

**2SA1436****High  $h_{FE}$ , AF Amplifier Applications****Applications**

- AF amplifier, various drivers, muting circuit.

**Features**

- Adoption of MBIT process.
- High DC current gain ( $h_{FE}=500$  to  $1200$ ).
- Large current capacity.
- Low collector-to-emitter saturation voltage ( $V_{CE(sat)}=0.5V$  max).
- High  $V_{EBO}$  ( $V_{EBO}\geq 15V$ ).

**Specifications****Absolute Maximum Ratings** at  $T_a = 25^\circ C$ 

| Parameter                    | Symbol    | Conditions | Ratings     | Unit       |
|------------------------------|-----------|------------|-------------|------------|
| Collector-to-Base Voltage    | $V_{CBO}$ |            | -60         | V          |
| Collector-to-Emitter Voltage | $V_{CEO}$ |            | -50         | V          |
| Emitter-to-Base Voltage      | $V_{EBO}$ |            | -15         | V          |
| Collector Current            | $I_C$     |            | -200        | mA         |
| Collector Current (Pulse)    | $I_{CP}$  |            | -300        | mA         |
| Collector Dissipation        | $P_C$     |            | 600         | mW         |
| Junction Temperature         | $T_j$     |            | 150         | $^\circ C$ |
| Storage Temperature          | $T_{stg}$ |            | -55 to +150 | $^\circ C$ |

**Electrical Characteristics** at  $T_a = 25^\circ C$ 

| Parameter                               | Symbol        | Conditions                | Ratings |       |      | Unit    |
|---|---------------|---------------------------|---------|-------|------|---------|
|   |               |                           | min     | typ   | max  |         |
| Collector Cutoff Current                | $I_{CBO}$     | $V_{CB}=-40V, I_E=0$      |         |       | -0.1 | $\mu A$ |
| Emitter Cutoff Current                  | $I_{EBO}$     | $V_{EB}=-10V, I_C=0$      |         |       | -0.1 | $\mu A$ |
| DC Current Gain                         | $h_{FE1}$     | $V_{CE}=-5V, I_C=-10mA$   | 500     | 800   | 1200 |         |
|   | $h_{FE2}$     | $V_{CE}=-5V, I_C=-100mA$  | 200     |       |      |         |
| Gain-Bandwidth Product                  | $f_T$         | $V_{CE}=-10V, I_C=-10mA$  |         | 100   |      | MHz     |
| Output Capacitance                      | $C_{ob}$      | $V_{CB}=-10V, f=1MHz$     |         | 7.5   |      | pF      |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=-100mA, I_B=-2mA$    |         | -0.2  | -0.5 | V       |
| Base-to-Emitter Saturation Voltage      | $V_{BE(sat)}$ | $I_C=-100mA, I_B=-2mA$    |         | -0.75 | -1.1 | V       |
| Collector-to-Base Breakdown Voltage     | $V_{(BR)CBO}$ | $I_C=-10\mu A, I_E=0$     | -60     |       |      | V       |
| Collector-to-Emitter Breakdown Voltage  | $V_{(BR)CEO}$ | $I_C=-1mA, R_{BE}=\infty$ | -50     |       |      | V       |
| Emitter-to-Base Breakdown Voltage       | $V_{(BR)EBO}$ | $I_E=-10\mu A, I_C=0$     | -15     |       |      | V       |

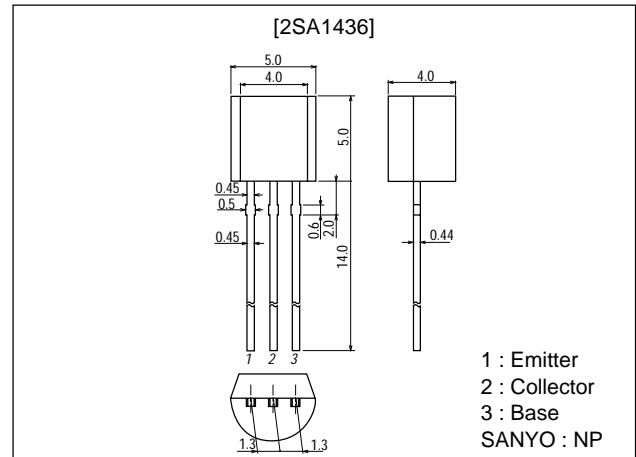
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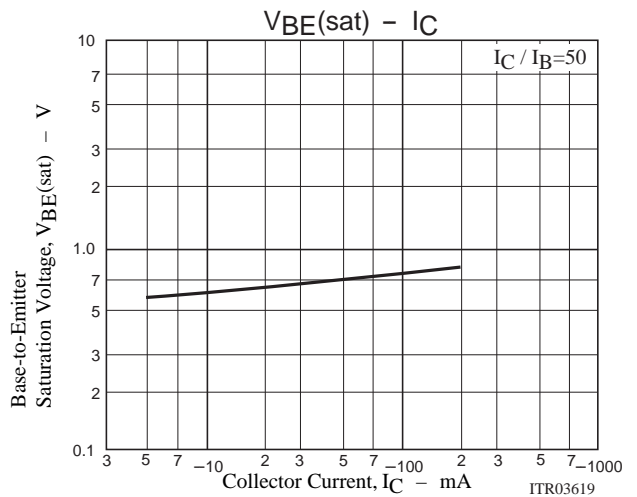
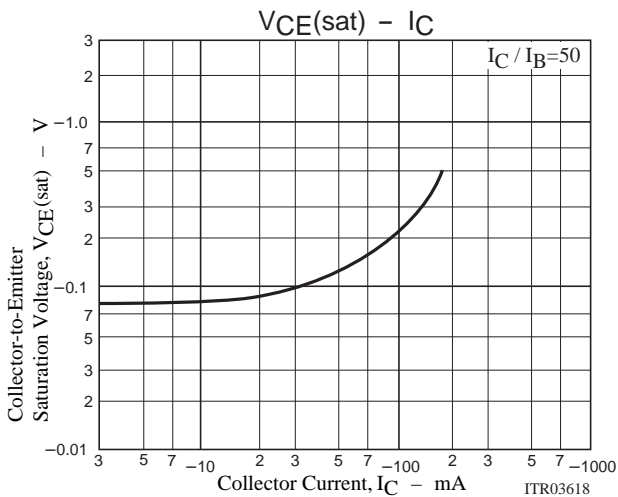
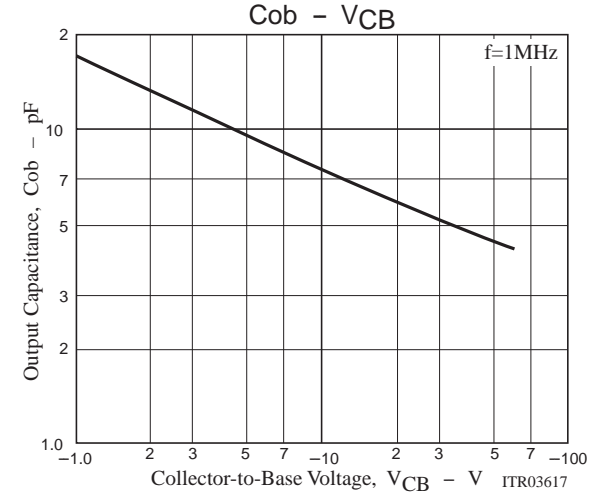
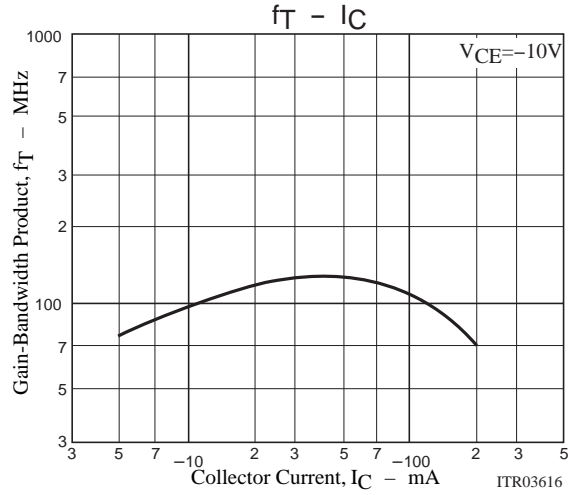
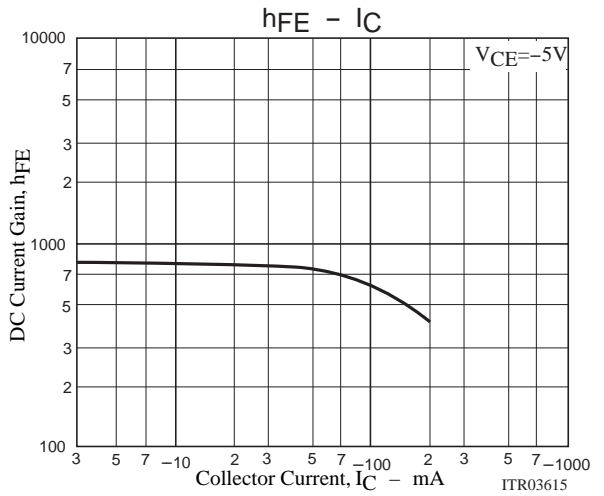
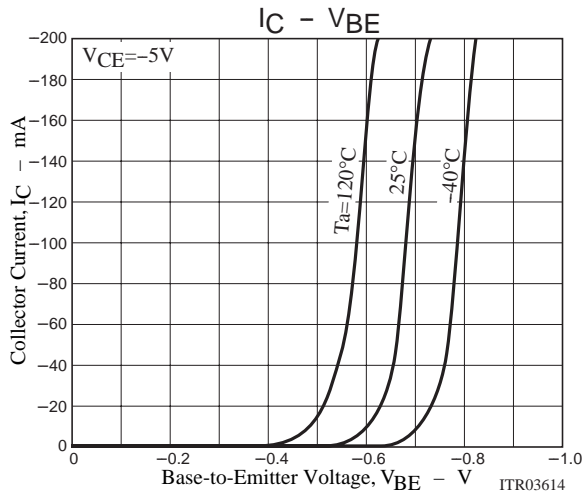
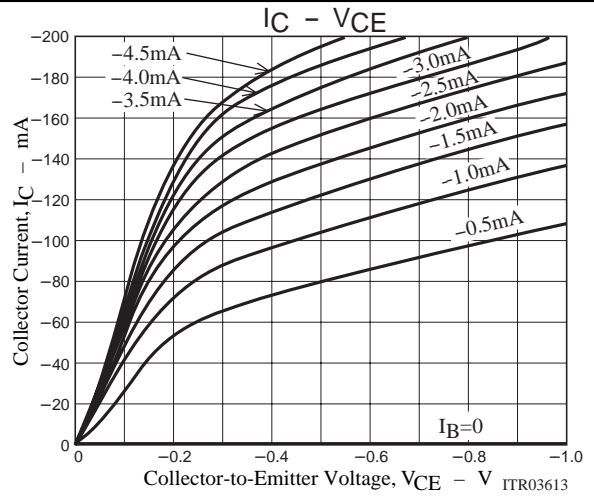
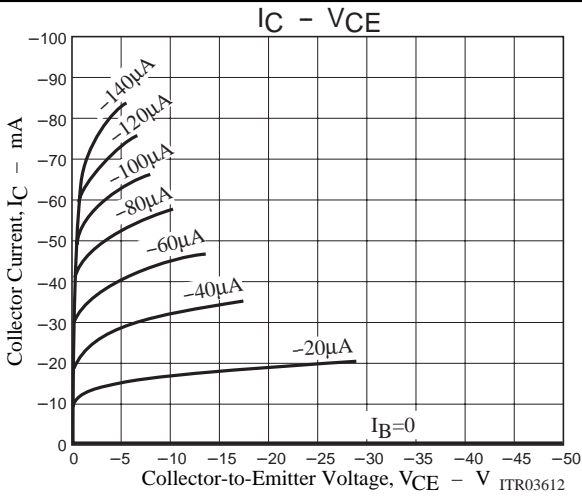
**Package Dimensions**

unit:mm

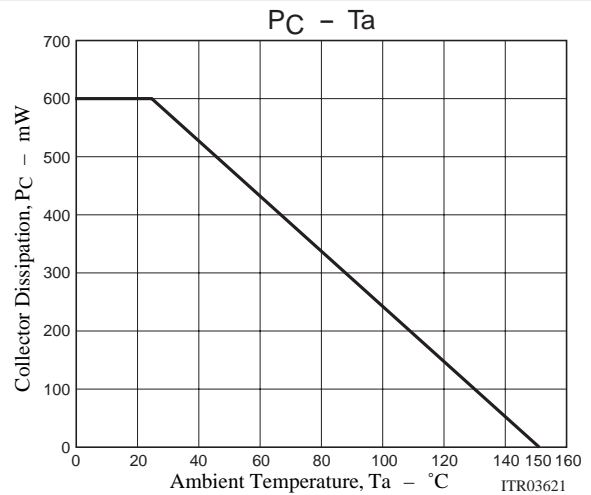
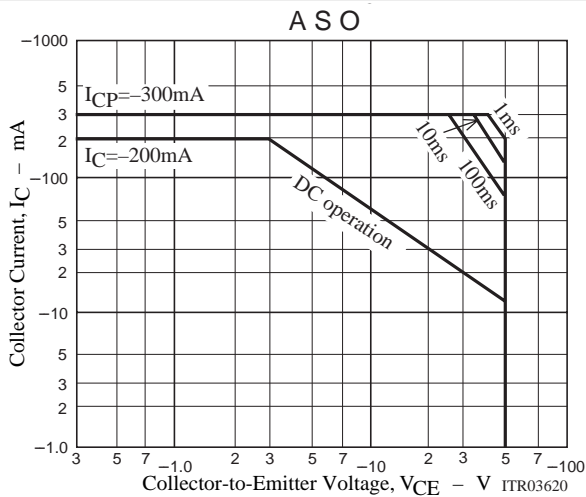
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