/TUBE PACKING | MJE13005 TO-251T-TU 或 TO-251S-TU 或 TO-252-TU | MJE13005 TO-251T-TU-HF 或 TO-251S-T-HFU 或 TO-252-TU-HF |
| TO-252 编带装/TAPE & REEL PACKING | MJE13005 TO-252-TR | MJE13005 TO-252-TR-HF |
| TO-262 普通袋装/NORMAL PACKING | MJE13005 TO-262 | MJE13005 TO-262-HF |
| TO-262 或 263 条管装/TUBE PACKING | MJE13005 TO-262-TU 或 MJE13005 TO-263-TU | MJE13005 TO-262-TU-HF 或 MJE13005 TO-263-TU-HF |

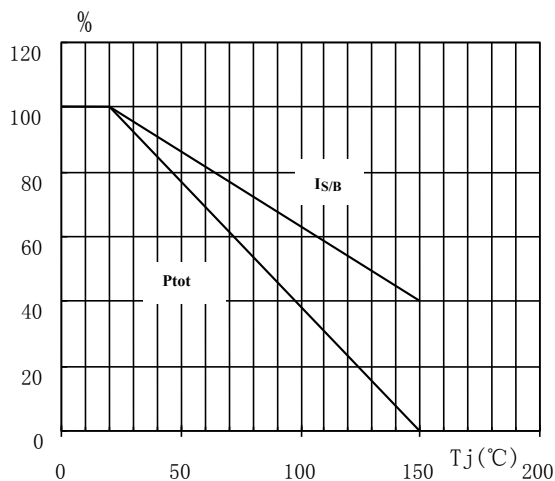
NPN MJE 系列晶体管/MJE SERIES TRANSISTORS

MJE13005

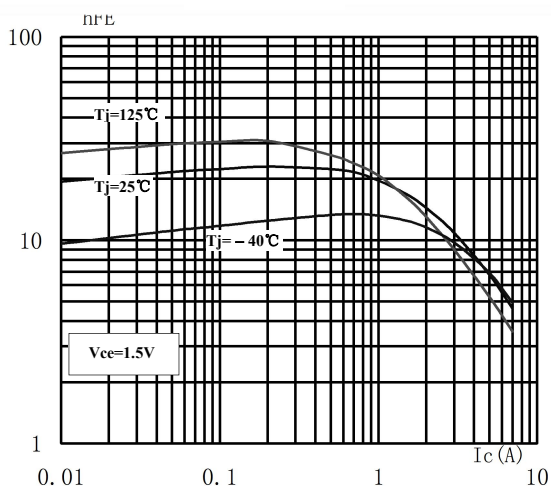
SOA (DC)



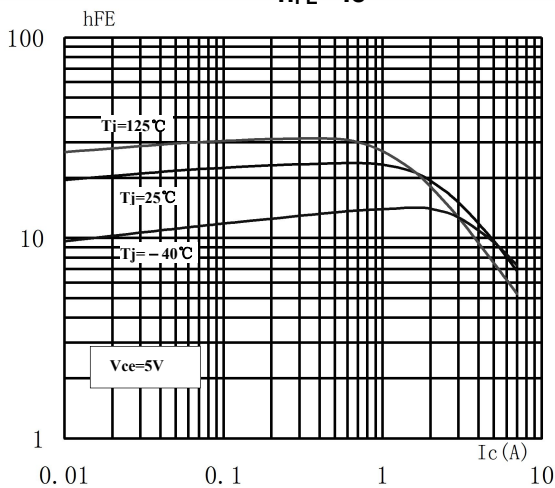
$P_{tot} \propto T_j$



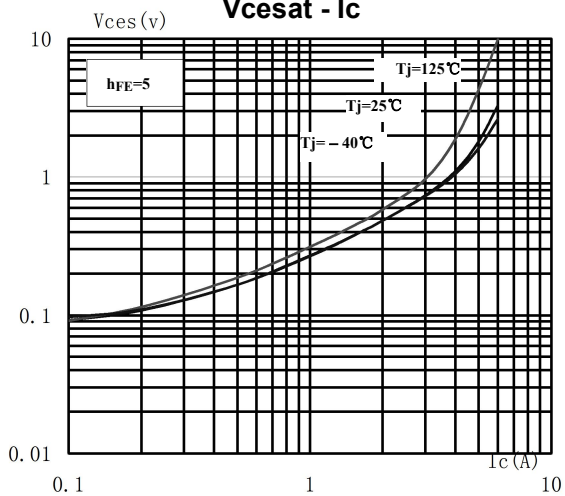
$h_{FE} - I_c$



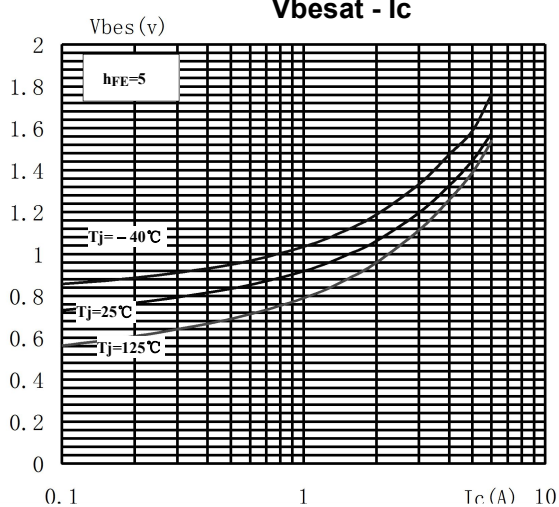
$h_{FE} - I_c$



$V_{cesat} - I_c$



$V_{besat} - I_c$

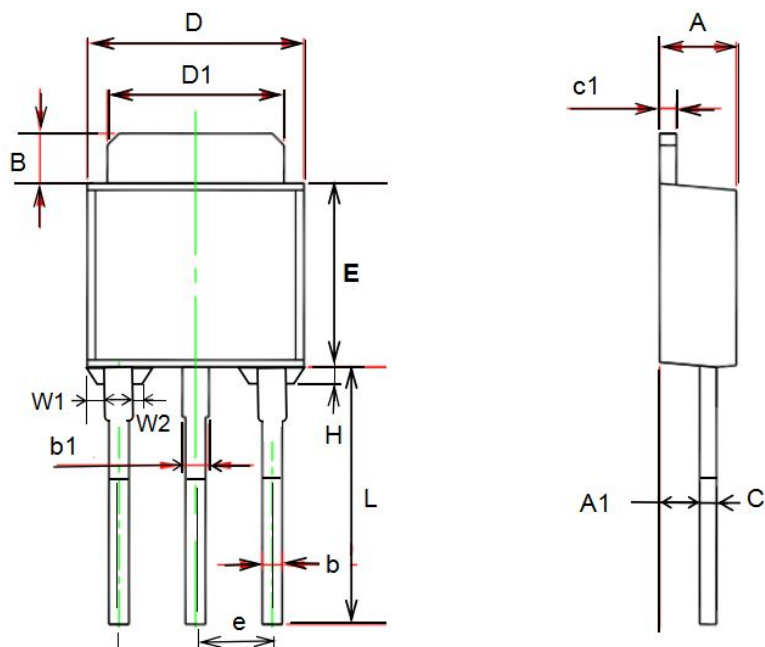


TO-251T 封装机械尺寸 TO-251T (IPAK) MECHANICAL DATA

单位:毫米/UNIT: mm

| 符号/SYMBOL | 最小值/min | 典型值/nom | 最大值/max |
|----------------|---------|---------|---------|
| A | 2.10 | | 2.50 |
| A ₁ | 0.95 | | 1.30 |
| B | 0.80 | | 1.25 |
| b | 0.50 | | 0.80 |
| b ₁ | 0.70 | | 0.80 |
| c | 0.45 | | 0.70 |
| c ₁ | 0.45 | | 0.70 |
| D | 6.35 | | 6.80 |
| D ₁ | 5.10 | | 5.50 |
| E | 5.30 | | 6.30 |
| e | 2.25 | 2.30 | 2.35 |
| L | 7.00 | | 9.20 |
| H | 0.35 | | 0.45 |
| W1 | 0.30 | | 0.50 |
| W2 | 0.20 | | 0.40 |

[S/L]

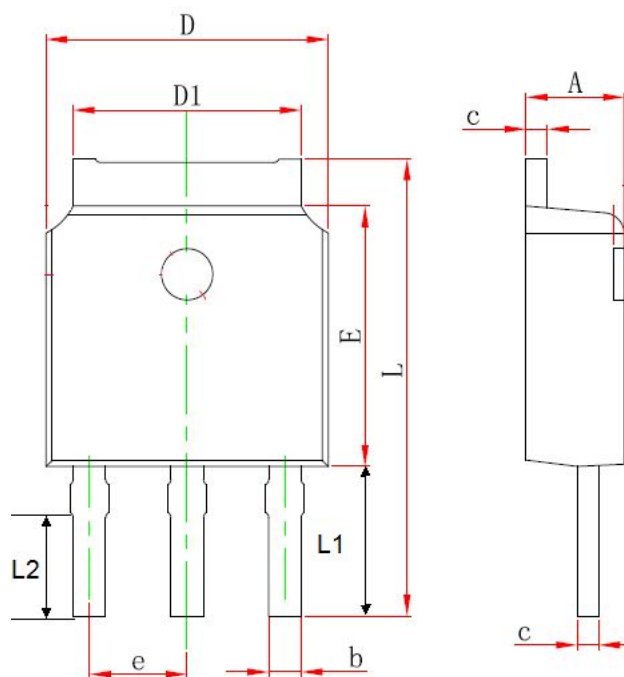


TO-251S 封装机械尺寸

TO-251S (IPAK) MECHANICAL DATA

单位:毫米/UNIT: mm

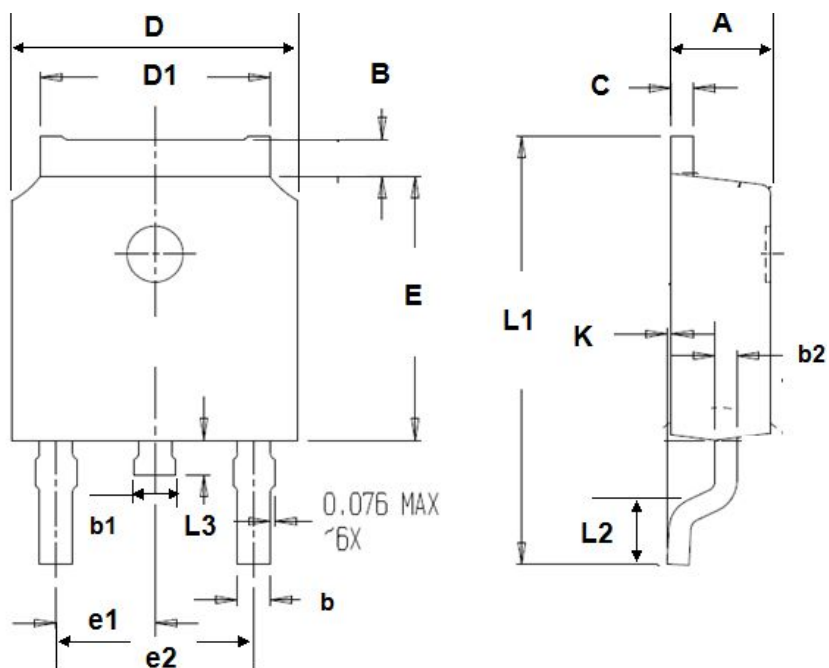
| 符号/SYMBOL | 最小值/min | 典型值/nom | 最大值/max |
|-----------|---------|---------|---------|
| A | 2.20 | | 2.40 |
| b | 0.50 | | 0.85 |
| C | 0.45 | 0.50 | 0.60 |
| D | 6.50 | | 6.70 |
| D1 | 5.10 | | 5.50 |
| E | 5.9 | | 6.20 |
| e | 2.18 | 2.29 | 2.38 |
| L | 11.00 | | 12.40 |
| L1 | 4.8 | | 5.3 |
| L2 | 3.5 | | 4.2 |



TO-252 封装机械尺寸 TO-252 MECHANICAL DATA

单位:毫米/UNIT: mm

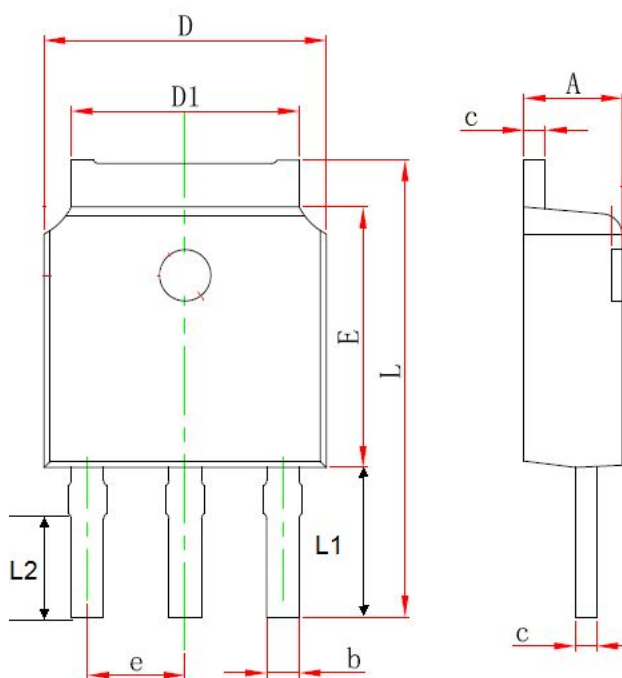
| 符号 SYMBOL | 最小值 min | 最大值 max | 符号 SYMBOL | 最小值 min | 最大值 max |
|--------------|------------|------------|--------------|------------|------------|
| A | 2.10 | 2.50 | B | 0.85 | 1.25 |
| b | 0.50 | 0.80 | b1 | 0.70 | 1.20 |
| b2 | 0.45 | 0.70 | C | 0.45 | 0.70 |
| D | 6.30 | 6.75 | D1 | 5.10 | 5.50 |
| E | 5.30 | 6.30 | e1 | 2.25 | 2.35 |
| L1 | 9.20 | 10.60 | e2 | 4.45 | 4.75 |
| L2 | 0.90 | 1.75 | L3 | 0.60 | 1.10 |
| K | 0.00 | 0.23 | | | |



TO-251S 封装机械尺寸 TO-251S (IPAK) MECHANICAL DATA

单位:毫米/UNIT: mm

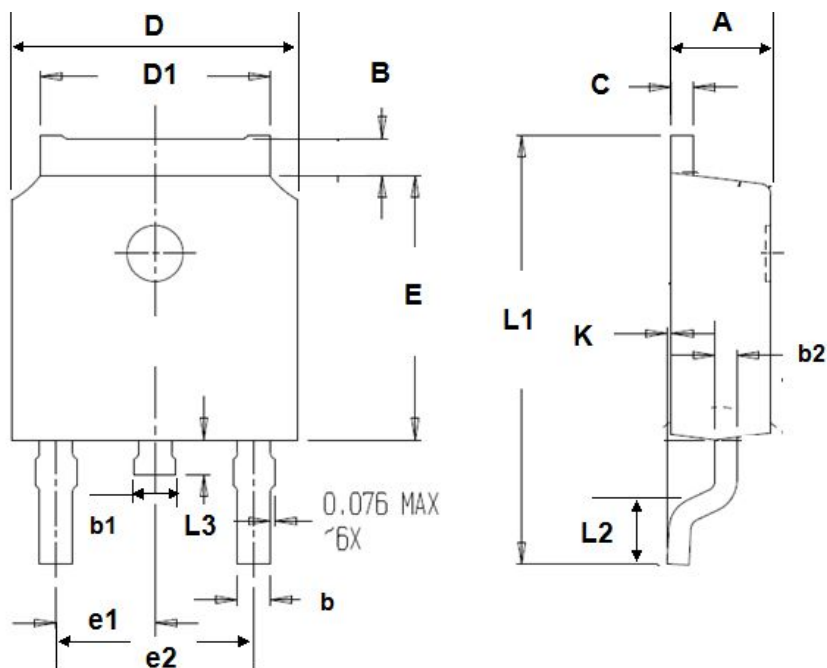
| 符号/SYMBOL | 最小值/min | 典型值/nom | 最大值/max |
|-----------|---------|---------|---------|
| A | 2.20 | | 2.40 |
| b | 0.50 | | 0.85 |
| C | 0.45 | 0.50 | 0.60 |
| D | 6.50 | | 6.70 |
| D1 | 5.10 | | 5.50 |
| E | 5.9 | | 6.20 |
| e | 2.18 | 2.29 | 2.38 |
| L | 11.00 | | 12.40 |
| L1 | 4.8 | | 5.3 |
| L2 | 3.5 | | 4.2 |



TO-252 封装机械尺寸 TO-252 MECHANICAL DATA

单位:毫米/UNIT: mm

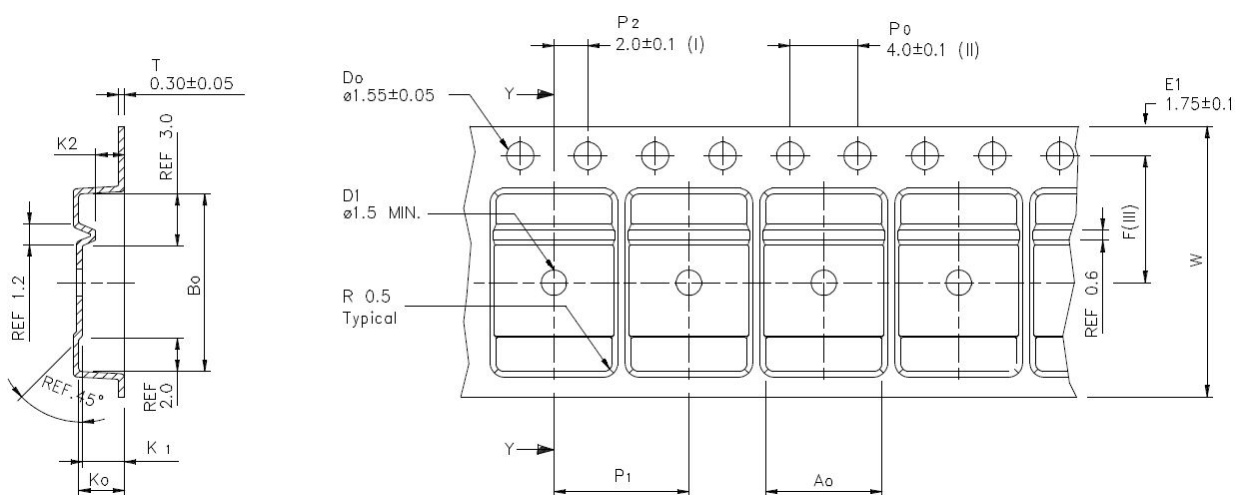
| 符号 SYMBOL | 最小值 min | 最大值 max | 符号 SYMBOL | 最小值 min | 最大值 max |
|--------------|------------|------------|--------------|------------|------------|
| A | 2.10 | 2.50 | B | 0.85 | 1.25 |
| b | 0.50 | 0.80 | b1 | 0.50 | 0.90 |
| b2 | 0.45 | 0.70 | C | 0.45 | 0.70 |
| D | 6.30 | 6.75 | D1 | 5.10 | 5.50 |
| E | 5.30 | 6.30 | e1 | 2.25 | 2.35 |
| L1 | 9.20 | 10.60 | e2 | 4.45 | 4.75 |
| L2 | 0.90 | 1.75 | L3 | 0.60 | 1.10 |
| K | 0.00 | 0.23 | | | |



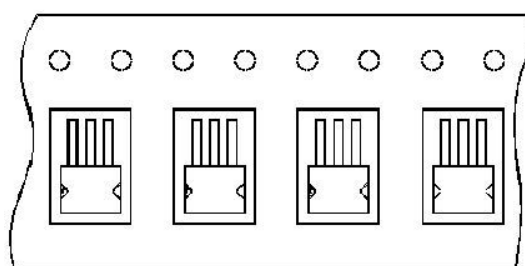
TO-252 编带规格尺寸 TO-252 TAPE AND REEL DATA

单位:毫米/UNIT: mm

| 符号 SYMBOL | 最小值 min | 典型值 nom | 最大值 max | 符号 SYMBOL | 最小值 min | 典型值 nom | 最大值 max |
|--------------|------------|------------|------------|--------------|------------|------------|------------|
| A0 | 6.80 | 6.90 | 7.00 | B0 | 10.40 | 10.50 | 10.60 |
| K0 | 2.60 | 2.70 | 2.90 | K1 | 2.40 | 2.50 | 2.60 |
| F | 7.40 | 7.50 | 7.60 | K2 | 1.60 | 1.70 | 1.80 |
| W | 15.90 | 16.00 | 16.10 | P1 | 7.90 | 8.00 | 8.10 |



使用供带方向/USER DIRECTION OF FEED

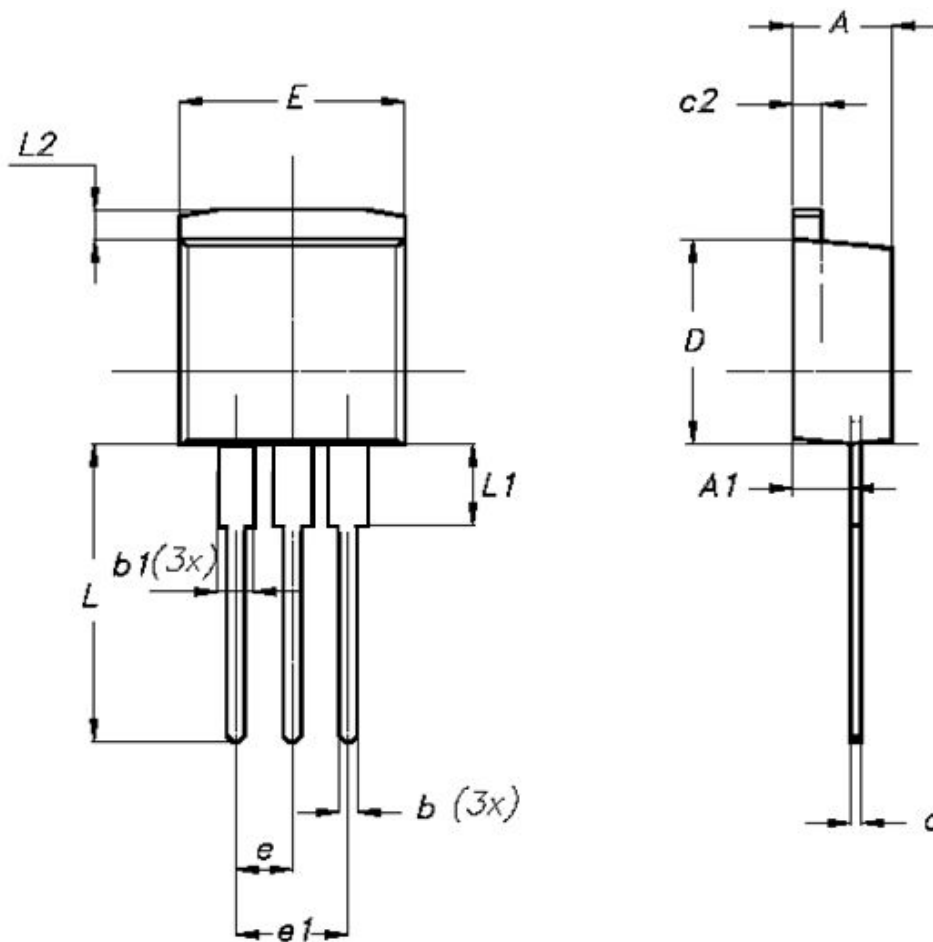


编带器件定位/UNIT ORIENTATION

TO-262 封装机械尺寸 TO-262 MECHANICAL DATA

单位：毫米/UNIT: mm

| 符号 SYMBOL | 最小值 min | 典型值 nom | 最大值 max | 符号 SYMBOL | 最小值 min | 典型值 nom | 最大值 max |
|--------------|------------|------------|------------|--------------|------------|------------|------------|
| A | 3.80 | | 4.80 | e | | 2.54 | |
| A1 | 2.00 | | 2.80 | e1 | | | 5.30 |
| b | 0.60 | | 1.00 | E | 9.90 | | 10.70 |
| b1 | 1.20 | | 1.40 | L | 12.50 | | 14.50 |
| c | 0.40 | | 0.70 | L1 | 0.80 | 1.00 | 1.20 |
| c2 | 1.10 | | 1.40 | L2 | | | 1.50 |
| D | | | 9.60 | | | | |

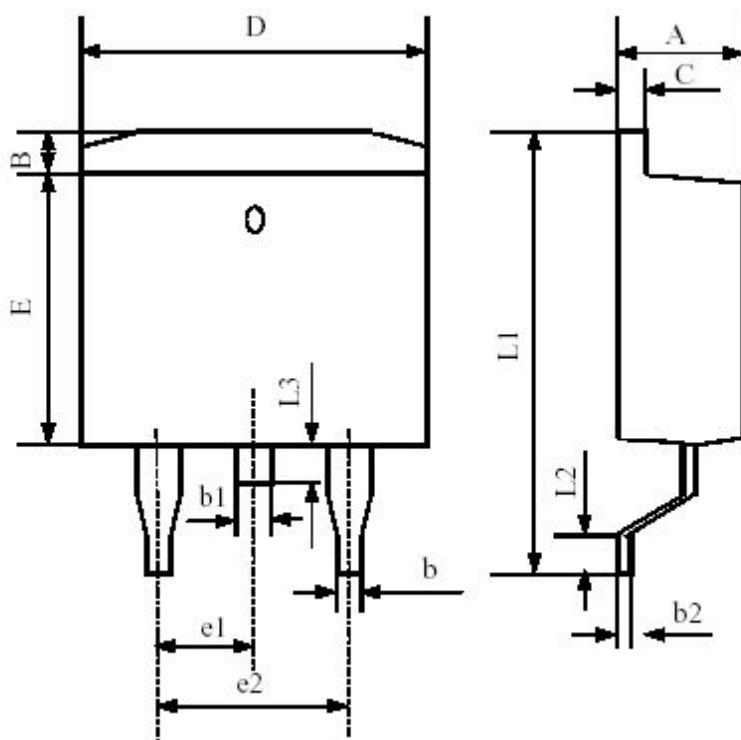


TO-263 封装机械尺寸

TO-263(D2PAK) MECHANICAL DATA

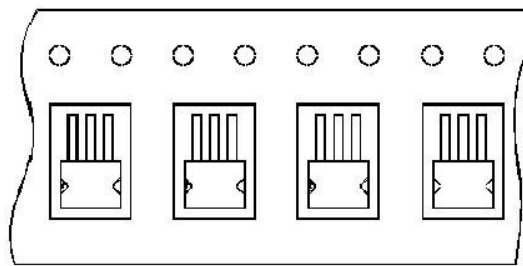
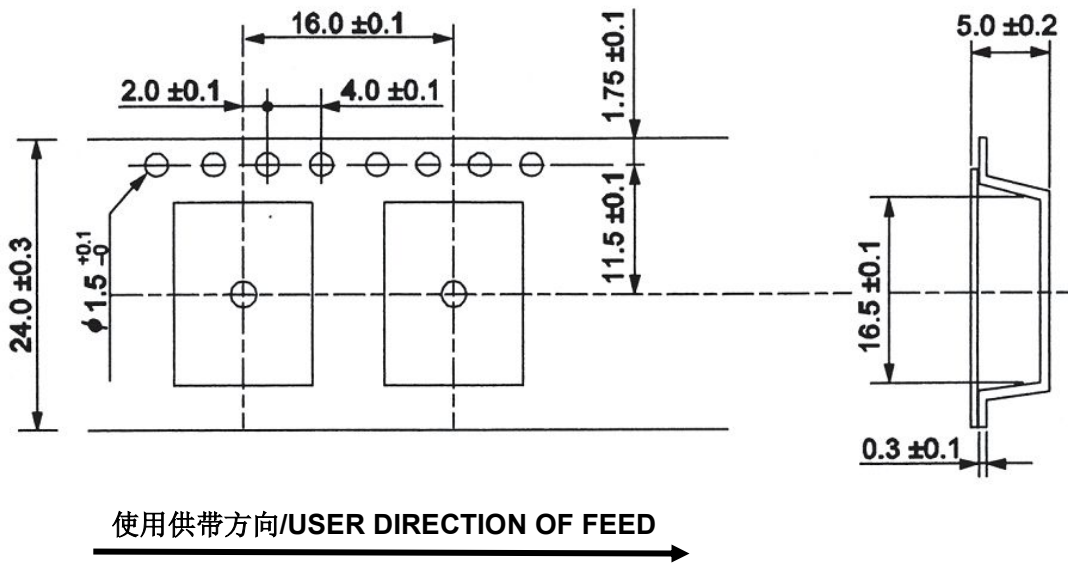
单位：毫米/UNIT: mm

| 符号 SYMBOL | 最小值 min | 典型值 nom | 最大值 max | 符号 SYMBOL | 最小值 min | 典型值 nom | 最大值 max |
|--------------|------------|------------|------------|--------------|------------|------------|------------|
| A | 4.42 | | 4.72 | E | 8.99 | | 9.29 |
| B | 1.22 | | 1.32 | e1 | 2.44 | | 2.64 |
| b | 0.76 | | 0.86 | e2 | 4.98 | | 5.18 |
| b1 | 1.22 | | 1.32 | L1 | 15.19 | | 15.79 |
| b2 | 0.33 | | 0.43 | L2 | 2.29 | | 2.79 |
| C | 1.22 | | 1.32 | L3 | 1.30 | | 1.75 |
| D | 9.95 | | 10.25 | | | | |



TO-263 编带规格尺寸 TO-263 TAPE AND REEL DATA

单位:毫米/UNIT: mm



编带器件定位示意图/UNIT ORIENTATION