



DC COMPONENTS CO., LTD.  
DISCRETE SEMICONDUCTORS

DMBT2369

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

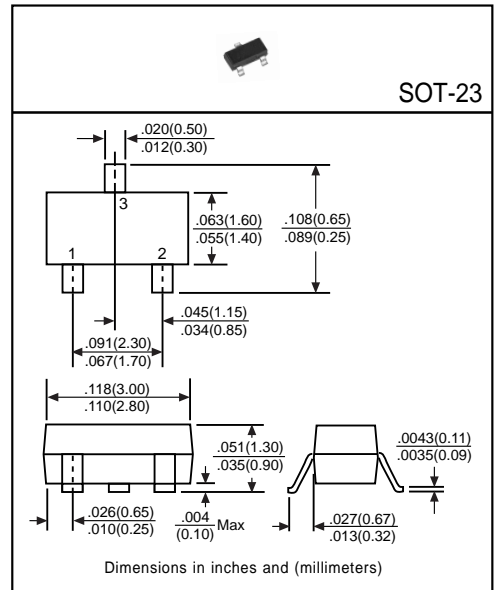
Designed for high speed switching applications.

Pinning

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

Absolute Maximum Ratings (TA=25°C)

| Characteristic            | Symbol | Rating      | Unit |
|---------------------------|--------|-------------|------|
| Collector-Base Voltage    | VCBO   | 40          | V    |
| Collector-Emitter Voltage | VCES   | 40          | V    |
| Emitter-Base Voltage      | VEBO   | 4.5         | V    |
| Collector Current         | IC     | 500         | mA   |
| Total Power Dissipation   | PD     | 225         | mW   |
| Junction Temperature      | TJ     | +150        | °C   |
| Storage Temperature       | TSTG   | -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 <sub>CB0</sub>    | 40  | -   | -   | V    | I <sub>C</sub> =10μA, I <sub>E</sub> =0        |
| Collector-Emitter Breakdown Voltage                 | BV <sub>CES</sub>    | 40  | -   | -   | V    | I <sub>C</sub> =10μA, I <sub>B</sub> =0        |
| Collector-Emitter Breakdown Voltage                 | BV <sub>CEO</sub>    | 15  | -   | -   | V    | I <sub>C</sub> =10mA, I <sub>B</sub> =0        |
| Emitter-Base Breakdown Voltage                      | BV <sub>EBO</sub>    | 4.5 | -   | -   | V    | I <sub>E</sub> =10μA, I <sub>C</sub> =0        |
| Collector Cutoff Current                            | I <sub>CBO</sub>     | -   | -   | 400 | nA   | V <sub>CB</sub> =20V, I <sub>E</sub> =0        |
| Collector-Emitter Saturation Voltage <sup>(1)</sup> | V <sub>CE(sat)</sub> | -   | -   | 250 | mV   | I <sub>C</sub> =10mA, I <sub>B</sub> =1mA      |
| Base-Emitter Saturation Voltage <sup>(1)</sup>      | V <sub>BE(sat)</sub> | 700 | -   | 850 | mV   | I <sub>C</sub> =10mA, I <sub>B</sub> =1mA      |
| DC Current Gain <sup>(1)</sup>                      | h <sub>FE1</sub>     | 40  | -   | 120 | -    | I <sub>C</sub> =10mA, V <sub>CE</sub> =1V      |
|   | h <sub>FE2</sub>     | 20  | -   | -   | -    | I <sub>C</sub> =100mA, V <sub>CE</sub> =2V     |
| Output Capacitance                                  | C <sub>ob</sub>      | -   | -   | 4   | pF   | V <sub>CB</sub> =5V, f=1MHz, I <sub>E</sub> =0 |

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