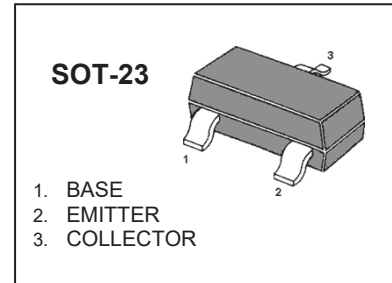


S8050B TRANSISTOR (NPN)

FEATURES

- * Collector current up to 800mA
- * Collector-Emitter voltage up to 20 V
- * Complementary to S8550B

MARKING: Y1



ABSOLUTE MAXIMUM RATINGS (Ta=25°C, unless otherwise specified)

| PARAMETER | SYMBOL | VALUE | UNIT |
|--------------------------------|------------------|------------|------|
| Collector-Base Voltage | V _{CB0} | 30 | V |
| Collector-Emitter Voltage | V _{CEO} | 20 | V |
| Emitter-Base Voltage | V _{EB0} | 5 | V |
| Collector Dissipation(Ta=25°C) | P _c | 0.35 | W |
| Collector Current | I _c | 800 | mA |
| Junction Temperature | T _j | 150 | °C |
| Storage Temperature | T _{STG} | -65 ~ +150 | °C |

ELECTRICAL CHARACTERISTICS (Ta=25°C, unless otherwise specified)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|--------------------------------------|----------------------|---|-----|-----|-----|------|
| Collector-Base Breakdown Voltage | BV _{CB0} | I _c =100μA, I _E =0 | 30 | | | V |
| Collector-Emitter Breakdown Voltage | BV _{CEO} | I _c =1mA, I _B =0 | 20 | | | V |
| Emitter-Base Breakdown Voltage | BV _{EB0} | I _E =100μA, I _c =0 | 5 | | | V |
| Collector Cut-Off Current | I _{cBO} | V _{CB} =30V, I _E =0 | | | 1 | μA |
| Emitter Cut-Off Current | I _{EBO} | V _{EB} =5V, I _c =0 | | | 100 | nA |
| DC Current Gain(note) | 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 | | | 0.5 | V |
| Base-Emitter Saturation Voltage | V _{BE(sat)} | I _c =500mA, I _B =50mA | | | 1.2 | V |
| Base-Emitter Saturation Voltage | V _{BE} | V _{CE} =1V, I _c =10mA | | | 1.0 | V |
| Current Gain Bandwidth Product | f _T | V _{CE} =10V, I _c =50mA | 100 | | | MHz |
| Output Capacitance | C _{ob} | V _{CB} =10V, I _E =0 f=1MHz | | 9.0 | | pF |

Typical Characteristics

Fig.1 Static characteristics

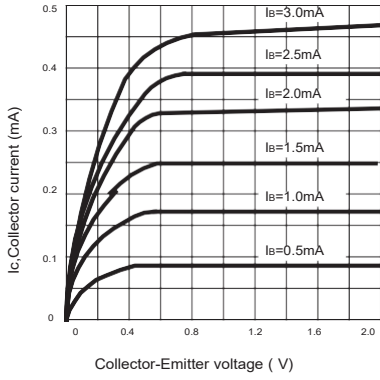


Fig.2 DC current Gain

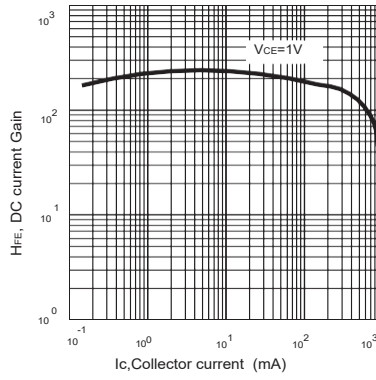


Fig.3 Base-Emitter on Voltage

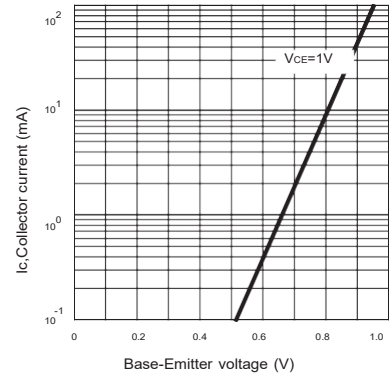


Fig.4 Saturation voltage

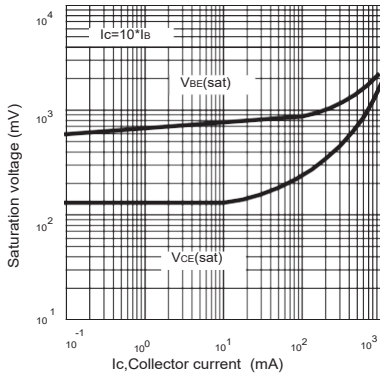


Fig.5 Current gain-bandwidth product

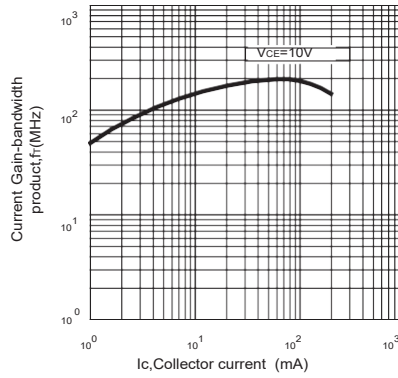
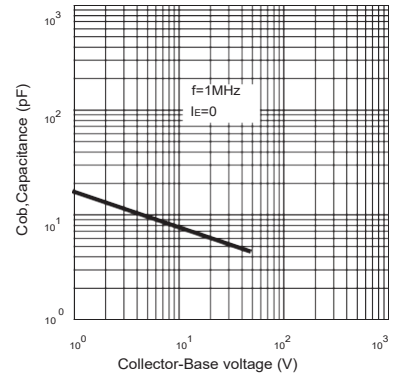


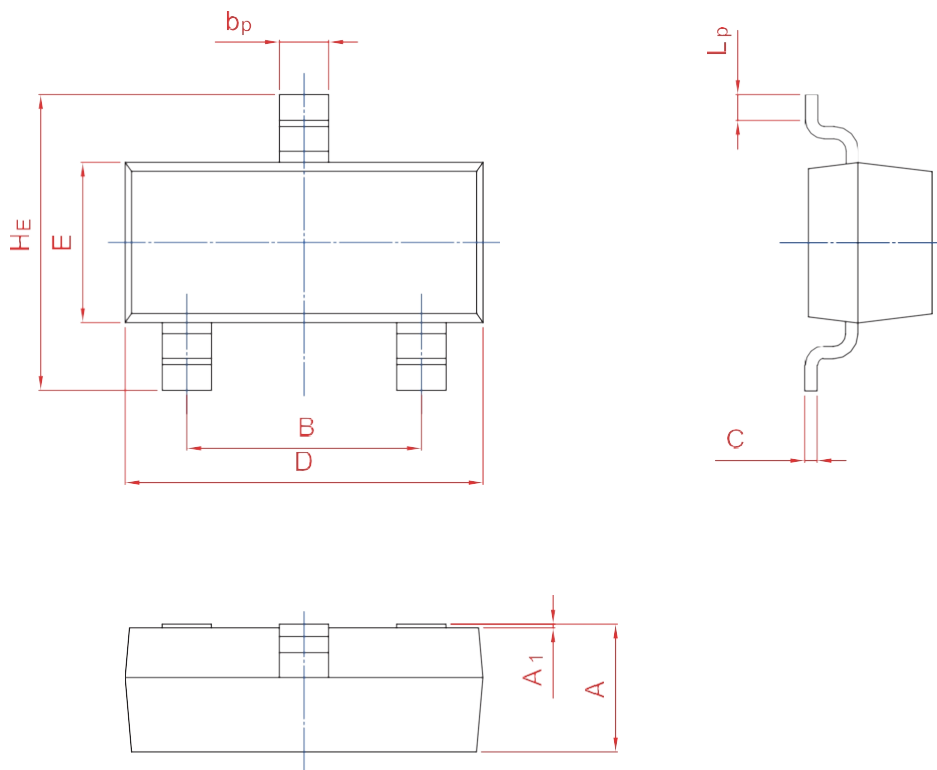
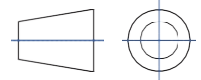
Fig.6 Collector output Capacitance



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



| UNIT | A | B | b _p | C | D | E | H _E | A ₁ | L _p |
|------|------|------|----------------|------|------|------|----------------|----------------|----------------|
| mm | 1.40 | 2.04 | 0.50 | 0.19 | 3.10 | 1.65 | 3.00 | 0.100 | 0.50 |
| | 0.95 | 1.78 | 0.35 | 0.08 | 2.70 | 1.20 | 2.20 | 0.013 | 0.20 |