



DC COMPONENTS CO., LTD.
DISCRETE SEMICONDUCTORS

DMBT1815

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

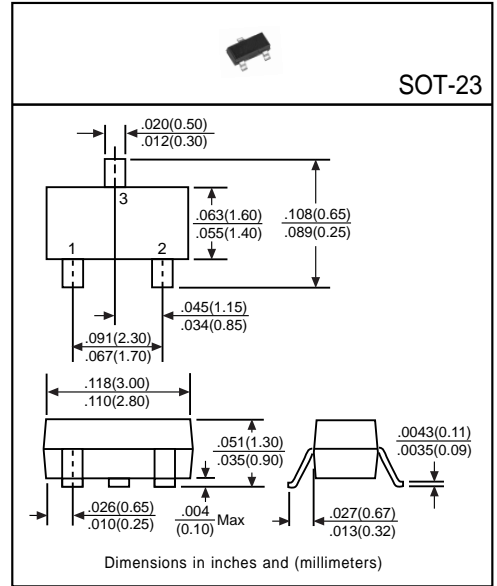
Designed for use in driver stage of AF amplifier and general purpose amplification.

Pinning

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

Absolute Maximum Ratings (TA=25°C)

| Characteristic | Symbol | Rating | Unit |
|---------------------------|------------------|-------------|------|
| Collector-Base Voltage | V _{CB0} | 60 | V |
| Collector-Emitter Voltage | V _{CE0} | 50 | V |
| Emitter-Base Voltage | V _{EB0} | 5 | V |
| Collector Current | I _C | 150 | mA |
| Total Power Dissipation | P _D | 225 | 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} | 60 | - | - | V | I _C =100μA |
| Collector-Emitter Breakdown Voltage | BV _{CE0} | 50 | - | - | V | I _C =1mA |
| Emitter-Base Breakdown Voltage | BV _{EB0} | 5 | - | - | V | I _E =10μA |
| Collector Cutoff Current | I _{CBO} | - | - | 100 | nA | V _{CB} =60V |
| Emitter Cutoff Current | I _{EB0} | - | - | 100 | nA | V _{EB} =5V |
| Collector-Emitter Saturation Voltage ⁽¹⁾ | V _{CE(sat)} | - | - | 0.25 | V | I _C =100mA, I _B =10mA |
| Base-Emitter Saturation Voltage ⁽¹⁾ | V _{BE(sat)} | - | - | 1 | V | I _C =100mA, I _B =10mA |
| DC Current Gain ⁽¹⁾ | hFE1 | 120 | - | 700 | - | I _C =2mA, V _{CE} =6V |
| | hFE2 | 25 | - | - | - | I _C =150mA, V _{CE} =6V |
| Transition Frequency | f _T | 80 | - | - | MHz | I _C =1mA, V _{CE} =10V, f=100MHz |
| Output Capacitance | C _{ob} | - | - | 3.5 | pF | V _{CB} =10V, f=1MHz |

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

Classification of hFE1

| Rank | Y | G | B |
|-------|---------|---------|---------|
| Range | 120~240 | 200~400 | 350~700 |