

## Silicon PNP Power Transistors

## 2SA1725

## DESCRIPTION

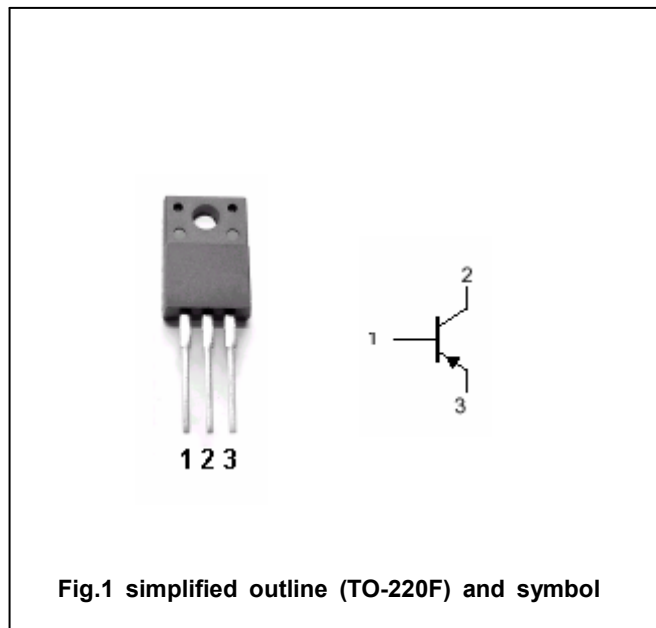
- With TO-220F package
- Complement to type 2SC4511

## APPLICATIONS

- Audio and general purpose

## PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1   | Base        |
| 2   | Collector   |
| 3   | Emitter     |

Absolute maximum ratings ( $T_a=25^\circ\text{C}$ )

| SYMBOL    | PARAMETER                 | CONDITIONS             | VALUE   | UNIT             |
|-----------|---------------------------|------------------------|---------|------------------|
| $V_{CBO}$ | Collector-base voltage    | Open emitter           | -80     | V                |
| $V_{CEO}$ | Collector-emitter voltage | Open base              | -80     | V                |
| $V_{EBO}$ | Emitter-base voltage      | Open collector         | -6      | V                |
| $I_C$     | Collector current         |                        | -6      | A                |
| $I_B$     | Base current              |                        | -3      | A                |
| $P_C$     | Collector dissipation     | $T_C=25^\circ\text{C}$ | 30      | W                |
| $T_j$     | Junction temperature      |                        | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage temperature       |                        | -55~150 | $^\circ\text{C}$ |

## Silicon PNP Power Transistors

## 2SA1725

## CHARACTERISTICS

Tj=25°C unless otherwise specified

| SYMBOL        | PARAMETER                            | CONDITIONS                               | MIN | TYP. | MAX  | UNIT    |
|---------------|--------------------------------------|------------------------------------------|-----|------|------|---------|
| $V_{(BR)CEO}$ | Collector-emitter breakdown voltage  | $I_C = -25mA$ ; $I_B = 0$                | -80 |      |      | V       |
| $V_{CEsat}$   | Collector-emitter saturation voltage | $I_C = -2A$ ; $I_B = -0.2A$              |     |      | -0.5 | V       |
| $I_{CBO}$     | Collector cut-off current            | $V_{CB} = -80V$ ; $I_E = 0$              |     |      | -10  | $\mu A$ |
| $I_{EBO}$     | Emitter cut-off current              | $V_{EB} = -6V$ ; $I_C = 0$               |     |      | -10  | $\mu A$ |
| $h_{FE}$      | DC current gain                      | $I_C = -2A$ ; $V_{CE} = -4V$             | 50  |      | 180  |         |
| $C_{OB}$      | Output capacitance                   | $I_E = 0$ ; $V_{CB} = -10V$ ; $f = 1MHz$ |     | 150  |      | pF      |
| $f_T$         | Transition frequency                 | $I_E = 0.5A$ ; $V_{CE} = -12V$           |     | 20   |      | MHz     |

## Switching times

|          |              |                                                                                  |  |      |  |         |
|----------|--------------|----------------------------------------------------------------------------------|--|------|--|---------|
| $t_{on}$ | Turn-on time | $I_C = -3.0A$ ; $I_{B1} = -I_{B2} = -0.3A$<br>$V_{CC} = -30V$ , $R_L = 10\Omega$ |  | 0.18 |  | $\mu s$ |
| $t_s$    | Storage time |                                                                                  |  | 1.10 |  | $\mu s$ |
| $t_f$    | Fall time    |                                                                                  |  | 0.21 |  | $\mu s$ |

◆  $h_{FE}$  Classifications

| O      | P      | Y      |
|--------|--------|--------|
| 50-100 | 70-140 | 90-180 |

**2SA1725**

## Silicon PNP Power Transistors

2SA1725

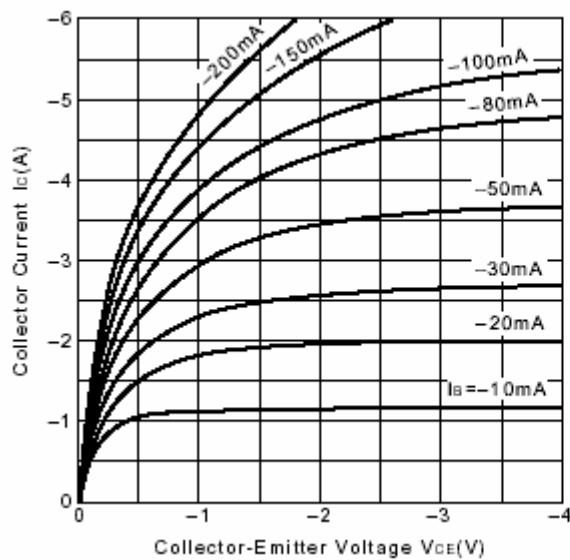


Fig.3 Static Characteristic

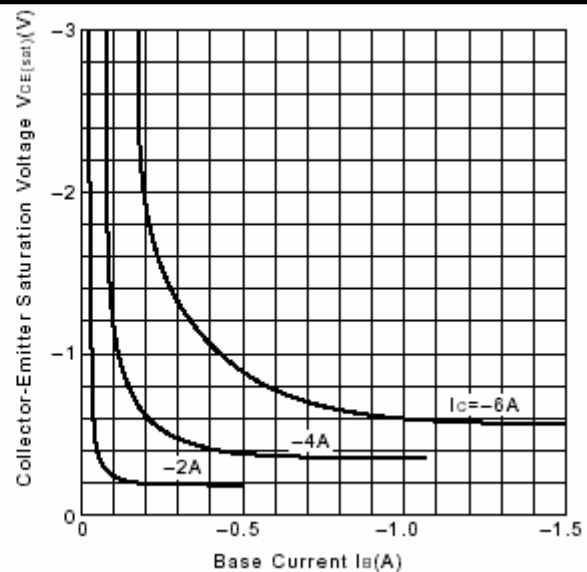
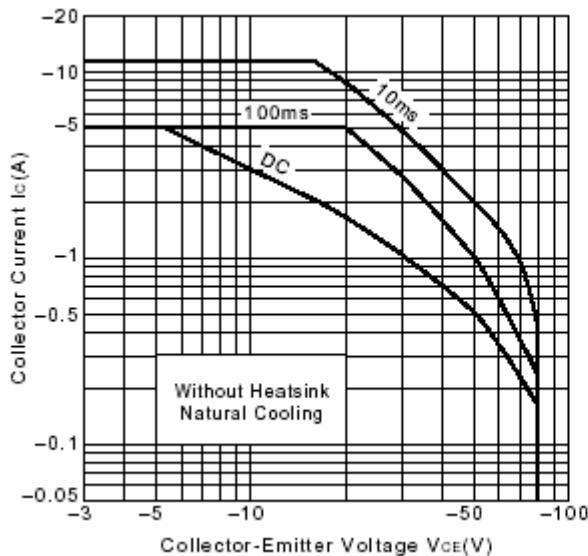
Fig.4  $V_{CE(sat)} - I_B$  Characteristics

Fig.5 Safe Operating Area

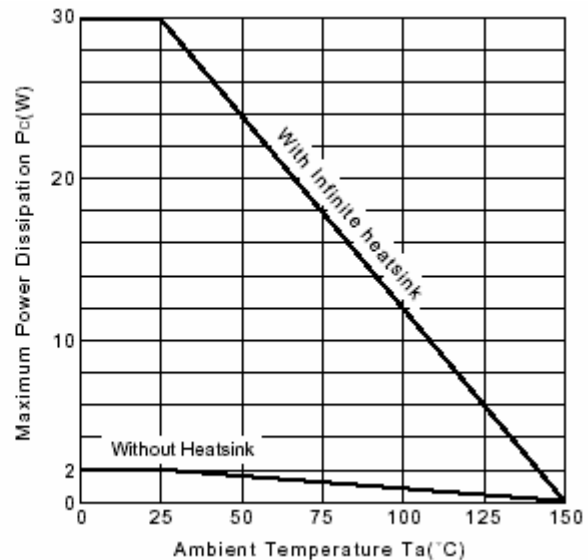
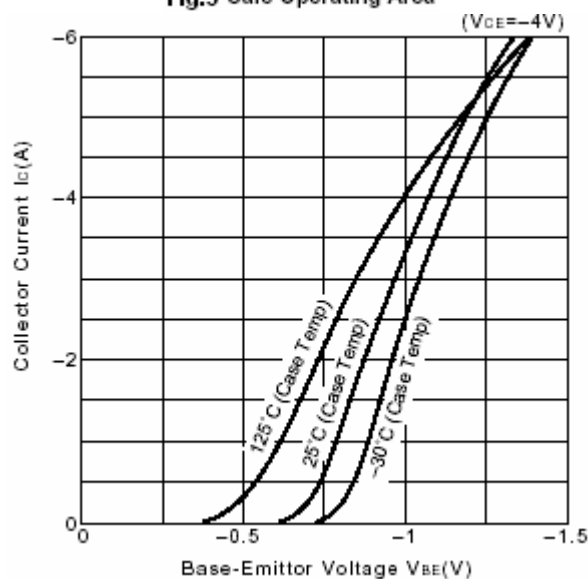
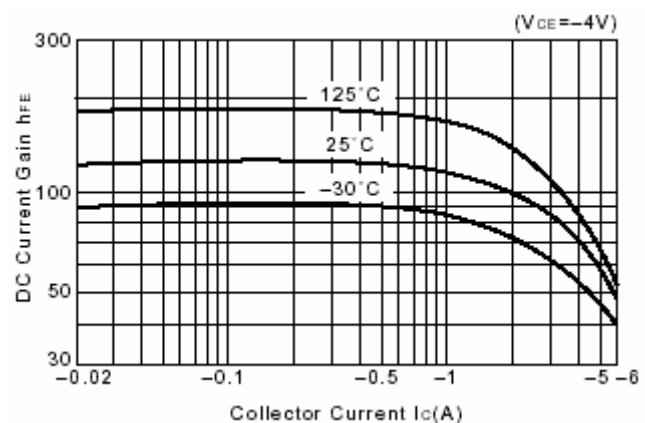
Fig.6  $P_C - T_a$  DeratingFig.7  $I_C - V_{BE}$ 

Fig.8 DC current Gain