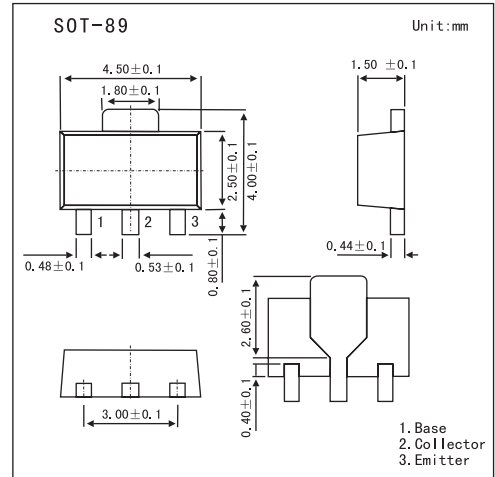


PXT3904

■ Features

- High current (max. 100 mA)
- Low voltage (max. 40 V).



■ Absolute Maximum Ratings Ta = 25°C

| Parameter | Symbol | Rating | Unit |
|---|----------------------|-------------|------|
| Collector-base voltage | V _{CBO} | 60 | V |
| Collector-emitter voltage | V _{CEO} | 40 | V |
| Emitter-base voltage | V _{EBO} | 6 | V |
| Collector current | I _C | 100 | mA |
| Peak collector current | I _{CM} | 200 | mA |
| Peak base current | I _{BM} | 100 | mA |
| Total power dissipation | P _{tot} | | |
| | * 1 | 0.45 | W |
| | * 2 | 0.65 | |
| | * 3 | 0.8 | |
| Storage temperature | T _{stg} | -65 to +150 | °C |
| Junction temperature | T _j | 150 | °C |
| Operating ambient temperature | R _{amb} | -65 to +150 | °C |
| Thermal resistance from junction to ambient | R _{th(j-a)} | | |
| | * 1 | 278 | K/W |
| | * 2 | 192 | |
| | * 3 | 156 | |
| Thermal resistance from junction to soldering point | R _{th(j-s)} | 80 | K/W |

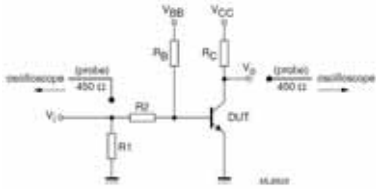
*1 Device mounted on a printed-circuit board, single-sided copper, tin-plated and standard footprint.

*2 Device mounted on a printed-circuit board, single-sided copper, tin-plated and mounting pad for collector 1 cm².

*3 Device mounted on a printed-circuit board, single-sided copper, tin-plated and mounting pad for collector 6 cm².

PXT3904

■ Electrical Characteristics Ta = 25°C

| Parameter | Symbol | Testconditons | Min | Typ | Max | Unit | |
|--------------------------------------|--------|--|---|-----|-----|------|----|
| Collector cutoff current | ICBO | IE = 0; VCB = 30 V | | | 50 | nA | |
| Emitter cutoff current | IEBO | IC = 0; VEB = 6 V | | | 50 | nA | |
| DC current gain | hFE | VCE = 1 V; IC = 0.1 mA | 60 | | | | |
| | | VCE = 1 V; IC = 1 mA | 80 | | | | |
| | | VCE = 1 V; IC = 10 mA | 100 | | 300 | | |
| | | VCE = 1 V; IC = 50 mA | 60 | | | | |
| | | VCE = 1 V; IC = 100 mA | 30 | | | | |
| collector-emitter saturation voltage | VCEsat | IC = 10 mA; IB = 1 mA | | | 200 | mV | |
| | | IC = 50 mA; IB = 5 mA | | | 200 | mV | |
| base-emitter saturation voltage | VBEsat | IC = 10 mA; IB = 1 mA | 650 | | 850 | mV | |
| | | IC = 50 mA; IB = 5 mA | | | 950 | mV | |
| Collector capacitance | Cc | IE = iE = 0; VCB = 5 V; f = 1 MHz | | | 4 | pF | |
| Emitter capacitance | Ce | IC = ic = 0; VEB = 500 mV; f = 1 MHz | | | 8 | pF | |
| Transition frequency | fT | IC = 10 mA; VCE = 20 V; f = 100 MHz | 300 | | | MHz | |
| Noise figure | F | IC = 100 μA; VCE = 5 V; Rs = 1 kΩ; f = 10 Hz to 15.7 kHz | | | 5 | dB | |
| Turn-on time | ton | ICon = 10 mA; IBon = 1 mA; IBoff = -1 mA | | | 65 | ns | |
| Delay time | td |  | | | 35 | ns | |
| Rise time | tr | | | | | 35 | ns |
| Turn-off time | toff | | | | | 240 | ns |
| Storage time | ts | | V _i = 5 V; T = 500 μs; t _p = 10 μs; t _r = t _f ≤ 3 ns. R ₁ = 56 Ω; R ₂ = 2.5 kΩ; R _B = 3.9 kΩ; R _C = 270 Ω. | | | 200 | ns |
| Fall time | tf | | V _{BB} = 1.9 V; V _{CC} = -3 V. Oscilloscope: input impedance Z _i = 50 Ω. | | | 50 | ns |

■ Marking

| | |
|---------|----|
| Marking | 1A |
|---------|----|