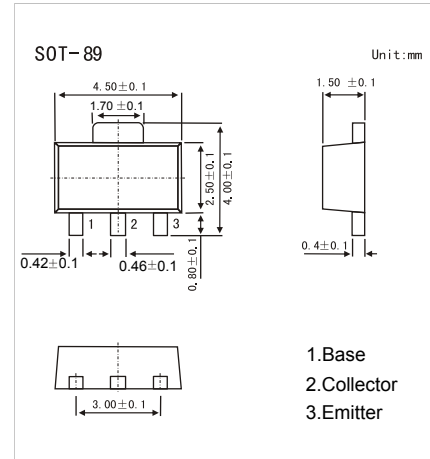


**PNP Transistors**

**2SA1766**

■ Features

- Adoption of FBET, MBIT processes.
- High DC current gain ( $h_{FE}=500$  to  $1200$ ).
- Large current capacity.
- Low collector-to-emitter saturation voltage.
- High  $V_{EBO}$ .



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

| Parameter                            | Symbol    | Rating     | Unit             |
|--------------------------------------|-----------|------------|------------------|
| Collector - Base Voltage             | $V_{CBO}$ | -30        | V                |
| Collector - Emitter Voltage          | $V_{CEO}$ | -25        |                  |
| Emitter - Base Voltage               | $V_{EBO}$ | -15        |                  |
| Collector Current - Continuous       | $I_C$     | -300       | mA               |
| Collector Current - Pulse            | $I_{CP}$  | -500       |                  |
| Base Current                         | $I_B$     | -60        |                  |
| Collector Power Dissipation (Note.1) | $P_C$     | 1.3        | W                |
| Junction Temperature                 | $T_J$     | 150        | $^\circ\text{C}$ |
| Storage Temperature range            | $T_{stg}$ | -55 to 150 |                  |

Note.1: Mounted on ceramic board ( $250\text{mm}^2 \times 0.8\text{mm}$ )

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

| Parameter                            | Symbol        | Test Conditions                              | Min | Typ   | Max  | Unit          |
|--------------------------------------|---------------|--|-----|-------|------|---------------|
| Collector- base breakdown voltage    | $V_{CBO}$     | $I_C = -100 \mu\text{A}, I_E = 0$            | -30 |       |      | V             |
| Collector- emitter breakdown voltage | $V_{CEO}$     | $I_C = -1 \text{ mA}, R_{BE} = \infty$       | -25 |       |      |               |
| Emitter - base breakdown voltage     | $V_{EBO}$     | $I_E = -100 \mu\text{A}, I_C = 0$            | -15 |       |      |               |
| Collector-base cut-off current       | $I_{CBO}$     | $V_{CB} = -20 \text{ V}, I_E = 0$            |     |       | -0.1 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB} = -10 \text{ V}, I_C = 0$            |     |       | -0.1 |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -200 \text{ mA}, I_B = -4 \text{ mA}$ |     | -0.12 | -0.5 | V             |
| Base - emitter saturation voltage    | $V_{BE(sat)}$ | $I_C = -200 \text{ mA}, I_B = -4 \text{ mA}$ |     | -0.77 | -1.1 |               |
| DC current gain                      | $h_{FE(1)}$   | $V_{CE} = -5\text{V}, I_C = -10 \text{ mA}$  | 500 | 800   | 1200 |               |
|                                      | $h_{FE(2)}$   | $V_{CE} = -5\text{V}, I_C = -200 \text{ mA}$ | 200 |       |      |               |
| Collector output capacitance         | $C_{ob}$      | $V_{CB} = -10\text{V}, f = 1\text{MHz}$      |     | 12    |      | pF            |
| Transition frequency                 | $f_T$         | $V_{CE} = -10\text{V}, I_C = -10 \text{ mA}$ |     | 100   |      | MHz           |

■ Marking

|         |    |
|---------|----|
| Marking | AL |
|---------|----|

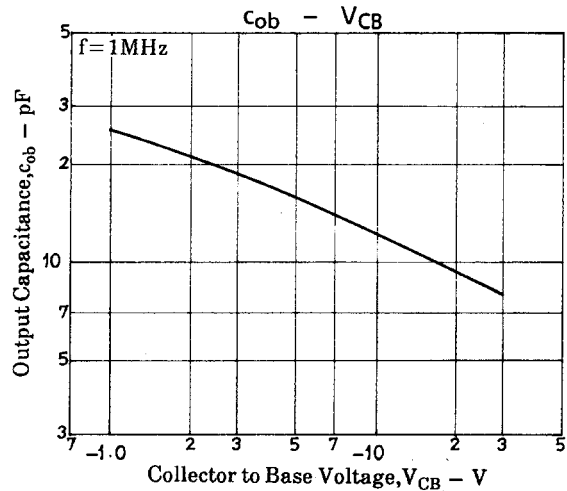
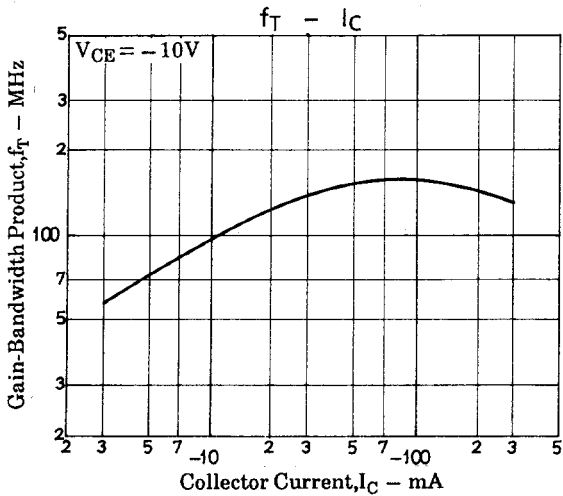
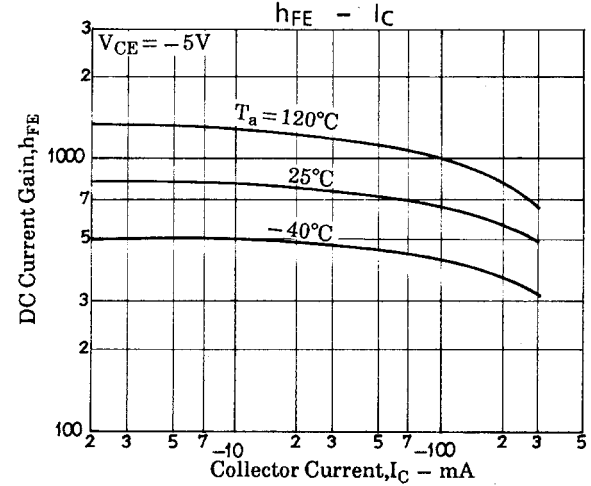
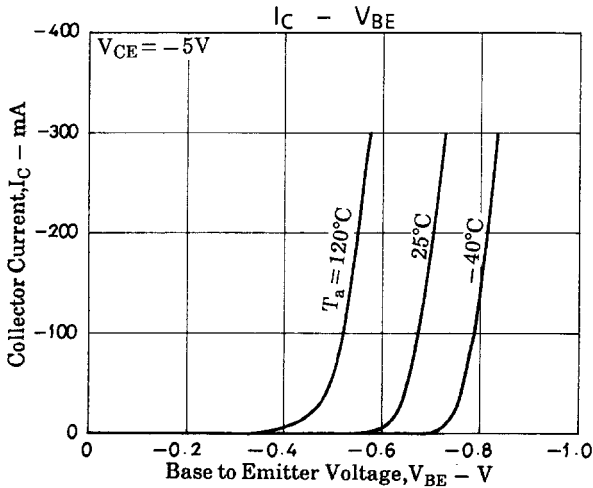
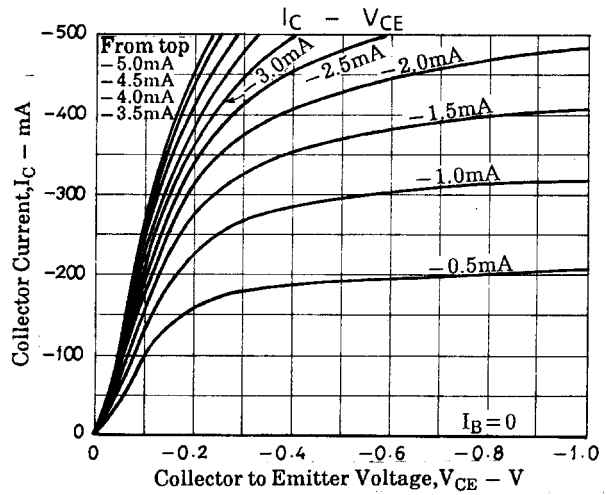
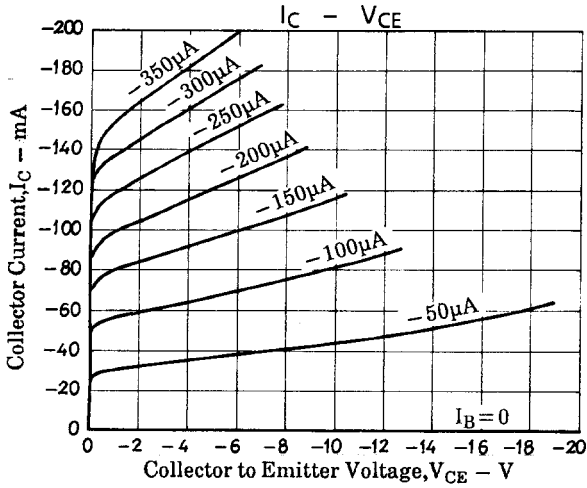


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PNP Transistors

2SA1766

Typical Characteristics



## PNP Transistors

### 2SA1766

■ Typical Characteristics

