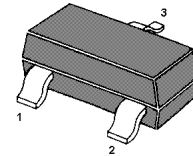


NPN Silicon Epitaxial Planar Transistor

for switching and amplifier applications. Especially suitable for AF-driver stages and low power output stages.



1.Base 2.Emmitter 3.Collector
SOT-23 Plastic Package

The transistor is subdivided into one group, according to its DC current gain.

On special request, these transistors can be manufactured in different pin configurations.

Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

| Parameter | Symbol | Value | Unit |
|---------------------------|-----------|-------------|------------------|
| Collector Base Voltage | V_{CBO} | 40 | V |
| Collector Emitter Voltage | V_{CEO} | 20 | V |
| Emitter Base Voltage | V_{EBO} | 6 | V |
| Collector Current | I_C | 1 | A |
| Peak Collector Current | I_{CM} | 1.25 | A |
| Base Current | I_B | 100 | mA |
| Power Dissipation | P_{tot} | 200 | mW |
| Junction Temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_S | -55 to +150 | $^\circ\text{C}$ |



Characteristics at $T_a = 25\text{ }^\circ\text{C}$

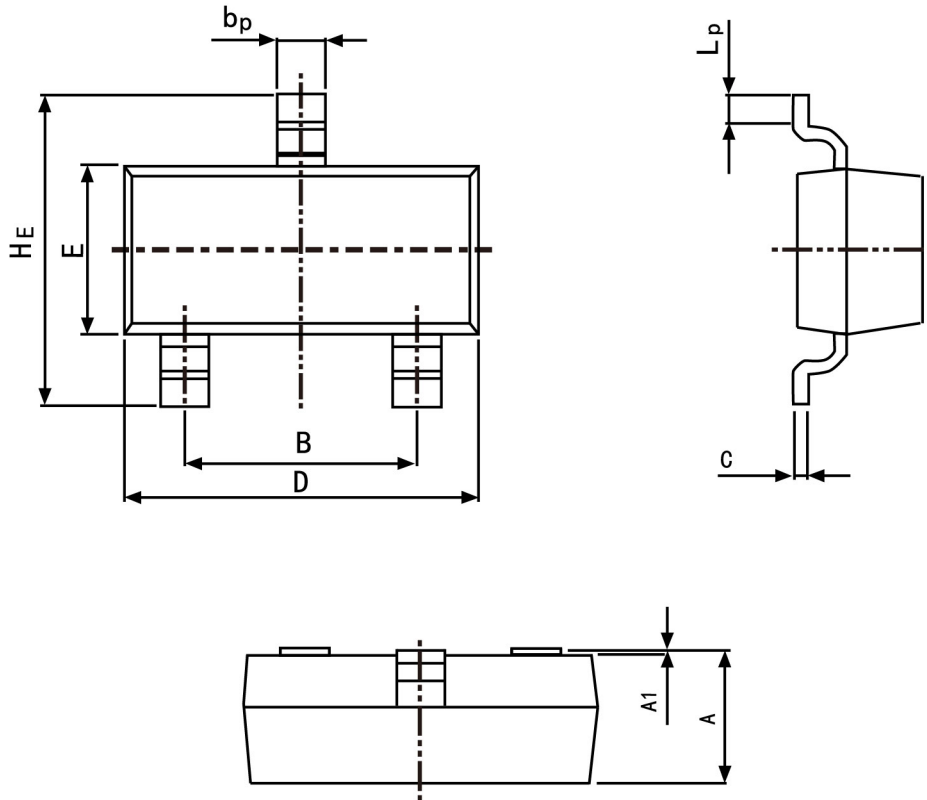
| Parameter | Symbol | Min. | Max. | Unit |
|-------------------------------------|---------------|------|------|------|
| DC Current Gain | | | | |
| at $V_{CE}=1V, I_C=5mA$ | h_{FE} | 45 | - | - |
| at $V_{CE}=1V, I_C=100mA$ | h_{FE} | 200 | 1000 | - |
| at $V_{CE}=1V, I_C=800mA$ | h_{FE} | 40 | - | - |
| Collector Base Breakdown Voltage | | | | |
| at $I_C=100\mu A$ | $V_{(BR)CBO}$ | 40 | - | V |
| Collector Emitter Breakdown Voltage | | | | |
| at $I_C=2mA$ | $V_{(BR)CEO}$ | 20 | - | V |
| Emitter Base Breakdown Voltage | | | | |
| at $I_E=100\mu A$ | $V_{(BR)EBO}$ | 6 | - | V |
| Collector Cutoff Current | | | | |
| at $V_{CB}=35V$ | I_{CBO} | - | 100 | nA |
| Emitter Cutoff Current | | | | |
| at $V_{BE}=6V$ | I_{EBO} | - | 100 | nA |
| Collector Saturation Voltage | | | | |
| at $I_C=600mA, I_B=20mA$ | $V_{CE(sat)}$ | - | 0.55 | V |
| Base Saturation Voltage | | | | |
| at $I_C=600mA, I_B=20mA$ | $V_{BE(sat)}$ | - | 1.2 | V |
| Base Emitter Voltage | | | | |
| at $I_C=10mA, V_{CE}=1V$ | V_{BE} | - | 1.0 | V |
| Gain Bandwidth Product | | | | |
| at $V_{CE}=10V, I_C=50mA$ | f_T | 100 | - | MHz |
| Collector Base Capacitance | | | | |
| at $V_{CB}=10V, f=1MHz$ | C_{OB} | - | 9 | pF |



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



| Symbol | Dimension in Millimeters | |
|--------|--------------------------|-------|
| | Min | Max |
| A | 0.95 | 1.40 |
| B | 1.78 | 2.04 |
| bp | 0.35 | 0.50 |
| C | 0.08 | 0.19 |
| D | 2.70 | 3.10 |
| E | 1.20 | 1.65 |
| HE | 2.20 | 3.00 |
| A1 | 0.100 | 0.013 |
| Lp | 0.20 | 0.50 |