



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

1882

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

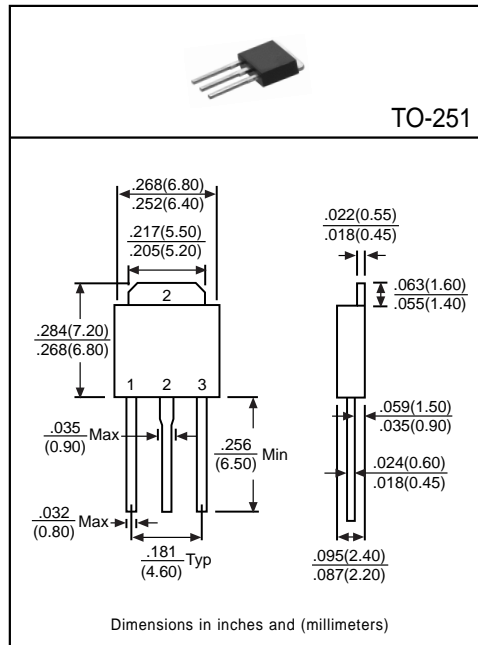
Designed for use in output stage of 10W audio amplifier, voltage regulator, DC-DC converter, and relay driver.

Pinning

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

Absolute Maximum Ratings (TA=25°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°C) | P _D | 10 | W |
| Junction Temperature | T _J | +150 | °C |
| Storage Temperature | T _{STG} | -55 to +150 | °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 =100μA, I _E =0 |
| Collector-Emitter Breakdown Voltage | BV _{CE0} | 30 | - | - | V | I _C =1mA, I _B =0 |
| Emitter-Base Breakdown Voltage | BV _{EB0} | 5 | - | - | V | I _E =10μA, I _C =0 |
| Collector Cutoff Current | I _{CB0} | - | - | 1 | μA | V _{CB} =30V, I _E =0 |
| Emitter Cutoff Current | I _{EB0} | - | - | 1 | μA | V _{EB} =3V, I _C =0 |
| Collector-Emitter Saturation Voltage ⁽¹⁾ | V _{CE(sat)} | - | 0.3 | 0.5 | V | I _C =2A, I _B =0.2A |
| Base-Emitter Saturation Voltage ⁽¹⁾ | V _{BE(sat)} | - | 1 | 2 | V | I _C =2A, I _B =0.2A |
| DC Current Gain ⁽¹⁾ | h _{FE1} | 30 | - | - | - | I _C =20mA, V _{CE} =2V |
| | h _{FE2} | 100 | - | 500 | - | I _C =1A, V _{CE} =2V |
| Transition Frequency | f _T | - | 90 | - | MHz | I _C =0.1A, V _{CE} =5V, f=100MHz |
| Output Capacitance | C _{ob} | - | 45 | - | pF | V _{CB} =10V, f=1MHz |

(1) Pulse Test: Pulse Width ≤ 380μs, Duty Cycle ≤ 2%

Classification of h_{FE2}

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