



DESCRIPTION

The S8050 is available in SOT-23 package.

ORDERING INFORMATION

| Package Type | Part Number |
|--|--------------------|
| SOT-23 | S8050 |
| Note | SPQ: 3,000pcs/Reel |
| AiT provides all RoHS Compliant Products | |

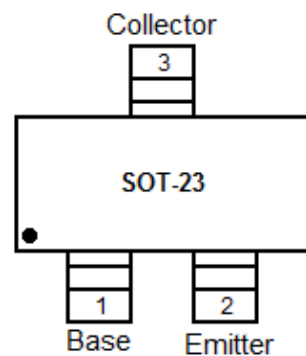
FEATURES

- High collector current ($I_C = 500\text{mA}$)
- Excellent h_{FE} Linearity
- High total power dissipation. ($P_C = 300\text{mW}$)
- Available in SOT-23 package

APPLICATION

- High Collector Current

PIN DESCRIPTION





ABSOLUTE MAXIMUM RATINGS

T_A = 25°C, unless otherwise specified

| | |
|--|-------------|
| V _{CB0} , Collector-Base Voltage | 40V |
| V _{CEO} , Collector-Emitter Voltage | 25V |
| V _{EBO} , Emitter-Base Voltage | 5V |
| I _C , Collector Current-Continuous | 500mA |
| P _C , Collector Dissipation | 300mW |
| T _J , T _{STG} , Junction and Storage Temperature | -55°C~150°C |

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ELECTRICAL CHARACTERISTICS

T_A = 25°C unless otherwise noted

| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Unit |
|--------------------------------------|----------------------|---|------|------|------|------|
| Collector-Base Breakdown Voltage | V _{(BR)CBO} | I _C =100μA, I _E =0 | 40 | - | - | V |
| Collector-Emitter Breakdown Voltage | V _{(BR)CEO} | I _C =0.1mA, I _B =0 | 25 | - | - | V |
| Emitter-Base Breakdown Voltage | V _{(BR)EBO} | I _E =100μA, I _C =0 | 5 | - | - | V |
| Collector Cut-off Current | I _{CBO} | V _{CB} =40V, I _E =0 | - | - | 0.1 | μA |
| Collector Cut-off Current | I _{CEO} | V _{CE} =20V, I _B =0 | - | - | 0.1 | μA |
| Emitter Cut-off Current | I _{EBO} | V _{EB} =5V, I _C =0 | - | - | 0.1 | μA |
| DC Current Gain | h _{FE} | V _{CE} =1V, I _C =50mA | 200 | - | 350 | |
| | | V _{CE} =1V, I _C =500mA | 50 | - | - | |
| Collector-Emitter Saturation Voltage | V _{CE(sat)} | I _C =500mA, I _B =50mA | - | - | 0.6 | V |
| Base-Emitter Saturation Voltage | V _{BE(sat)} | I _C =500mA, I _B =50mA | - | - | 1.2 | V |
| Transition Frequency | f _T | V _{CE} =6V, I _C =20mA, f=30MHz | 150 | - | - | MHz |



TYPICAL CHARACTERISTICS

Figure 1. Static Characteristic

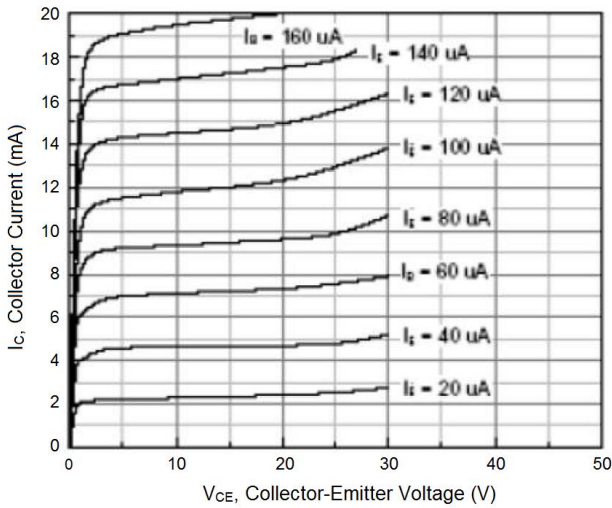


Figure 2. DC Current Gain

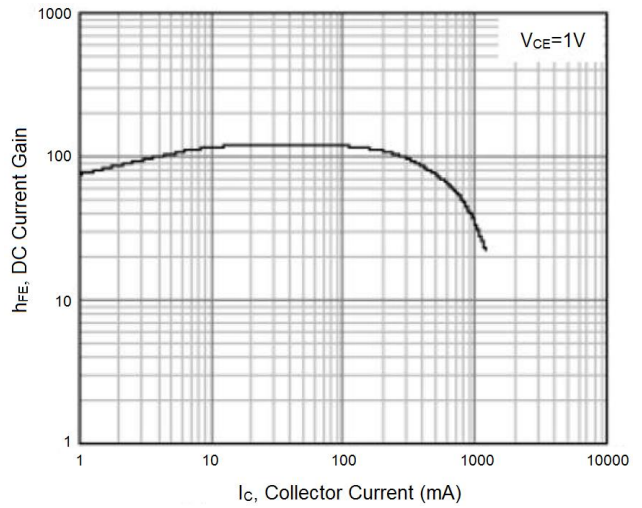


Figure 3. Base-Emitter Saturation Voltage
Collector -Emitter Saturation Voltage

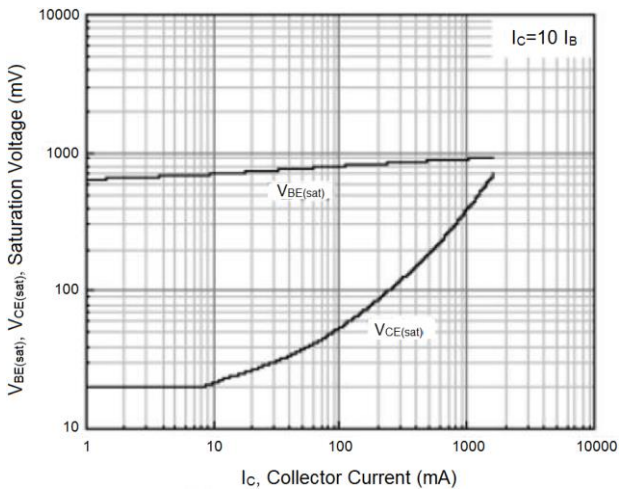
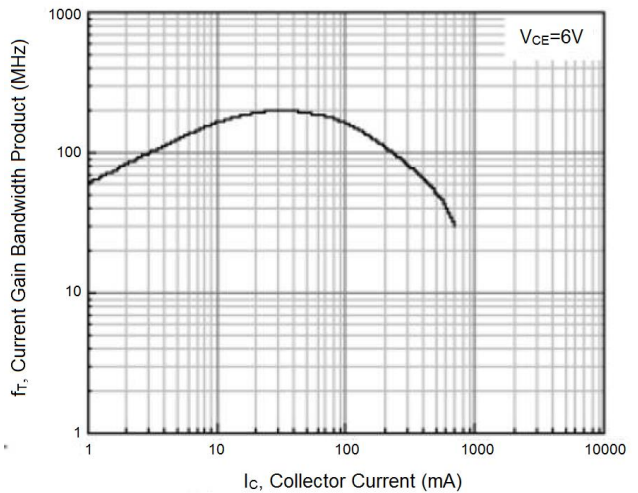


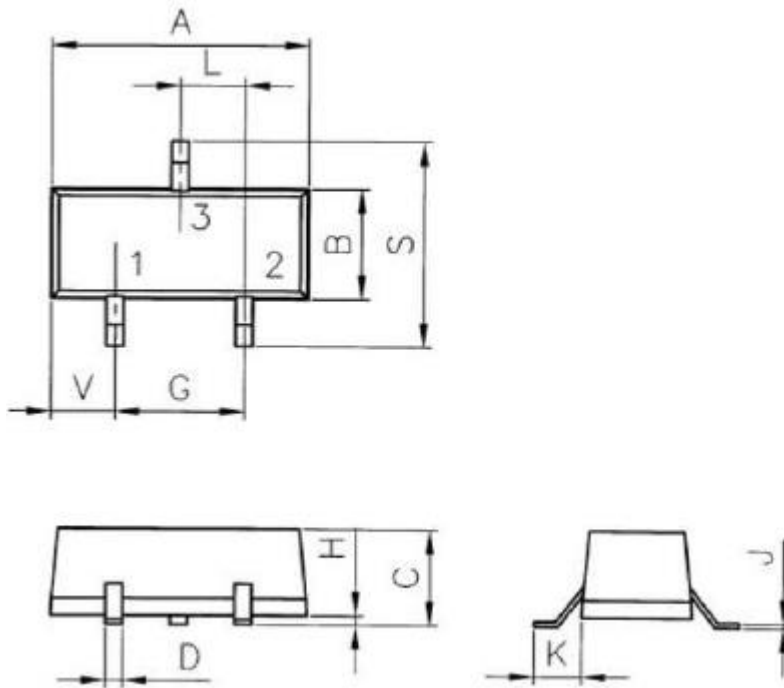
Figure 4. Current Gain Bandwidth Product





PACKAGE INFORMATION

Dimension in SOT-23 Package (Unit: mm)



| Symbol | MIN | MAX |
|--------|------|------|
| A | 2.80 | 3.04 |
| B | 1.20 | 1.40 |
| C | 0.89 | 1.13 |
| D | 0.30 | 0.50 |
| G | 1.78 | 2.04 |
| H | 0.01 | 0.10 |
| J | 0.08 | 0.18 |
| K | 0.45 | 0.60 |
| L | 0.89 | 1.02 |
| S | 2.10 | 2.50 |
| V | 0.42 | 0.60 |



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