

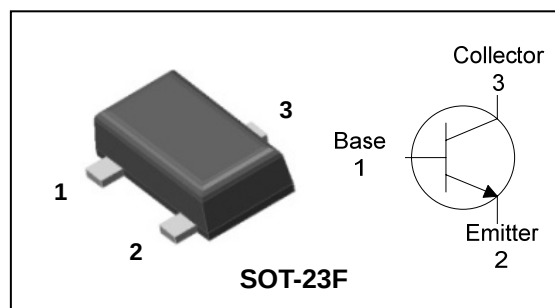
## Description

- Medium power amplifier

## Features

- Large collector current :  $I_C = 500\text{mA}$
- Low collector saturation voltage enabling low-voltage operation
- Complementary pair with 2SA1979SF

## PIN Connection



## Ordering Information

| Type NO.  | Marking                                                                                       | Package Code |
|-----------|-----------------------------------------------------------------------------------------------|--------------|
| 2SC5342SF | BA <br>① ② ③ | SOT-23F      |

① Device Code ② hFE Rank ③ Year & Week Code

## Absolute maximum ratings

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

| Characteristic            | Symbol    | Ratings | Unit             |
|---------------------------|-----------|---------|------------------|
| Collector-Base voltage    | $V_{CBO}$ | 40      | V                |
| Collector-Emitter voltage | $V_{CEO}$ | 32      | V                |
| Emitter-Base voltage      | $V_{EBO}$ | 5       | V                |
| Collector current         | $I_C$     | 500     | mA               |
| Collector dissipation     | $P_C$     | 200     | mW               |
| Junction temperature      | $T_j$     | 150     | $^\circ\text{C}$ |
| Storage temperature       | $T_{stg}$ | -55~150 | $^\circ\text{C}$ |

## Electrical Characteristics

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

| Characteristic                       | Symbol        | Test Condition                                       | Min. | Typ. | Max. | Unit          |
|--------------------------------------|---------------|------------------------------------------------------|------|------|------|---------------|
| Collector-Base breakdown voltage     | $BV_{CBO}$    | $I_C = 100\mu\text{A}$ , $I_E = 0$                   | 40   | -    | -    | V             |
| Collector-Emitter breakdown voltage  | $BV_{CEO}$    | $I_C = 1\text{mA}$ , $I_B = 0$                       | 32   | -    | -    | V             |
| Emitter-Base breakdown voltage       | $BV_{EBO}$    | $I_E = 10\mu\text{A}$ , $I_C = 0$                    | 5    | -    | -    | V             |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB} = 40\text{V}$ , $I_E = 0$                    | -    | -    | 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                      | $h_{FE}^*$    | $V_{CE} = 1\text{V}$ , $I_C = 100\text{mA}$          | 70   | -    | 240  | -             |
| Collector-Emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 100\text{mA}$ , $I_B = 10\text{mA}$           | -    | -    | 0.25 | V             |
| Transition frequency                 | $f_T$         | $V_{CE} = 6\text{V}$ , $I_C = 20\text{mA}$           | -    | 300  | -    | MHz           |
| Collector output capacitance         | $C_{ob}$      | $V_{CB} = 6\text{V}$ , $I_E = 0$ , $f = 1\text{MHz}$ | -    | 7.0  | -    | pF            |

\* :  $h_{FE}$  Rank / O : 70~140, Y : 120~240

# Electrical Characteristic Curves

Fig. 1  $P_c - T_a$

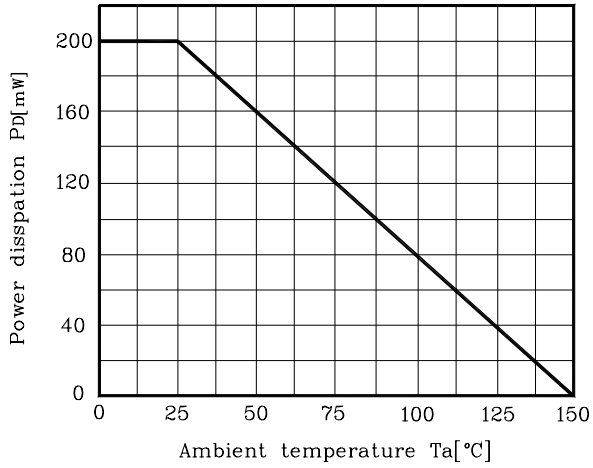


Fig. 2  $I_C - V_{BE}$

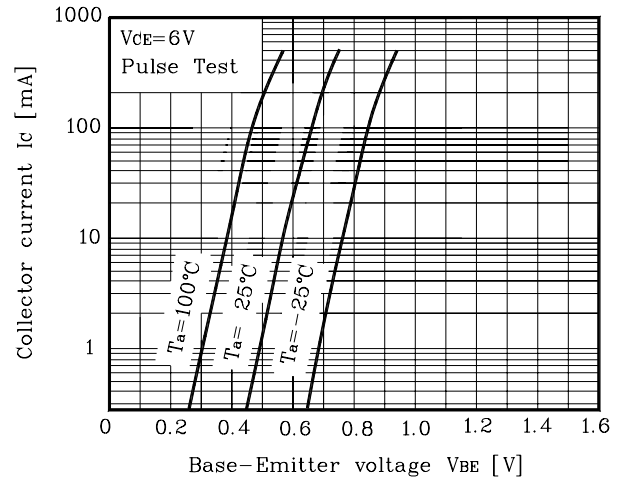


Fig. 3  $I_C - V_{CE}$

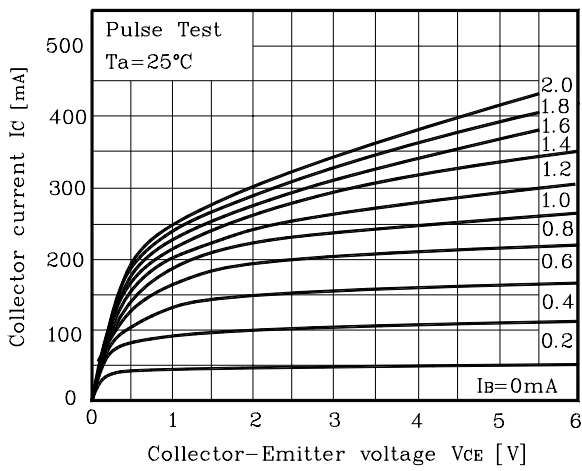


Fig. 4  $V_{CE(SAT)} - I_C$

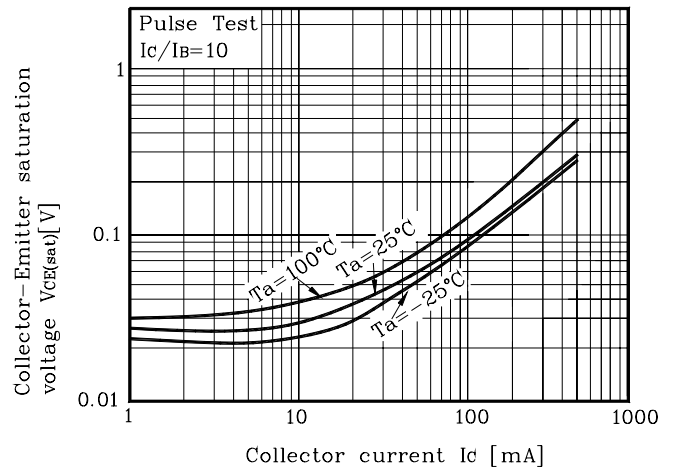
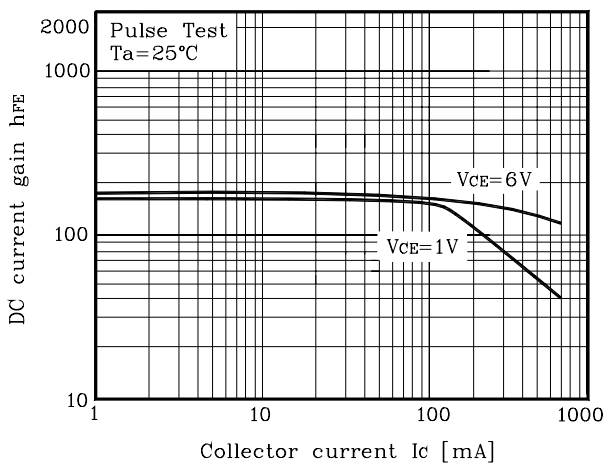
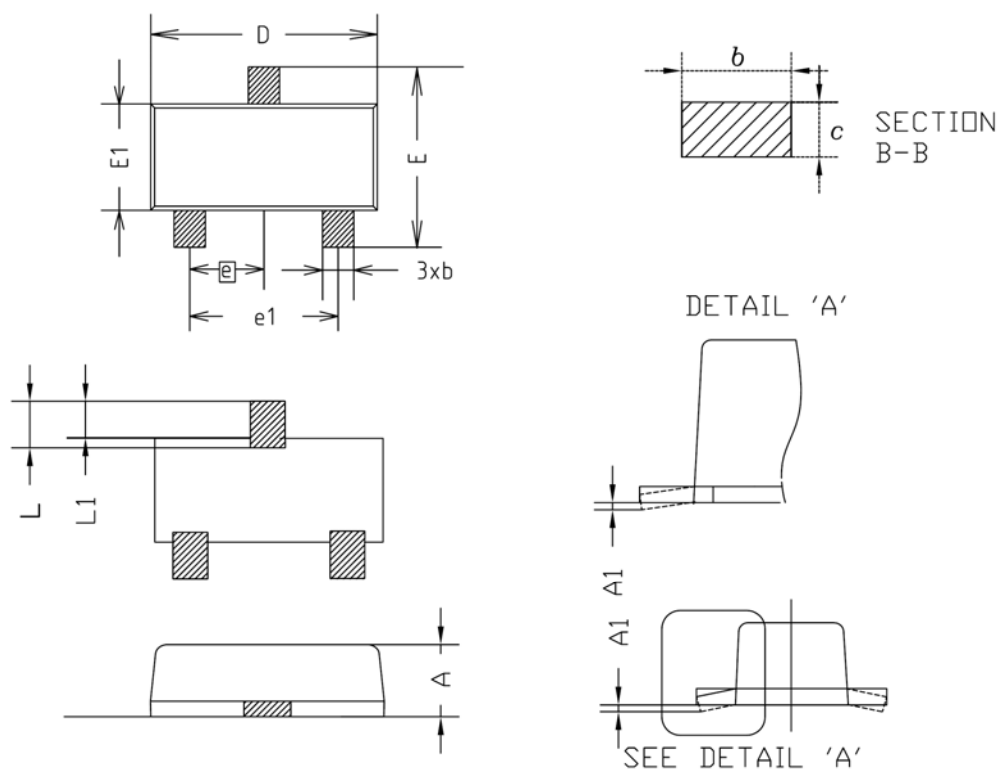


Fig. 5  $h_{FE} - I_C$

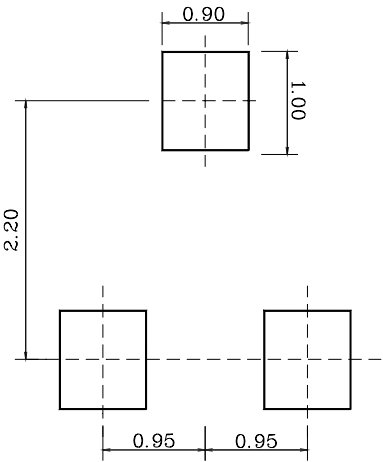


Outline Dimension



| SYMBOL | MILLIMETER(mm) |         |         | NOTE |
|--------|----------------|---------|---------|------|
|        | MINIMUM        | NOMINAL | MAXIMUM |      |
| A      | 0.80           | 0.90    | 1.00    |      |
| A1     | 0.00           | —       | 0.10    |      |
| b      | 0.35           | 0.40    | 0.45    |      |
| c      | 0.10           | 0.15    | 0.20    |      |
| D      | 2.80           | 2.90    | 3.00    |      |
| E      | 2.30           | 2.40    | 2.50    |      |
| E1     | 1.50           | 1.60    | 1.70    |      |
| e      | 0.95BSC        |         |         |      |
| e1     | 1.80           | 1.90    | 2.00    |      |
| L      | 0.48           | 0.58    | 0.68    |      |
| L1     | 0.30           | —       | 0.50    |      |

※Recommend PCB solder land [Unit: mm]



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