



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

1772

TECHNICAL SPECIFICATIONS OF PNP EPITAXIAL PLANAR TRANSISTOR

Description

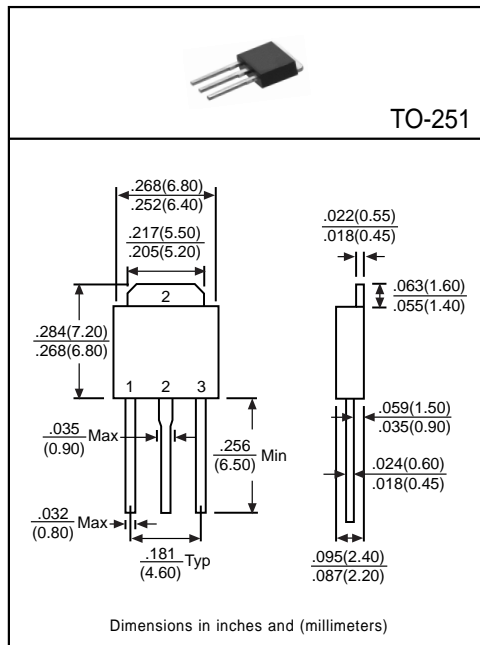
Designed for use in output stage of 10W audio amplifier, voltage regulator, DC-DC converter, and relay driver.

Pinning

- 1 = Base
- 2 = Collector
- 3 = Emitter

Absolute Maximum Ratings($T_A=25^{\circ}\text{C}$)

| Characteristic | Symbol | Rating | Unit |
|---|-----------|-------------|--------------------|
| Collector-Base Voltage | V_{CB0} | -40 | V |
| Collector-Emitter Voltage | V_{CE0} | -30 | V |
| Emitter-Base Voltage | V_{EB0} | -5 | V |
| Collector Current (DC) | I_C | -3 | A |
| Collector Current (pulse) | I_C | -7 | A |
| Base Current (DC) | I_B | -600 | mA |
| Total Power Dissipation($T_C=25^{\circ}\text{C}$) | P_D | 10 | W |
| Junction Temperature | T_J | +150 | $^{\circ}\text{C}$ |
| Storage Temperature | T_{STG} | -55 to +150 | $^{\circ}\text{C}$ |



Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified)

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Conditions |
|---|---------------|-----|------|------|---------------|--|
| Collector-Base Breakdown Voltage | BV_{CB0} | -40 | - | - | V | $I_C=-100\mu\text{A}$, $I_E=0$ |
| Collector-Emitter Breakdown Voltage | BV_{CE0} | -30 | - | - | V | $I_C=-1\text{mA}$, $I_B=0$ |
| Emitter-Base Breakdown Voltage | BV_{EB0} | -5 | - | - | V | $I_E=-10\mu\text{A}$, $I_C=0$ |
| Collector Cutoff Current | I_{CB0} | - | - | -1 | μA | $V_{CB}=-30\text{V}$, $I_E=0$ |
| Emitter Cutoff Current | I_{EB0} | - | - | -1 | μA | $V_{EB}=-3\text{V}$, $I_C=0$ |
| Collector-Emitter Saturation Voltage ⁽¹⁾ | $V_{CE(sat)}$ | - | -0.3 | -0.5 | V | $I_C=-2\text{A}$, $I_B=-0.2\text{A}$ |
| Base-Emitter Saturation Voltage ⁽¹⁾ | $V_{BE(sat)}$ | - | -1 | -2 | V | $I_C=-2\text{A}$, $I_B=-0.2\text{A}$ |
| DC Current Gain ⁽¹⁾ | h_{FE1} | 30 | - | - | - | $I_C=-20\text{mA}$, $V_{CE}=-2\text{V}$ |
| | h_{FE2} | 100 | - | 500 | - | $I_C=-1\text{A}$, $V_{CE}=-2\text{V}$ |
| Transition Frequency | f_T | - | 80 | - | MHz | $I_C=-0.1\text{A}$, $V_{CE}=-5\text{V}$, $f=100\text{MHz}$ |
| Output Capacitance | C_{ob} | - | 55 | - | pF | $V_{CB}=-10\text{V}$, $f=1\text{MHz}$ |

(1)Pulse Test: Pulse Width $\leq 380\mu\text{s}$, Duty Cycle $\leq 2\%$

Classification of h_{FE2}

| Rank | Q | P | E |
|-------|---------|---------|---------|
| Range | 100~200 | 160~320 | 250~500 |