

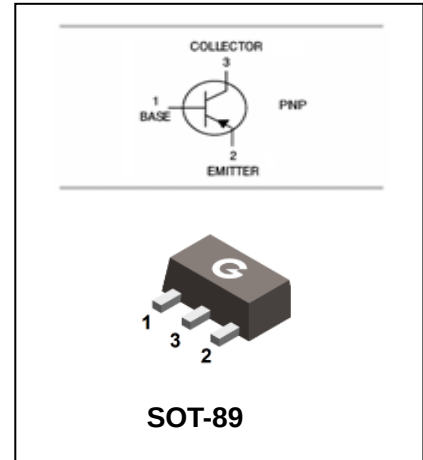
## Silicon PNP epitaxial planer transistor

**2SB766A**

### FEATURES

- Large collector power dissipation
- Complementary to 2SD874A
- RoHS compliant with Halogen-free
- Mini Power type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing

**HF**



### ORDERING INFORMATION

| Type No.  | Marking | Package Code |
|-----------|---------|--------------|
| 2SB766A-Q | BQ      | SOT-89       |
| 2SB766A-R | BR      | SOT-89       |
| 2SB766A-S | BS      | SOT-89       |

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

| Symbol         | Parameter                        | Value       | Unit |
|----------------|----------------------------------|-------------|------|
| $V_{CBO}$      | Collector-Base voltage           | -60         | V    |
| $V_{CEO}$      | Collector-Emitter voltage        | -50         | V    |
| $V_{EBO}$      | Emitter-Base voltage             | -5          | V    |
| $I_C$          | Collector current                | -1          | A    |
| $I_{CP}$       | Peak collector current           | -1.5        | A    |
| $P_C$          | Collector power dissipation      | 1           | W    |
| $T_j, T_{stg}$ | Junction and storage temperature | -55 to +150 | °C   |

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## 2SB766A

### ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

| Parameter                            | Symbol        | Test conditions                                  | MIN | TYP   | MAX  | UNIT    |
|--------------------------------------|---------------|--------------------------------------------------|-----|-------|------|---------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C = -10\mu A$ $I_E = 0$                       | -60 |       |      | V       |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C = -2mA$ $I_B = 0$                           | -50 |       |      | V       |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E = -10\mu A$ $I_C = 0$                       | -5  |       |      | V       |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB} = -20V$ $I_E = 0$                        |     |       | -0.1 | $\mu A$ |
| DC current gain                      | $h_{FE}$      | $V_{CE} = -10V$ $I_C = -500mA$                   | 85  |       | 340  |         |
|                                      |               | $V_{CE} = -5V$ $I_C = -1A$                       | 50  |       |      |         |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -500mA$ $I_B = -50mA$                     |     | -0.2  | -0.4 | V       |
| Base- emitter saturation voltage     | $V_{BE(sat)}$ | $I_C = -500mA$ $I_B = -50mA$                     |     | -0.85 | -1.2 | V       |
| Transition frequency                 | $f_T$         | $V_{CE} = -10V$ , $I_C = 50mA$ ,<br>$f = 200MHz$ |     | 200   |      | MHz     |
| Collector Output Capacitance         | $C_{obo}$     | $V_{CB} = -10V$ $f = 1.0MHz$ $I_E = 0$           |     | 20    | 30   | pF      |

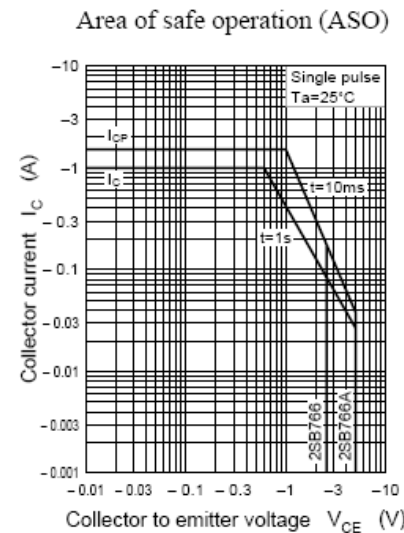
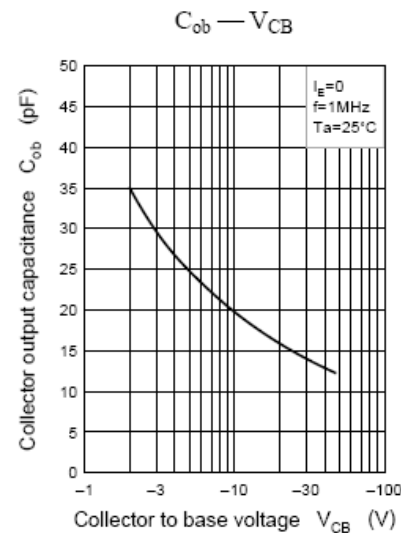
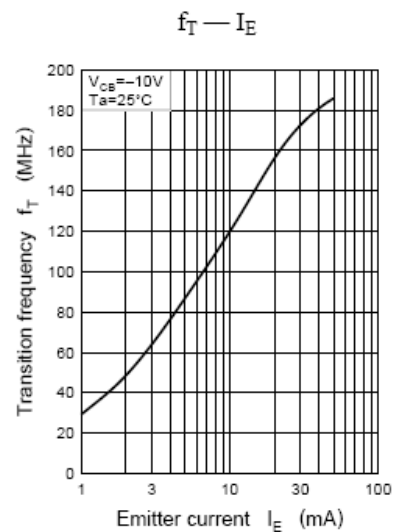
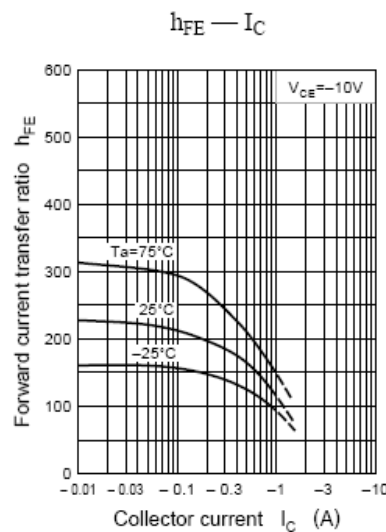
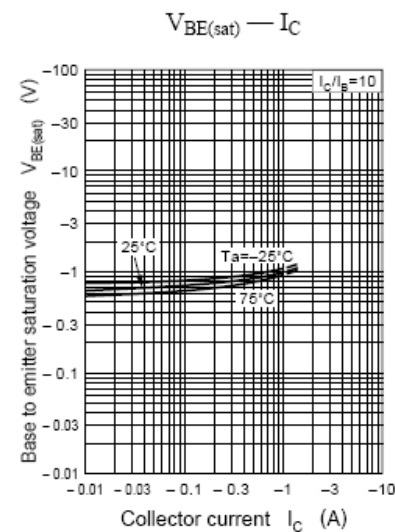
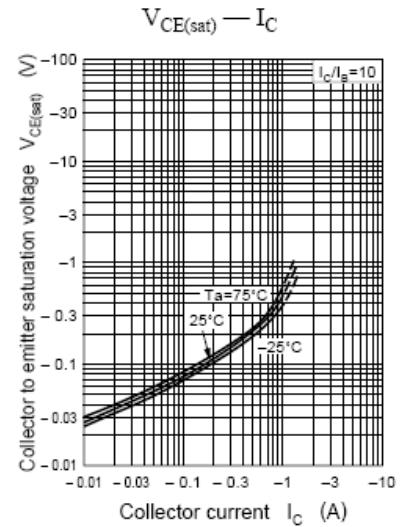
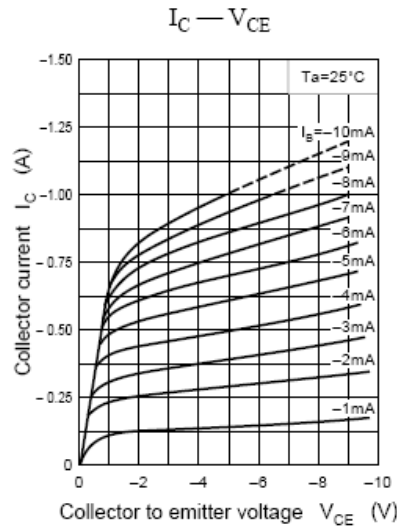
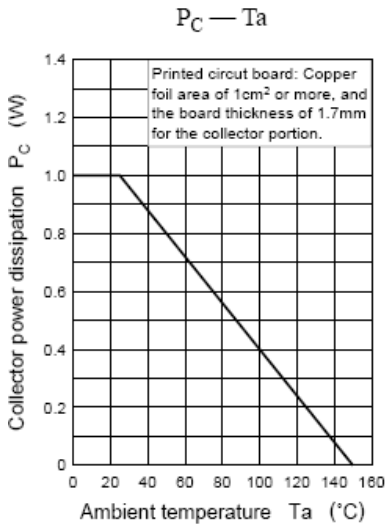
### CLASSIFICATION $H_{FE}$

| Rank    | Q      | R       | S       |
|---------|--------|---------|---------|
| Range   | 85-170 | 120-240 | 170-340 |
| Marking | BQ     | BR      | BS      |

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TYPICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified



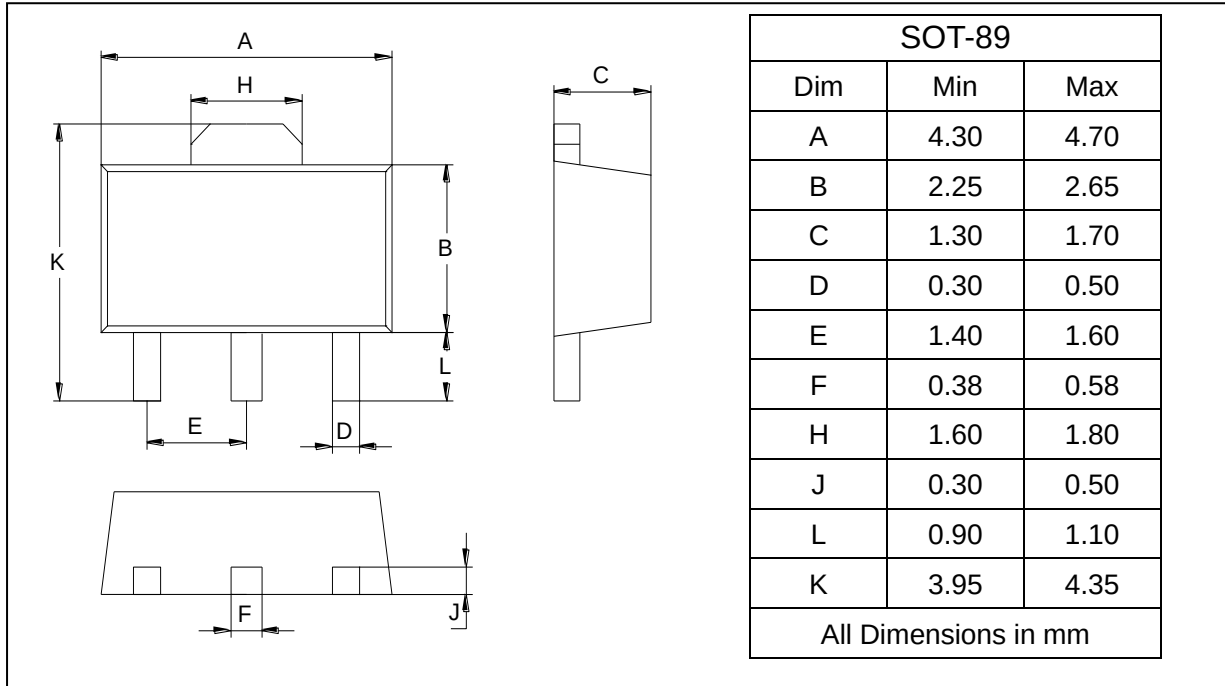
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**2SB766A**

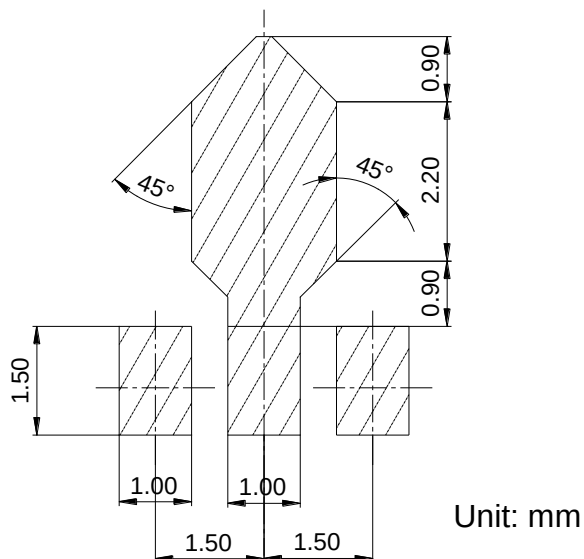
### PACKAGE OUTLINE

Plastic surface mounted package

SOT-89



### SOLDERING FOOTPRINT



### PACKAGE INFORMATION

| Device  | Package | Shipping               |
|---------|---------|------------------------|
| 2SB766A | SOT-89  | 1000 pcs / Tape & Reel |