



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

DXT3904

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

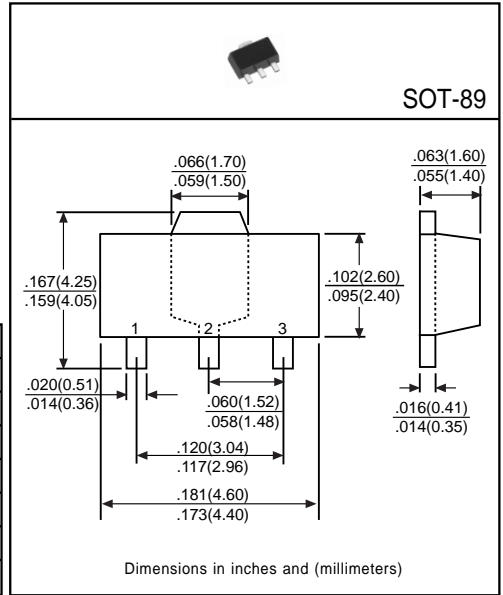
Designed for general purpose switching and amplifier applications.

Pinning

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

Absolute Maximum Ratings(T_A=25°C)

| Characteristic | Symbol | Rating | Unit |
|---------------------------|------------------|-------------|------|
| Collector-Base Voltage | V _{CB0} | 60 | V |
| Collector-Emitter Voltage | V _{CEO} | 40 | V |
| Emitter-Base Voltage | V _{EBO} | 6 | V |
| Collector Current | I _C | 200 | mA |
| Total Power Dissipation | P _D | 1 | 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} | 60 | - | - | V | I _C =100μA |
| Collector-Emitter Breakdown Voltage | BV _{CEO} | 40 | - | - | V | I _C =1mA |
| Emitter-Base Breakdown Voltage | BV _{EBO} | 6 | - | - | V | I _E =10μA |
| Collector Cutoff Current | I _{CEX} | - | - | 50 | nA | V _{CE} =30V, V _{BE} =3V |
| Collector-Emitter Saturation Voltage ⁽¹⁾ | V _{CE(sat)1} | - | - | 0.2 | V | I _C =10mA, I _B =1mA |
| | V _{CE(sat)2} | - | - | 0.3 | V | I _C =50mA, I _B =5mA |
| Base-Emitter Saturation Voltage ⁽¹⁾ | V _{BE(sat)1} | 0.65 | - | 0.85 | V | I _C =10mA, I _B =1mA |
| | V _{BE(sat)2} | - | - | 0.95 | V | I _C =50mA, I _B =5mA |
| DC Current Gain ⁽¹⁾ | h _{FE1} | 40 | - | - | - | I _C =100μA, V _{CE} =1V |
| | h _{FE2} | 70 | - | - | - | I _C =1mA, V _{CE} =1V |
| | h _{FE3} | 100 | - | 300 | - | I _C =10mA, V _{CE} =1V |
| | h _{FE4} | 60 | - | - | - | I _C =50mA, V _{CE} =1V |
| | h _{FE5} | 30 | - | - | - | I _C =100mA, V _{CE} =1V |
| Transition Frequency | f _T | 300 | - | - | MHz | V _{CE} =20V, f=100MHz, I _C =10mA |
| Output Capacitance | C _{ob} | - | - | 4 | pF | V _{CB} =5V, f=1MHz |

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