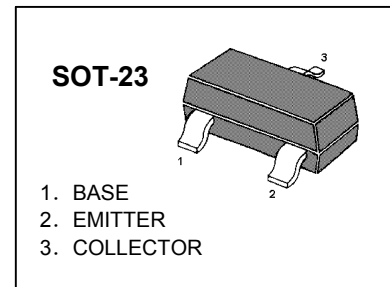


## PNP SILICON EPITAXIAL POWER TRANSISTOR

These devices are intended for use in audio frequency power amplifier and low speed switching applications



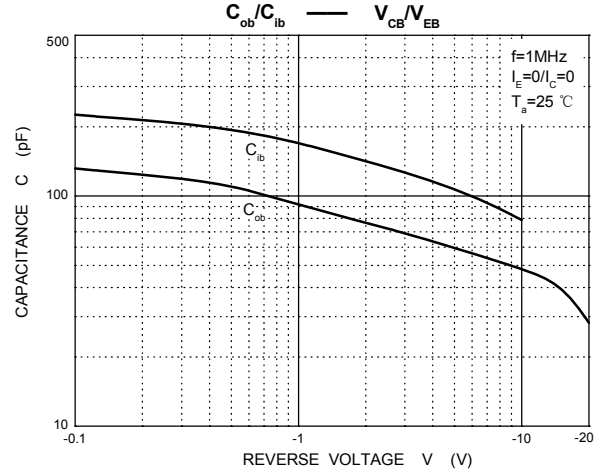
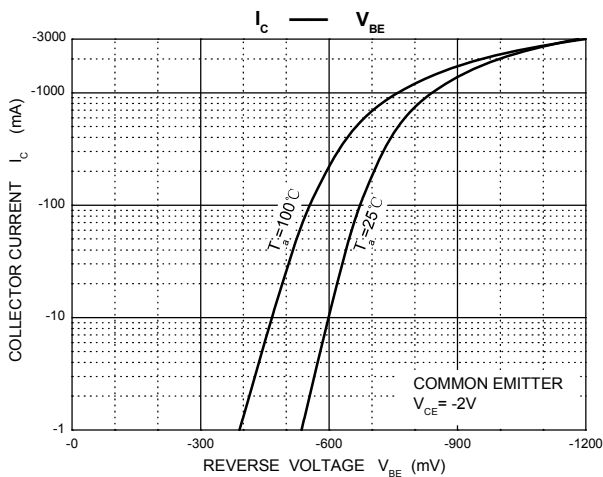
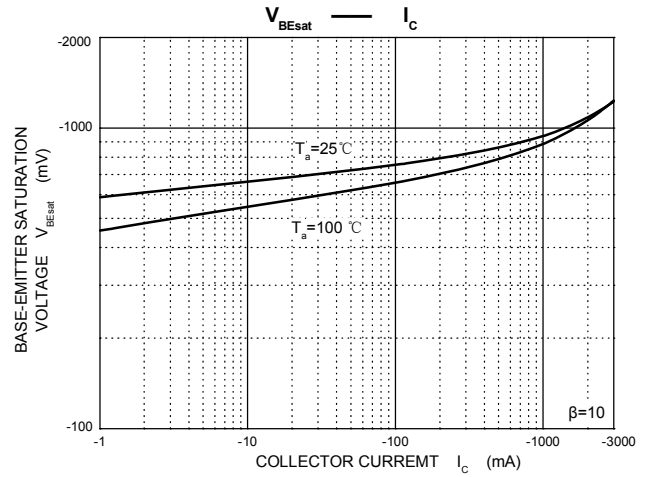
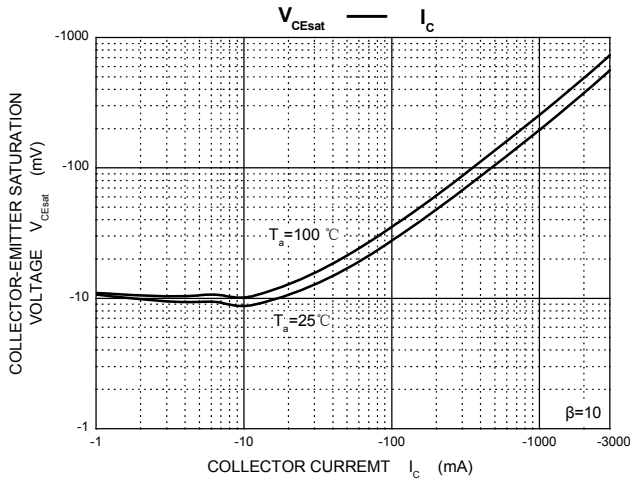
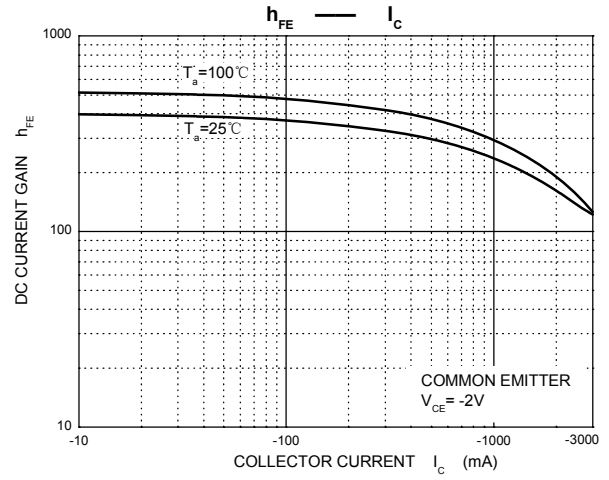
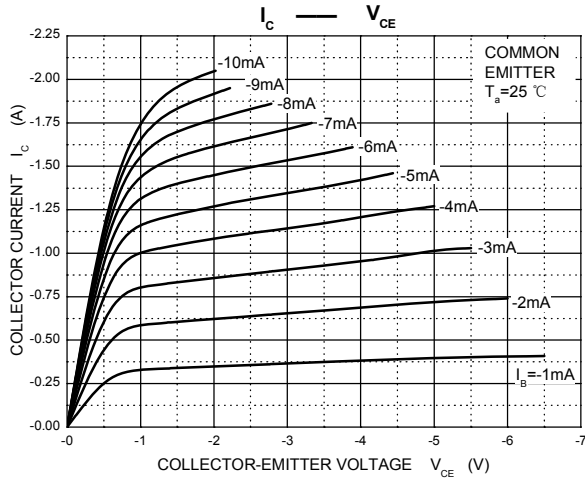
### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

| Parameter  | Symbol         | Value         | Unit             |
|--|----------------|---------------|------------------|
| Collector Base Voltage                             | $-V_{CBO}$     | 40            | V                |
| Collector Emitter Voltage                          | $-V_{CEO}$     | 30            | V                |
| Emitter Base Voltage                               | $-V_{EBO}$     | 5             | V                |
| Collector Current                                  | $-I_C$         | 3             | A                |
| Peak Collector Current ( $t = 10\text{ ms}$ )      | $-I_{CP}$      | 7             | A                |
| Base Current                                       | $-I_B$         | 0.6           | A                |
| Total Power Dissipation @ $T_a = 25^\circ\text{C}$ | $P_D$          | 1             | W                |
| Total Power Dissipation @ $T_c = 25^\circ\text{C}$ | $P_D$          | 10            | W                |
| Operating and Storage Junction Temperature Range   | $T_j, T_{stg}$ | - 65 to + 150 | $^\circ\text{C}$ |

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

| Parameter  | Symbol         | Min. | Typ. | Max. | Unit          |
|--|----------------|------|------|------|---------------|
| DC Current Gain<br>at $-V_{CE} = 2\text{ V}$ , $-I_C = 20\text{ mA}$<br>at $-V_{CE} = 2\text{ V}$ , $-I_C = 1\text{ A}$ Current Gain Group | R              | 30   | -    | -    | -             |
|  | Q              | 60   | -    | 120  | -             |
|  | P              | 100  | -    | 200  | -             |
|  | E              | 160  | -    | 320  | -             |
|  | E              | 200  | -    | 400  | -             |
| Collector Base Cutoff Current<br>at $-V_{CB} = 30\text{ V}$  | $-I_{CBO}$     | -    | -    | 1    | $\mu\text{A}$ |
| Emitter Base Cutoff Current<br>at $-V_{EB} = 3\text{ V}$   | $-I_{EBO}$     | -    | -    | 1    | $\mu\text{A}$ |
| Collector Base Breakdown Voltage<br>at $-I_C = 1\text{ mA}$  | $-V_{(BR)CBO}$ | 40   | -    | -    | V             |
| Collector Emitter Breakdown Voltage<br>at $-I_C = 1\text{ mA}$   | $-V_{(BR)CEO}$ | 30   | -    | -    | V             |
| Emitter Base Breakdown Voltage<br>at $-I_E = 1\text{ mA}$  | $-V_{(BR)EBO}$ | 5    | -    | -    | V             |
| Collector Emitter Saturation Voltage<br>at $-I_C = 2\text{ A}$ , $-I_B = 200\text{ mA}$  | $-V_{CE(sat)}$ | -    | -    | 0.5  | V             |
| Base Emitter Saturation Voltage<br>at $-I_C = 2\text{ A}$ , $-I_B = 200\text{ mA}$   | $-V_{BE(sat)}$ | -    | -    | 2    | V             |
| Current Gain Bandwidth Product<br>at $-V_{CE} = 5\text{ V}$ , $-I_C = 100\text{ mA}$ ,   | $f_T$          | -    | 80   | -    | MHz           |
| Output Capacitance<br>at $-V_{CB} = 10\text{ V}$ , $f = 1\text{ MHz}$  | $C_{ob}$       | -    | 55   | -    | pF            |

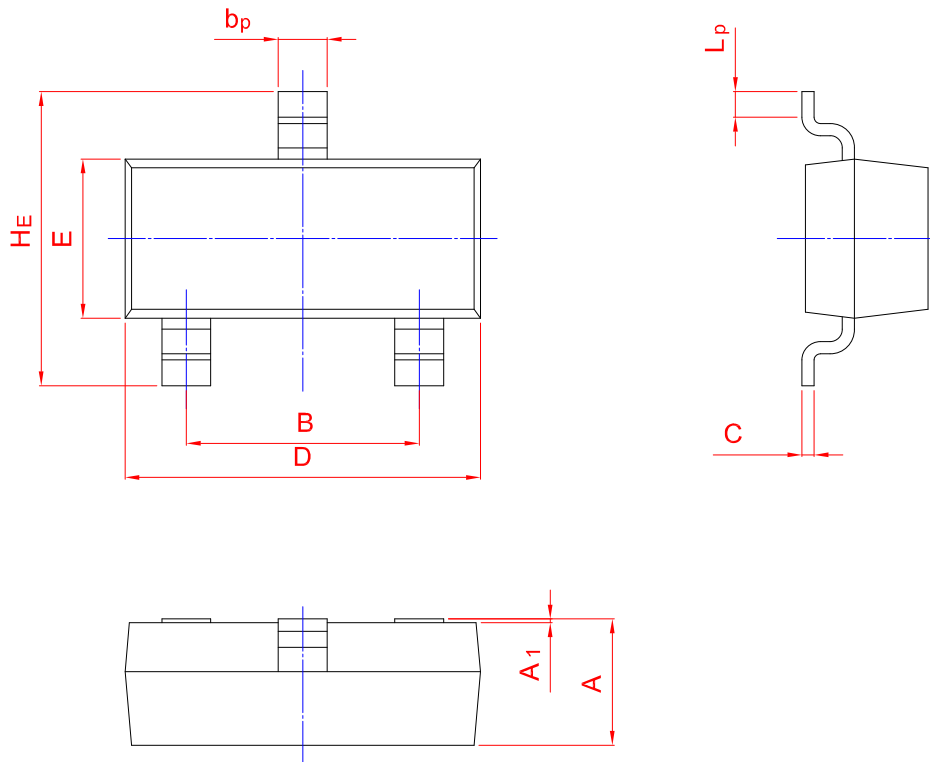
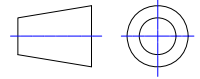
## Typical Characteristics



## PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



| UNIT | A    | B    | bp   | C    | D    | E    | HE   | A <sub>1</sub> | L <sub>p</sub> |
|------|------|------|------|------|------|------|------|----------------|----------------|
| 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           |