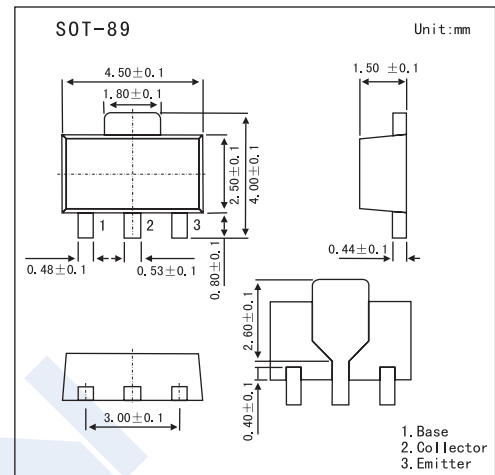


## High Voltage Control Applications

## 2SA1384

## ■ Features

- High Voltage:  $V_{CB0} = -300V$ ,  $V_{CEO} = -300V$
- Low Saturation Voltage:  $V_{CE(sat)} = -0.5V$  (max)
- Small Collector Output Capacitance:  $C_{ob} = 6pF$
- $P_c = 1$  to  $2W$  (mounted on ceramic substrate)
- Small Flat Package
- Complementary to 2SC3515

■ Absolute Maximum Ratings  $T_a = 25^\circ C$ 

| Parameter                   | Symbol    | Rating      | Unit       |
|-----------------------------|-----------|-------------|------------|
| Collector-Base Voltage      | $V_{CB0}$ | -300        | V          |
| Collector-Emitter Voltage   | $V_{CEO}$ | -300        | V          |
| Emitter-Base Voltage        | $V_{EB0}$ | -8          | V          |
| Collector Current           | $I_c$     | -100        | mA         |
| Base Current                | $I_B$     | -20         | mA         |
| Collector Power Dissipation | $P_c$     | 500         | mW         |
|                             | $P_{c^*}$ | 1000        |            |
| Jumction temperature        | $T_j$     | 150         | $^\circ C$ |
| Storage temperature Range   | $T_{stg}$ | -55 to +150 | $^\circ C$ |

\* 2SA1384 mounted on ceramic substrate (250 mm<sup>2</sup> x 0.8 t)

■ Electrical Characteristics  $T_a = 25^\circ C$ 

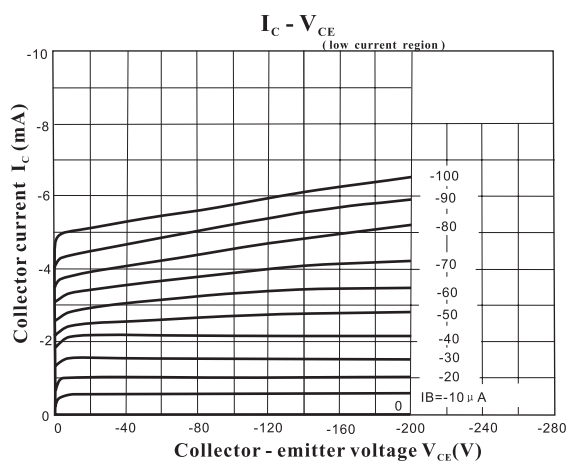
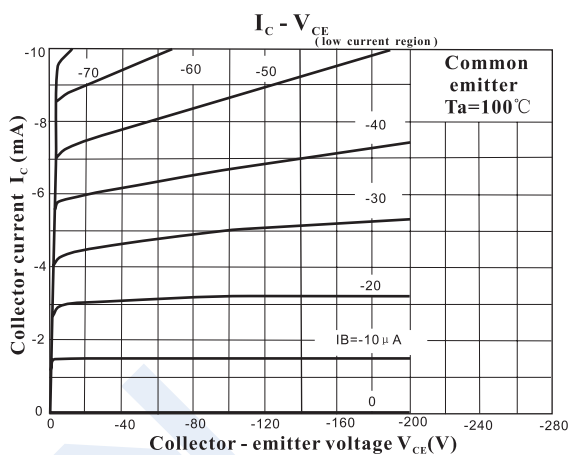
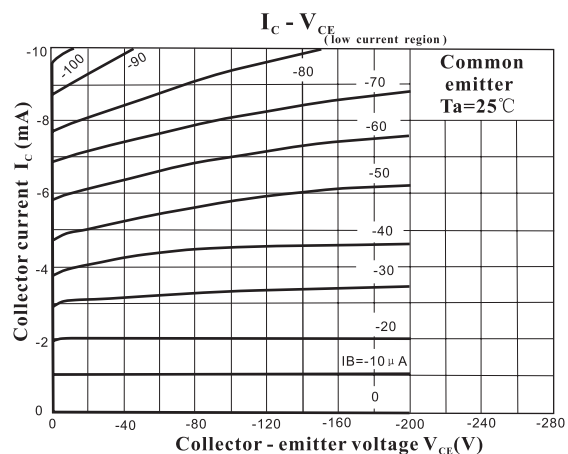
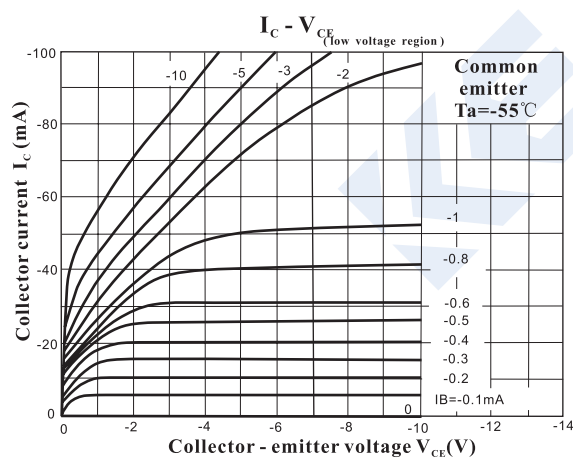
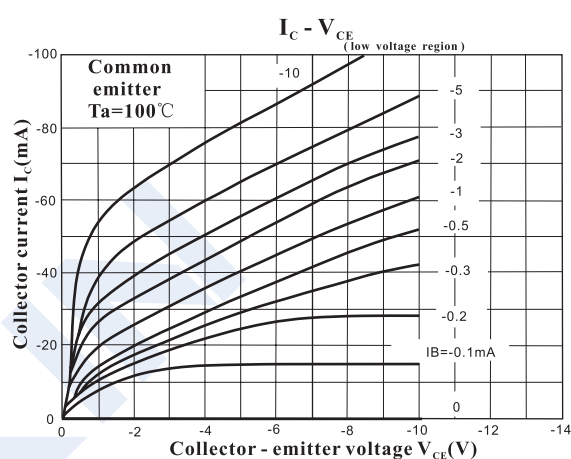
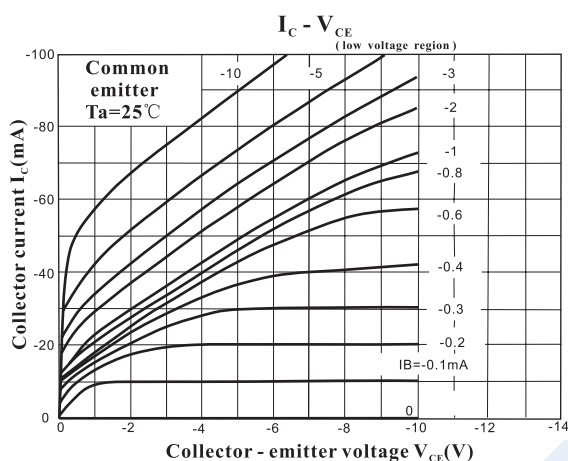
| Parameter                            | Symbol        | Testconditons                            | Min  | Typ | Max  | Unit    |
|--------------------------------------|---------------|------------------------------------------|------|-----|------|---------|
| Collector Cut-off Current            | $I_{CBO}$     | $V_{CB} = -300V$ , $I_E = 0$             |      |     | -0.1 | $\mu A$ |
| Emitter Cut-off Current              | $I_{EBO}$     | $V_{EB} = -8V$ , $I_C = 0$               |      |     | -0.1 | $\mu A$ |
| Collector-base Breakdown Voltage     | $V_{(BR)CBO}$ | $I_C = -0.1mA$ , $I_E = 0$               | -300 |     |      | V       |
| Collector-emitter Breakdown Voltage  | $V_{(BR)CEO}$ | $I_C = -1mA$ , $I_B = 0$                 | -300 |     |      | V       |
| DC Current Gain                      | $h_{FE}$      | $V_{CE} = -10V$ , $I_C = -20mA$          | 30   |     | 150  |         |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = -20mA$ , $I_B = -2mA$             |      |     | -0.5 | V       |
| Base-emitter Saturation Voltage      | $V_{BE(sat)}$ | $I_C = -20mA$ , $I_B = -2mA$             |      |     | -1.0 | V       |
| Transition Frequency                 | $f_T$         | $V_{CE} = -10V$ , $I_C = -20mA$          | 50   | 70  |      | MHz     |
| Collector Output Capacitance         | $C_{ob}$      | $V_{CB} = -20V$ , $I_E = 0$ , $f = 1MHz$ |      | 6   | 8    | pF      |

## 2SA1384

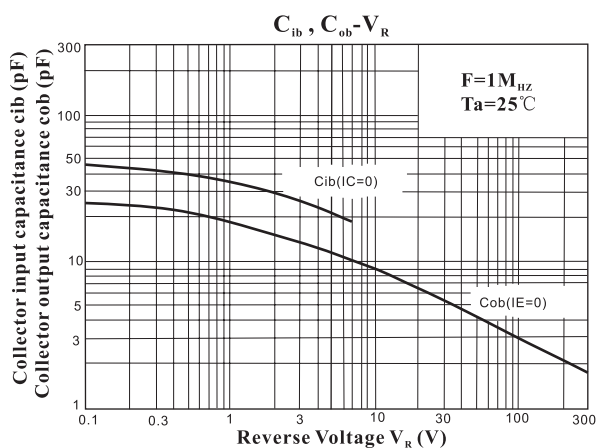
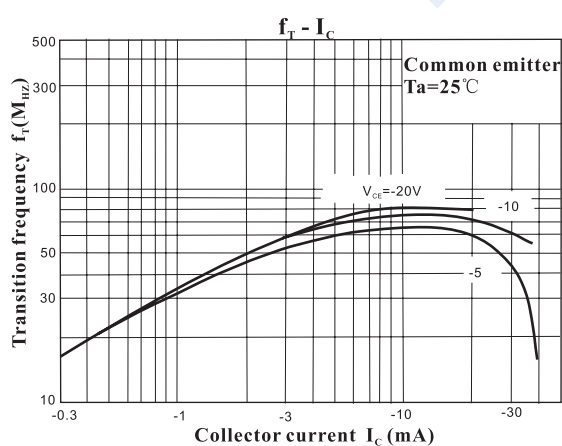
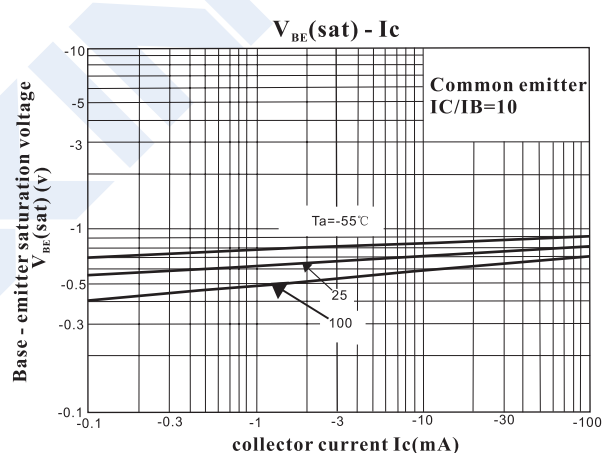
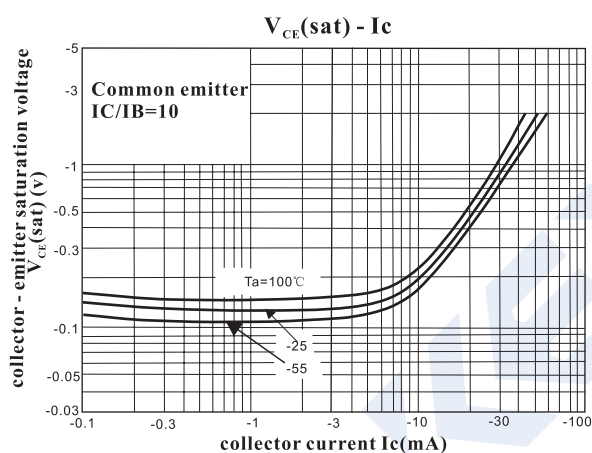
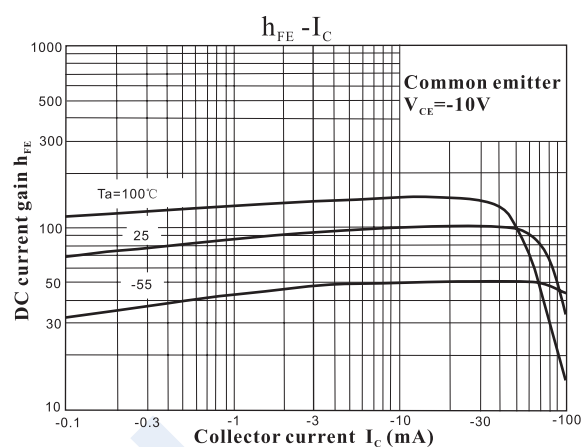
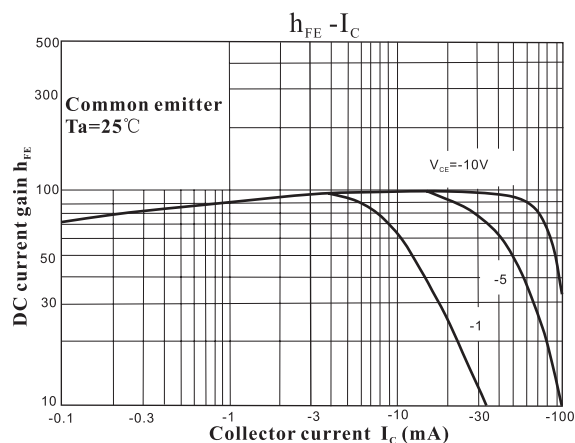
## ■ hFE Classification

| Marking | J       |          |
|---------|---------|----------|
| Rank    | R       | O        |
| hFE     | 30 ~ 90 | 50 ~ 150 |

## ■ Electrical Characteristics Curves



## 2SA1384



## 2SA1384

