



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

2SC1213

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

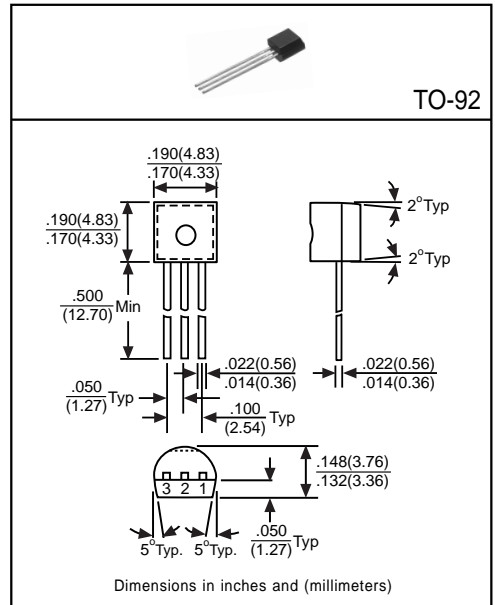
Designed for low frequency amplifier applications.

Pinning

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

Absolute Maximum Ratings (T_A=25°C)

| Characteristic | Symbol | Rating | Unit |
|---------------------------|------------------|-------------|------|
| Collector-Base Voltage | V _{CB0} | 50 | V |
| Collector-Emitter Voltage | V _{CE0} | 50 | V |
| Emitter-Base Voltage | V _{EB0} | 4 | V |
| Collector Current | I _C | 500 | mA |
| Total Power Dissipation | P _D | 400 | mW |
| 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} | 50 | - | - | V | I _C =100μA, I _E =0 |
| Collector-Emitter Breakdown Voltage | BV _{CE0} | 50 | - | - | V | I _C =1mA, I _B =0 |
| Emitter-Base Breakdown Voltage | BV _{EB0} | 4 | - | - | V | I _E =10μA, I _C =0 |
| Collector Cutoff Current | I _{CBO} | - | - | 0.5 | μA | V _{CB} =20V, I _E =0 |
| Emitter Cutoff Current | I _{EBO} | - | - | 0.5 | μA | V _{EB} =5V, I _C =0 |
| Collector-Emitter Saturation Voltage ⁽¹⁾ | V _{CE(sat)} | - | - | 0.6 | V | I _C =150mA, I _B =15mA |
| Base-Emitter Saturation Voltage ⁽¹⁾ | V _{BE(sat)} | - | - | 1.2 | V | I _C =150mA, I _B =15mA |
| DC Current Gain ⁽¹⁾ | h _{FE1} | 60 | - | 320 | - | I _C =10mA, V _{CE} =3V |
| | h _{FE2} | 35 | - | - | - | I _C =500mA, V _{CE} =3V |
| Transition Frequency | f _T | 100 | 160 | - | MHz | I _C =20mA, V _{CE} =6V |

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

Classification of h_{FE1}

| Rank | B | C | D |
|-------|--------|---------|---------|
| Range | 60~120 | 100~200 | 160~320 |