

# 2SB788

## Silicon PNP epitaxial planer type

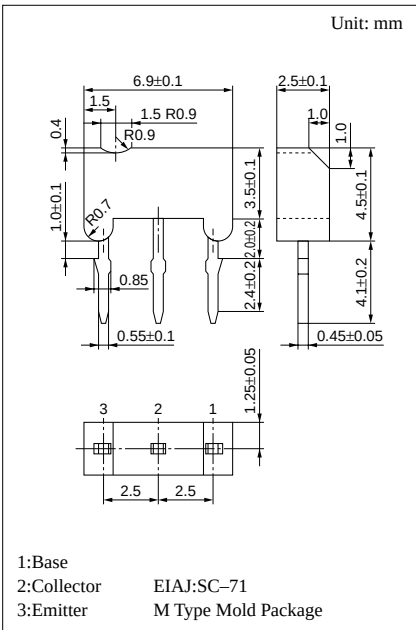
For high breakdown voltage low-noise amplification  
Complementary to 2SD958

### Features

- High collector to emitter voltage  $V_{CEO}$ .
- Low noise voltage NV.
- M type package allowing easy automatic and manual insertion as well as stand-alone fixing to the printed circuit board.

### Absolute Maximum Ratings (Ta=25°C)

| Parameter                    | Symbol    | Ratings    | Unit |
|------------------------------|-----------|------------|------|
| Collector to base voltage    | $V_{CBO}$ | -120       | V    |
| Collector to emitter voltage | $V_{CEO}$ | -120       | V    |
| Emitter to base voltage      | $V_{EBO}$ | -7         | V    |
| Peak collector current       | $I_{CP}$  | -50        | mA   |
| Collector current            | $I_C$     | -20        | mA   |
| Collector power dissipation  | $P_C$     | 400        | mW   |
| Junction temperature         | $T_j$     | 150        | °C   |
| Storage temperature          | $T_{stg}$ | -55 ~ +150 | °C   |

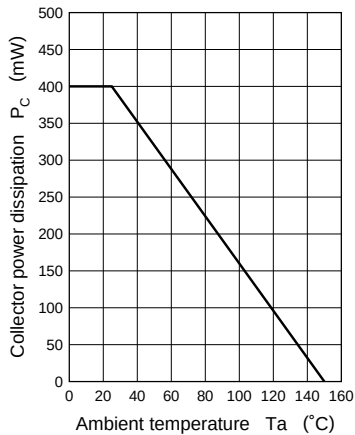
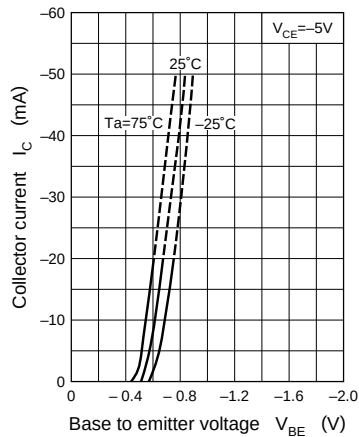
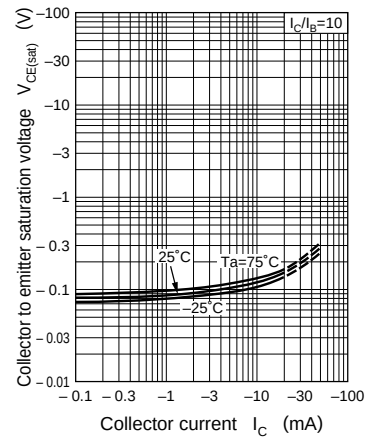
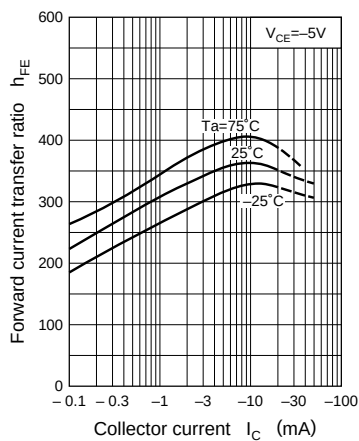
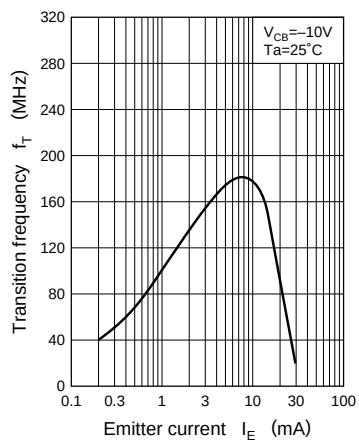
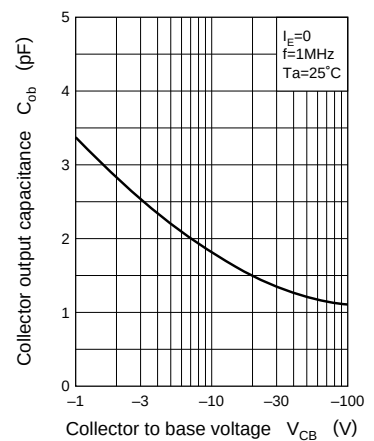


### Electrical Characteristics (Ta=25°C)

| Parameter                               | Symbol        | Conditions                                                                         | min  | typ | max  | Unit |
|-----------------------------------------|---------------|------------------------------------------------------------------------------------|------|-----|------|------|
| Collector cutoff current                | $I_{CBO}$     | $V_{CB} = -50V, I_E = 0$                                                           |      |     | -100 | nA   |
|                                         | $I_{CEO}$     | $V_{CE} = -50V, I_B = 0$                                                           |      |     | -1   | μA   |
| Collector to base voltage               | $V_{CBO}$     | $I_C = -10μA, I_E = 0$                                                             | -120 |     |      | V    |
| Collector to emitter voltage            | $V_{CEO}$     | $I_C = -1mA, I_B = 0$                                                              | -120 |     |      | V    |
| Emitter to base voltage                 | $V_{EBO}$     | $I_E = -10μA, I_C = 0$                                                             | -7   |     |      | V    |
| Forward current transfer ratio          | $h_{FE}^*$    | $V_{CE} = -5V, I_C = -2mA$                                                         | 180  |     | 700  |      |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -20mA, I_B = -2mA$                                                          |      |     | -0.6 | V    |
| Transition frequency                    | $f_T$         | $V_{CB} = -5V, I_E = 2mA, f = 200MHz$                                              |      | 150 |      | MHz  |
| Noise voltage                           | NV            | $V_{CE} = 40V, I_C = -1mA, G_v = 80dB, R_g = 100kΩ, \text{Function} = \text{FLAT}$ |      |     | 150  | mV   |

\* $h_{FE}$  Rank classification

| Rank     | R         | S         | T         |
|----------|-----------|-----------|-----------|
| $h_{FE}$ | 180 ~ 360 | 260 ~ 520 | 360 ~ 700 |

$P_C - T_a$  $I_C - V_{BE}$  $V_{CE(sat)} - I_C$  $h_{FE} - I_C$  $f_T - I_E$  $C_{ob} - V_{CB}$  $NV - I_C$ 