

## Descriptions

- Complex type bipolar transistor

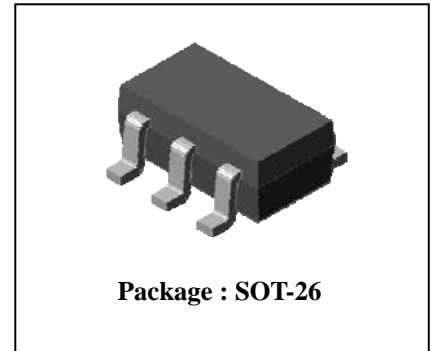
## Features

- Reduce quantity of parts and mounting cost
- High collector power dissipation :  $P_C=300\text{mW}(\text{Max.})$
- Both 2SA1980 chip and 2SC5343 chip in SOT-26 Package

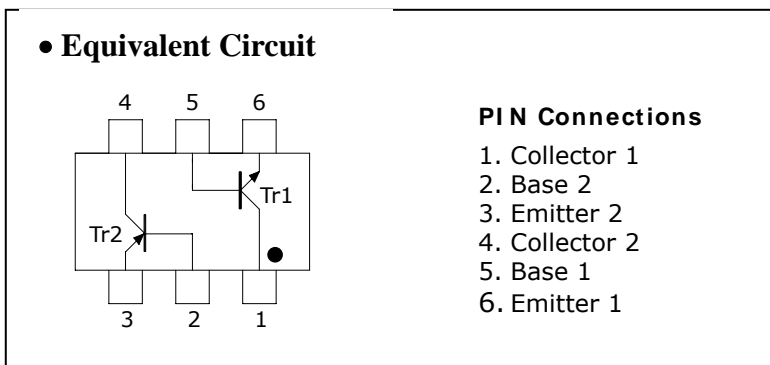
## Ordering Information

| Type NO. | Marking | Package Code |
|----------|---------|--------------|
| SUT462N  | 3X□     | SOT-26       |

□ : Year & Week Code



## Equivalent circuit & PIN Connections



## Absolute Maximum Ratings [Tr1, Tr2]

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

| Characteristic              | Symbol    | Rating  |      | Unit             |
|-----------------------------|-----------|---------|------|------------------|
|                             |           | Tr1     | Tr2  |                  |
| Collector-base voltage      | $V_{CBO}$ | 60      | -50  | V                |
| Collector-emitter voltage   | $V_{CEO}$ | 50      | -50  | V                |
| Emitter-base voltage        | $V_{EBO}$ | 5       | -5   | V                |
| Collector current           | $I_C$     | 150     | -150 | mA               |
| Collector power dissipation | $P_C^*$   | 300     |      | mW               |
| Junction temperature        | $T_J$     | 150     |      | $^\circ\text{C}$ |
| Storage temperature range   | $T_{stg}$ | -55~150 |      | $^\circ\text{C}$ |

※: Total rating(Each terminal mounted on a recommended solder land)

## Electrical Characteristics [Tr1]

(Ta=25°C)

| Characteristic                       | Symbol        | Test Condition                            | Min. | Typ. | Max. | Unit          |
|--------------------------------------|---------------|---|------|------|------|---------------|
| Collector-emitter breakdown voltage  | $BV_{CEO}$    | $I_C=1\text{mA}, I_B=0$                   | 50   | -    | -    | V             |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB}=60\text{V}, I_E=0$                | -    | -    | 0.1  | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=5\text{V}, I_C=0$                 | -    | -    | 0.1  | $\mu\text{A}$ |
| DC current gain                      | $h_{FE}$      | $V_{CE}=6\text{V}, I_C=2\text{mA}$        | 120  | -    | 400  | -             |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=100\text{mA}, I_B=10\text{mA}$       | -    | -    | 0.25 | V             |
| Base-emitter voltage                 | $V_{BE}$      | $V_{CE}=6\text{V}, I_C=2\text{mA}$        | -    | 0.65 | -    | V             |
| Transition frequency                 | $f_T$         | $V_{CE}=10\text{V}, I_C=10\text{mA}$      | -    | 200  | -    | MHz           |
| Collector output capacitance         | $C_{ob}$      | $V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$ | -    | 2    | -    | pF            |

## Electrical Characteristics [Tr2]

(Ta=25°C)

| Characteristic                       | Symbol        | Test Condition                             | Min. | Typ.  | Max. | Unit          |
|--------------------------------------|---------------|--|------|-------|------|---------------|
| Collector-emitter breakdown voltage  | $BV_{CEO}$    | $I_C=-1\text{mA}, I_B=0$                   | -50  | -     | -    | V             |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB}=-50\text{V}, I_E=0$                | -    | -     | -0.1 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=-5\text{V}, I_C=0$                 | -    | -     | -0.1 | $\mu\text{A}$ |
| DC current gain                      | $h_{FE}$      | $V_{CE}=-6\text{V}, I_C=-2\text{mA}$       | 120  | -     | 400  | -             |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=-100\text{mA}, I_B=-10\text{mA}$      | -    | -     | -0.3 | V             |
| Base-emitter voltage                 | $V_{BE}$      | $V_{CE}=-6\text{V}, I_C=-2\text{mA}$       | -    | -0.65 | -    | V             |
| Transition frequency                 | $f_T$         | $V_{CE}=-10\text{V}, I_C=-10\text{mA}$     | -    | 200   | -    | MHz           |
| Collector output capacitance         | $C_{ob}$      | $V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$ | -    | 4     | -    | pF            |

Electrical Characteristic Curves

[Tr1]

Fig. 1  $I_C - V_{BE}$

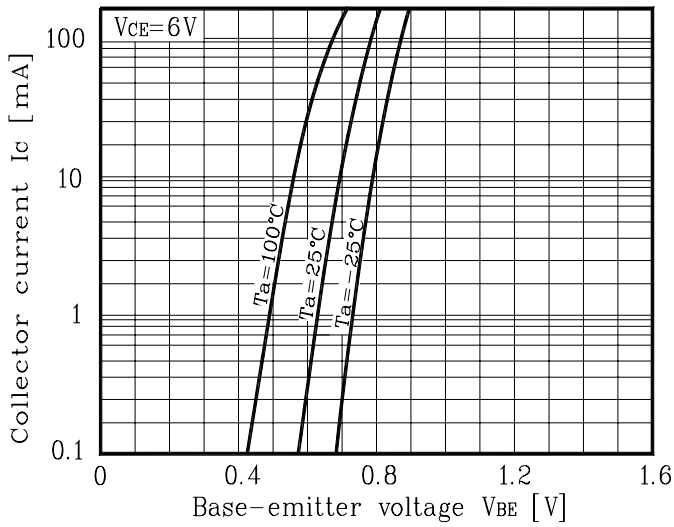


Fig. 2  $I_C - V_{CE}$

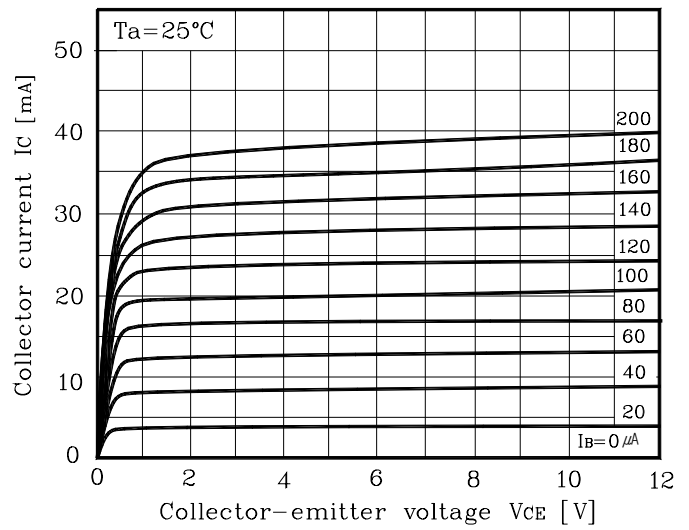


Fig. 3  $h_{FE} - I_C$

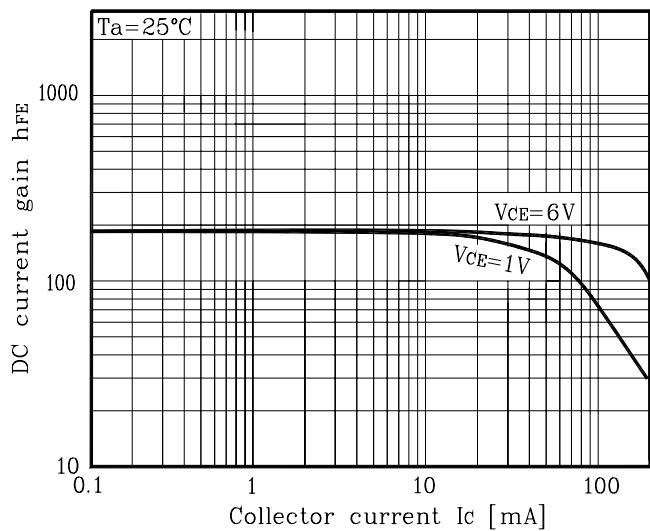
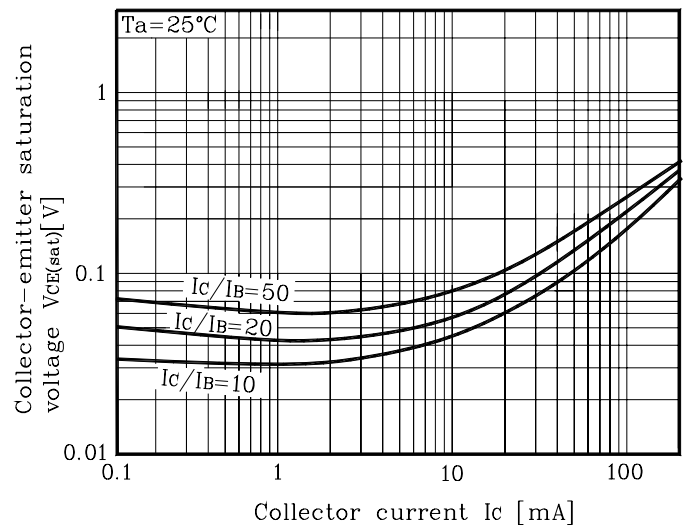


Fig. 4  $V_{CE(sat)} - I_C$



[Tr2]

Fig. 1  $I_C - V_{BE}$

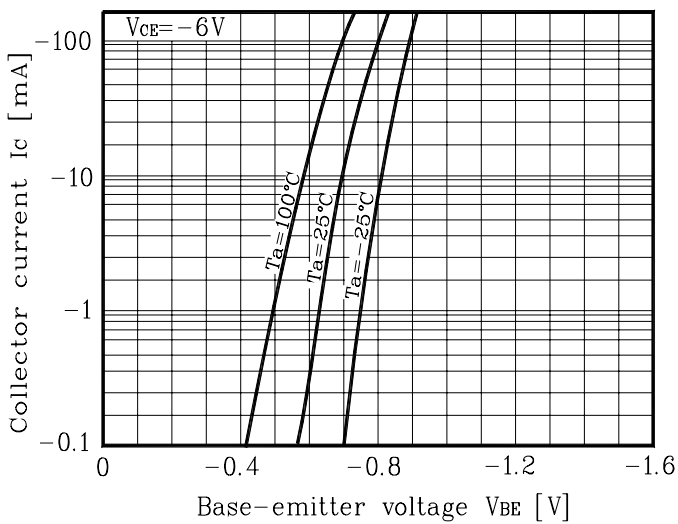
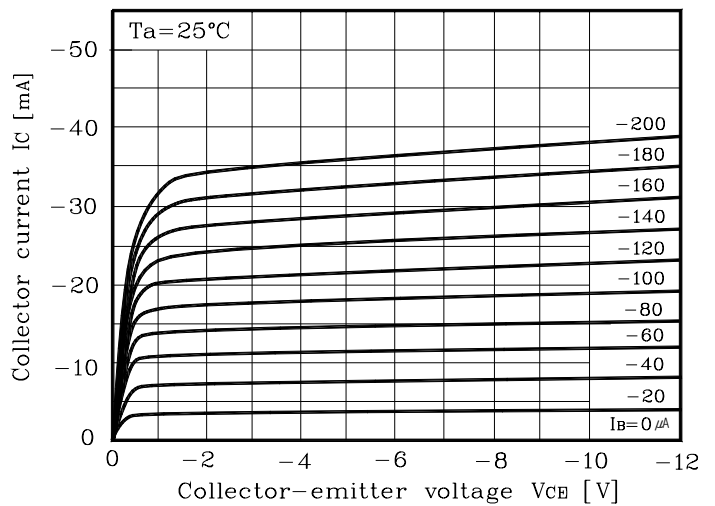


Fig. 2  $I_C - V_{CE}$



Electrical Characteristic Curves

Fig. 3  $h_{FE}-I_C$

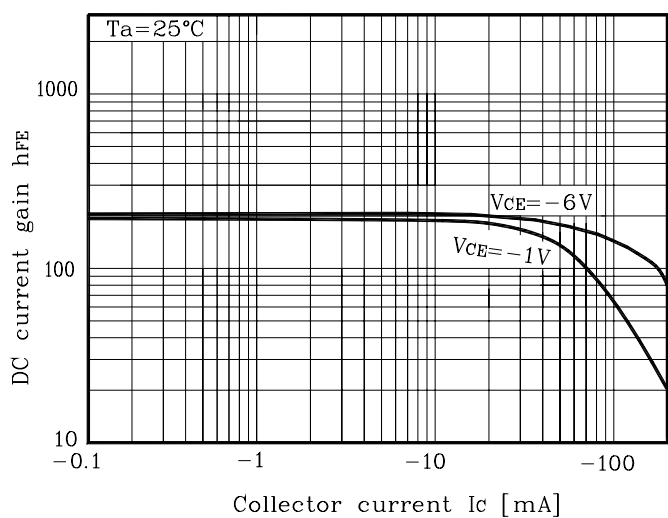
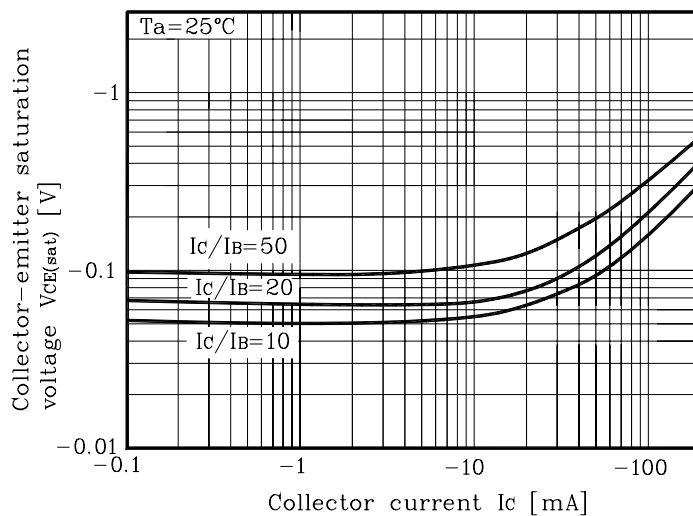
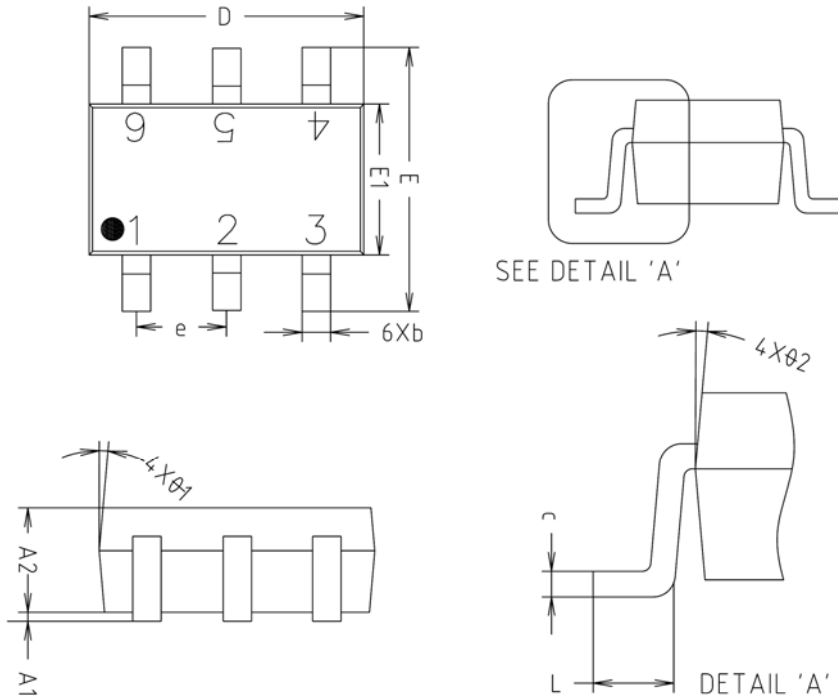


Fig. 4  $V_{CE(sat)}-I_C$

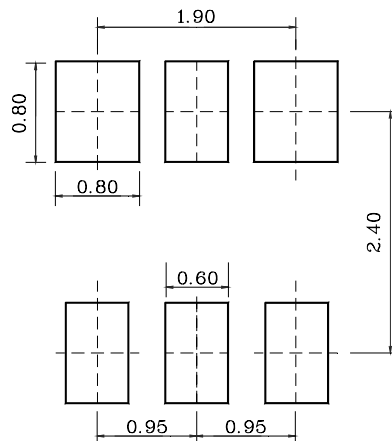


SOT-26 Outline Dimension(mm)



| SYMBOL | MILLIMETERS(mm) |         |         | NOTE |
|--------|-----------------|---------|---------|------|
|        | MINIMUM         | NOMINAL | MAXIMUM |      |
| A1     | 0.000           | 0.050   | 0.100   |      |
| A2     | 1.000           | 1.100   | 1.200   |      |
| b      | -               | 0.400   | 0.450   |      |
| c      | 0.110           | 0.150   | 0.190   |      |
| D      | 2.800           | 2.900   | 3.000   |      |
| E      | 2.600           | 2.800   | 3.000   |      |
| E1     | 1.500           | 1.600   | 1.700   |      |
| e      | 0.930           | 0.950   | 0.970   |      |
| L      | 0.400           | -       | -       |      |
| Ø1     | 5° REF          |         |         |      |
| Ø2     | 5° REF          |         |         |      |

※ Recommend PCB solder land [Unit: mm]



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