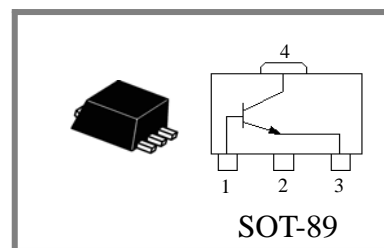


## NPN-Silicon General use Transistors

1W、1.5A、25V

**Applications:** Can be used for switching and amplifying in various electrical and electronic circuit.



### Maximum ratings

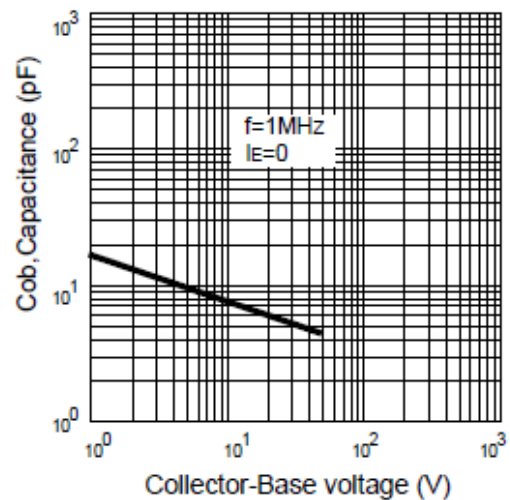
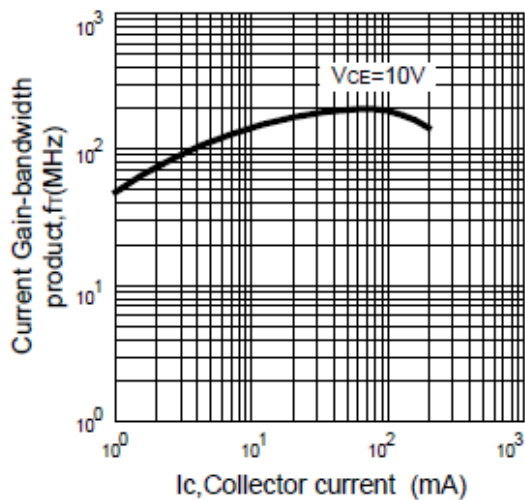
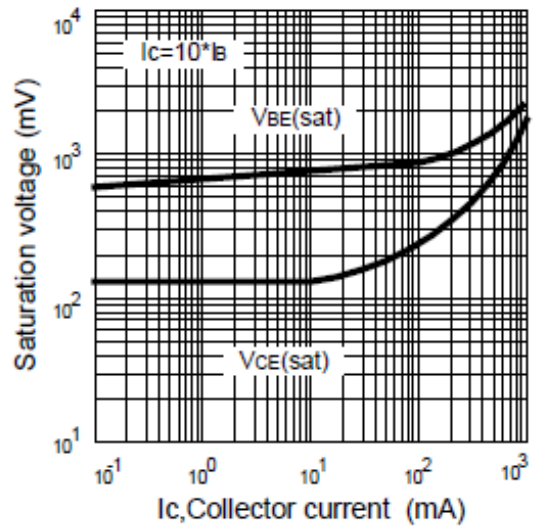
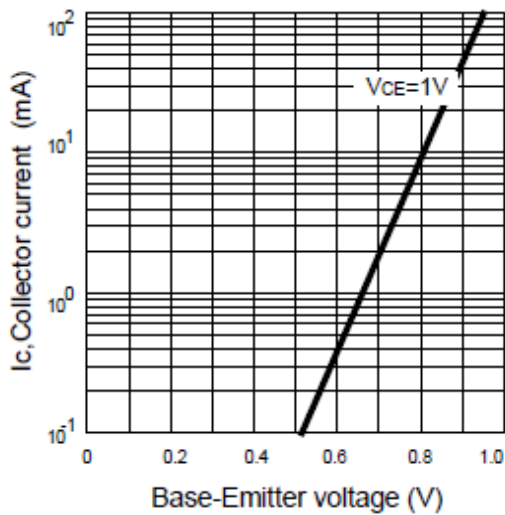
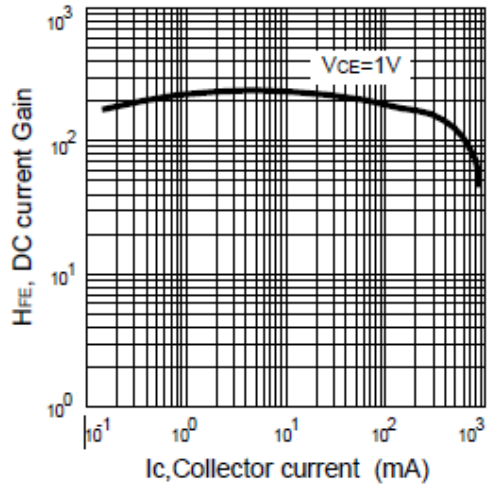
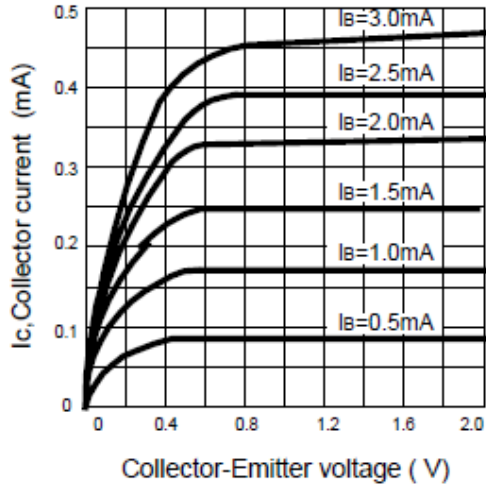
| Parameters   | Symbol    | Rating  | Unit             |
|--|-----------|---------|------------------|
| Collector-emitter voltage ( $I_B=0$ )              | $V_{CEO}$ | 25      | V                |
| Collector-base voltage ( $I_E=0$ )                 | $V_{CBO}$ | 40      | V                |
| Emitter-base voltage ( $I_C=0$ )                   | $V_{EBO}$ | 6       | V                |
| Collector current                                  | $I_C$     | 1.5     | A                |
| Total dissipation power( $T_A=25^\circ\text{C}$ )* | $P_{tot}$ | 1       | W                |
| Junction temperature                               | $T_{jm}$  | 150     | $^\circ\text{C}$ |
| Storage temperature                                | $T_{stg}$ | -55~150 | $^\circ\text{C}$ |

\* Device is mounted on a printed circuit board.

### Electrical characteristics (Unless otherwise specified, $T_A=25^\circ\text{C}$ )

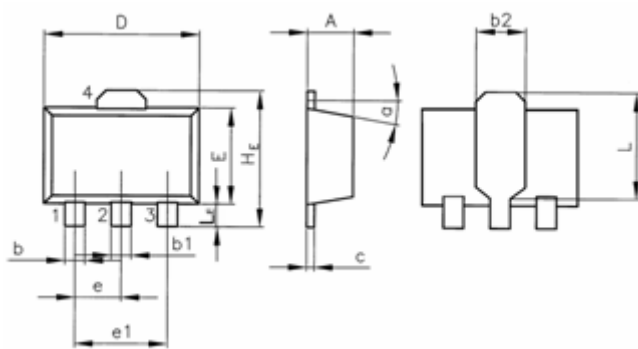
| Parameters                           |   | Symbol        | Test condition  | Min. | typ | Max. | Unit |
|--------------------------------------|---|---------------|---|------|-----|------|------|
| Collector-emitter breakdown voltage  |   | $V_{(BR)CEO}$ | $I_C=2\text{mA}, I_B=0$                               | 25   | —   | —    | V    |
| Collector-base breakdown voltage     |   | $V_{(BR)CBO}$ | $I_C=100\mu\text{A}, I_E=0$                           | 40   | —   | —    | V    |
| Emitter-base breakdown voltage       |   | $V_{(BR)EBO}$ | $I_E=100\mu\text{A}, I_C=0$                           | 6    | —   | —    | V    |
| Forward current transfer ratio       | Q | $h_{FE}$      | $V_{CE}=1\text{V}; I_C=100\text{mA}$                  | 120  | —   | 270  | —    |
|                                      | R |               |   | 180  | —   | 390  | —    |
| Collector-base current               |   | $I_{CBO}$     | $V_{CB}=35\text{V}, I_E=0$                            | —    | —   | 100  | nA   |
| Collector-emitter saturation voltage |   | $V_{CE(sat)}$ | $I_C=800\text{mA}, I_B=80\text{mA}$                   | —    | —   | 0.5  | V    |
| Characteristic frequency             |   | $f_T$         | $I_C=50\text{mA}, V_{CE}=10\text{V}, f=100\text{MHz}$ | —    | 100 | —    | MHz  |

## Typical characteristics



## Outline dimensions

Unit: mm



| Dimensions<br>Symbol | SOT-89 |              |      |
|----------------------|--------|--------------|------|
|                      | min    | type         | max  |
| A                    | 1.4    |              | 1.6  |
| b                    | 0.35   |              | 0.55 |
| b1                   | 0.4    |              | 0.65 |
| b2                   |        | 1.6          |      |
| c                    | 0.35   |              | 0.45 |
| D                    | 4.4    |              | 4.6  |
| E                    | 2.35   |              | 2.55 |
| e                    |        | 1.5          |      |
| e1                   |        | 3            |      |
| HE                   |        | 4.15         |      |
| L                    |        | 2.7          |      |
| LE                   |        | 1.0          |      |
| $\alpha$             |        | 5 $^{\circ}$ |      |

Fig.7 Outline Dimensions

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[NJVMJD148T4G](#) [NSVMMBT6520LT1G](#) [NTE187A](#) [NTE195A](#) [NTE2302](#) [NTE2330](#) [NTE2353](#) [NTE316](#) [IMX9T110](#) [NTE63](#) [NTE65](#)  
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