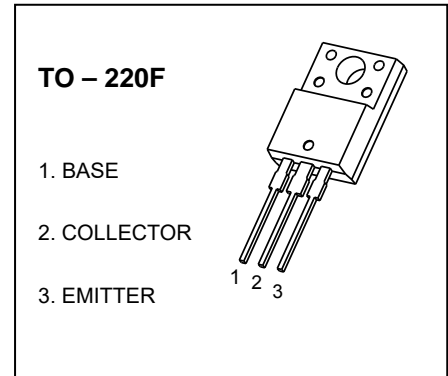


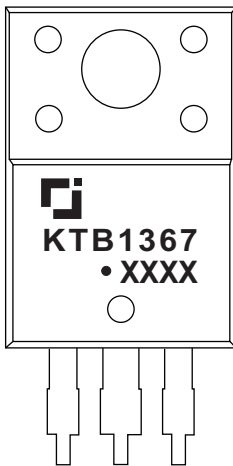
**KTB1367** TRANSISTOR (PNP)

**FEATURES**

- Low Collector-Emitter Saturation Voltage
- General Purpose Applications

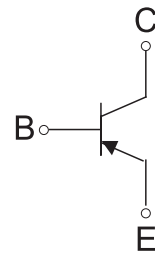


**MARKING**



KTB1367=Device code  
Solid dot=Green moldinn compound device,  
if none,the normal device  
XXXX=Code

**Equivalent Circuit**



**MAXIMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted)**

| Symbol                            | Parameter  | Value    | Unit |
|-----------------------------------|--|----------|------|
| V <sub>CBO</sub>                  | Collector-Base Voltage                           | -100     | V    |
| V <sub>CEO</sub>                  | Collector-Emitter Voltage                        | -100     | V    |
| V <sub>EBO</sub>                  | Emitter-Base Voltage                             | -5       | V    |
| I <sub>C</sub>                    | Collector Current                                | -5       | A    |
| P <sub>C</sub>                    | Collector Power Dissipation                      | 2        | W    |
| R <sub>θJA</sub>                  | Thermal Resistance From Junction To Ambient      | 62.5     | °C/W |
| T <sub>J</sub> , T <sub>stg</sub> | Operation Junction and Storage Temperature Range | -55~+150 | °C   |

**ELECTRICAL CHARACTERISTICS ( $T_a=25^{\circ}\text{C}$  unless otherwise specified)**

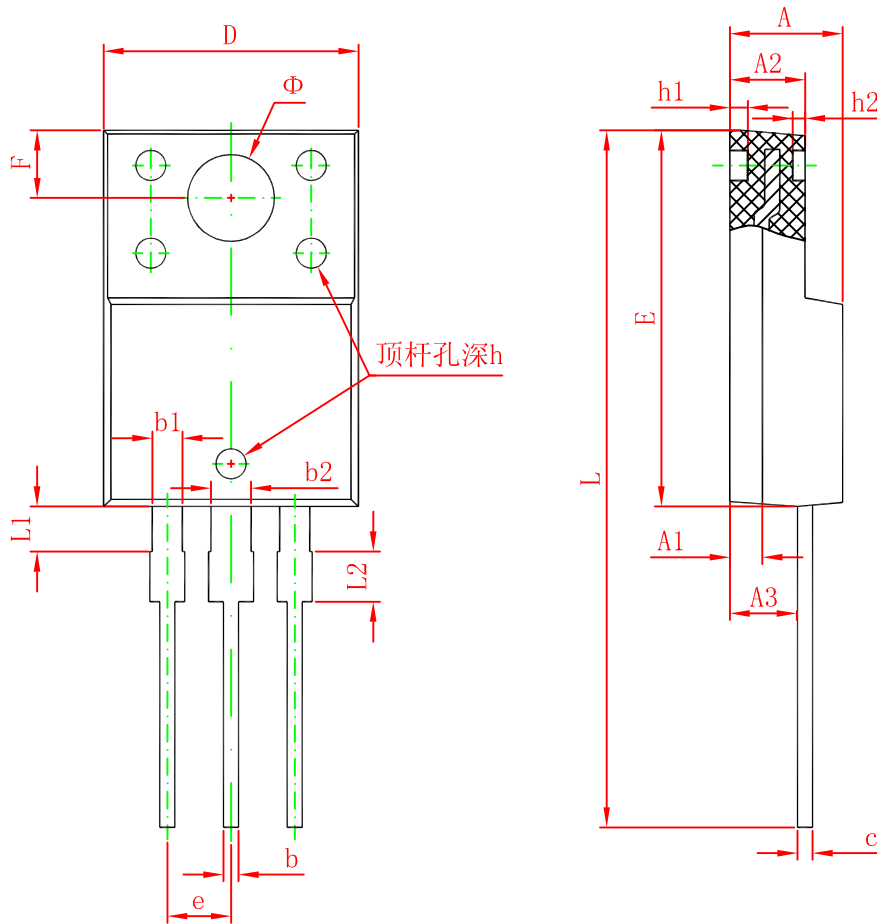
| Parameter                            | Symbol          | Test conditions                            | Min  | Typ | Max  | Unit          |
|--------------------------------------|-----------------|--|------|-----|------|---------------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$   | $I_C=-1\text{mA}, I_E=0$                   | -100 |     |      | V             |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}^*$ | $I_C=-50\text{mA}, I_B=0$                  | -100 |     |      | V             |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}^*$ | $I_E=-10\text{mA}, I_C=0$                  | -5   |     |      | V             |
| Collector cut-off current            | $I_{CBO}$       | $V_{CB}=-100\text{V}, I_E=0$               |      |     | -100 | $\mu\text{A}$ |
| Collector cut-off current            | $I_{CEO}$       | $V_{CE}=-50\text{V}, I_B=0$                |      |     | -500 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$       | $V_{EB}=-5\text{V}, I_C=0$                 |      |     | -1   | mA            |
| DC current gain                      | $h_{FE(1)}$     | $V_{CE}=-5\text{V}, I_C=-1\text{A}$        | 40   |     | 240  |               |
|                                      | $h_{FE(2)}$     | $V_{CE}=-5\text{V}, I_C=-4\text{A}$        | 20   |     |      |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$   | $I_C=-4\text{A}, I_B=-0.4\text{A}$         |      |     | -2   | V             |
| Base-emitter voltage                 | $V_{BE}$        | $V_{CE}=-5\text{V}, I_C=-4\text{A}$        |      |     | -1.5 | V             |
| Collector output capacitance         | $C_{ob}$        | $V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$ |      | 270 |      | pF            |
| Transition frequency                 | $f_T$           | $V_{CE}=-5\text{V}, I_C=-1\text{A}$        |      | 5   |      | MHz           |

\*Pulse test

**CLASSIFICATION OF  $h_{FE(1)}$**

| RANK  | R     | O      | Y       |
|-------|-------|--------|---------|
| RANGE | 40-80 | 70-140 | 120-240 |

# TO-220F Package Outline Dimensions



| Symbol | Dimensions In Millimeters |        | Dimensions In Inches |       |
|--------|---------------------------|--------|----------------------|-------|
|        | Min.                      | Max.   | Min.                 | Max.  |
| A      | 4.300                     | 4.700  | 0.169                | 0.185 |
| A1     | 1.300 REF.                |        | 0.051 REF.           |       |
| A2     | 2.800                     | 3.200  | 0.110                | 0.126 |
| A3     | 2.500                     | 2.900  | 0.098                | 0.114 |
| b      | 0.500                     | 0.750  | 0.020                | 0.030 |
| b1     | 1.100                     | 1.350  | 0.043                | 0.053 |
| b2     | 1.500                     | 1.750  | 0.059                | 0.069 |
| c      | 0.500                     | 0.750  | 0.020                | 0.030 |
| D      | 9.960                     | 10.360 | 0.392                | 0.408 |
| E      | 14.800                    | 15.200 | 0.583                | 0.598 |
| e      | 2.540 TYP.                |        | 0.100 TYP.           |       |
| F      | 2.700 REF.                |        | 0.106 REF.           |       |
| $\Phi$ | 3.500 REF.                |        | 0.138 REF.           |       |
| h      | 0.000                     | 0.300  | 0.000                | 0.012 |
| h1     | 0.800 REF.                |        | 0.031 REF.           |       |
| h2     | 0.500 REF.                |        | 0.020 REF.           |       |
| L      | 28.000                    | 28.400 | 1.102                | 1.118 |
| L1     | 1.700                     | 1.900  | 0.067                | 0.075 |
| L2     | 1.900                     | 2.100  | 0.075                | 0.083 |