

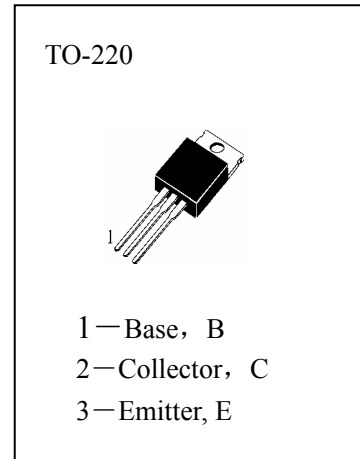
# HA1011

## APPLICATIONS

High Voltage switching, AF Power Amp.

## ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub>=25°C)

|                  |  |           |
|------------------|--|-----------|
| T <sub>stg</sub> | Storage Temperature                          | -55~150°C |
| T <sub>j</sub>   | Junction Temperature                         | 150°C     |
| P <sub>C</sub>   | Collector Dissipation (T <sub>c</sub> =25°C) | 25W       |
| V <sub>CBO</sub> | Collector-Base Voltage                       | -180V     |
| V <sub>CEO</sub> | Collector-Emitter Voltage                    | -160V     |
| V <sub>EBO</sub> | Emitter-Base Voltage                         | -6V       |
| I <sub>C</sub>   | Collector Current (DC)                       | -1.5A     |
| I <sub>CP</sub>  | Collector Current (Pulse)                    | -3A       |

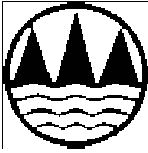


## ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C)

| Symbol               | Characteristics                       | Min  | Typ  | Max  | Unit | Test Conditions                               |
|----------------------|---------------------------------------|------|------|------|------|---|
| BV <sub>CBO</sub>    | Collector-Base Breakdown Voltage      | -180 |      |      | V    | I <sub>C</sub> =-1mA, I <sub>E</sub> =0       |
| BV <sub>CEO</sub>    | Collector-Emitter Breakdown Voltage   | -160 |      |      | V    | I <sub>C</sub> =-1mA, I <sub>B</sub> =0       |
| BV <sub>EBO</sub>    | Emitter-Base Breakdown Voltage        | -6   |      |      | V    | I <sub>E</sub> =-1mA, I <sub>C</sub> =0       |
| I <sub>CBO</sub>     | Collector Cutoff Current              |      |      | -10  | μ A  | V <sub>CB</sub> =-120V, I <sub>E</sub> =0     |
| I <sub>EBO</sub>     | Emitter-Base Cutoff Current           |      |      | -10  | μ A  | V <sub>EB</sub> =-4V, I <sub>C</sub> =0       |
| h <sub>FE</sub>      | DC Current Gain                       | 60   |      | 200  |      | V <sub>CE</sub> =-5V, I <sub>C</sub> =-300mA  |
| V <sub>CE(sat)</sub> | Collector- Emitter Saturation Voltage |      | -0.5 | -1.0 | V    | I <sub>C</sub> =-500mA, I <sub>B</sub> =-50mA |
| V <sub>BE</sub>      | Base- Emitter Voltage                 |      |      | -1.5 | V    | V <sub>CE</sub> =-5V, I <sub>C</sub> =-10A    |
| C <sub>ob</sub>      | Output Capacitance                    |      | 30   |      | pF   | V <sub>CB</sub> =-10V, f=1MHz                 |
| f <sub>T</sub>       | Current Gain-Bandwidth Product        |      | 100  |      | MHZ  | V <sub>CE</sub> =-10V, I <sub>C</sub> =-50mA  |
| t <sub>on</sub>      | Turn-On Time                          | 0.29 |      |      | μ S  |   |
| t <sub>f</sub>       | Fall Time                             | 0.19 |      |      | μ S  | See specified test circuit                    |
| t <sub>stg</sub>     | Storage Time                          | 0.48 |      |      | μ S  |   |

## h<sub>FE</sub> Classification

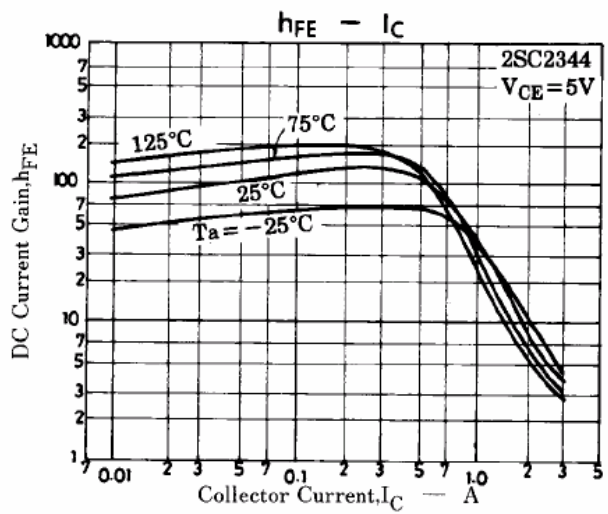
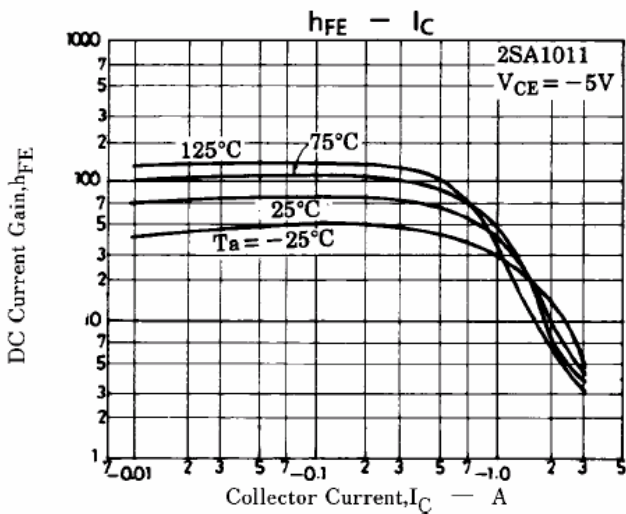
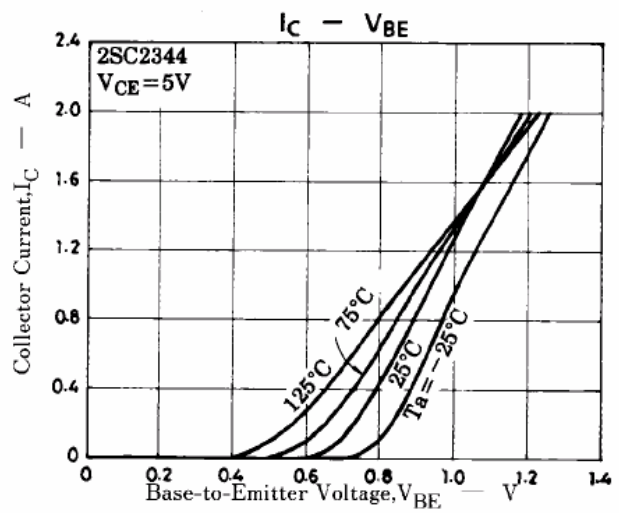
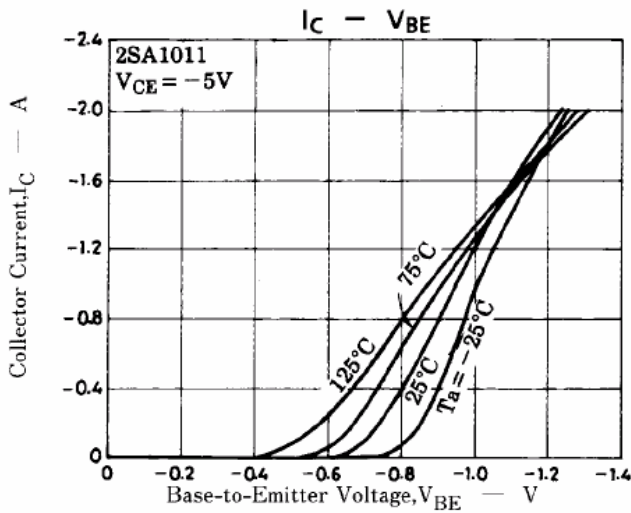
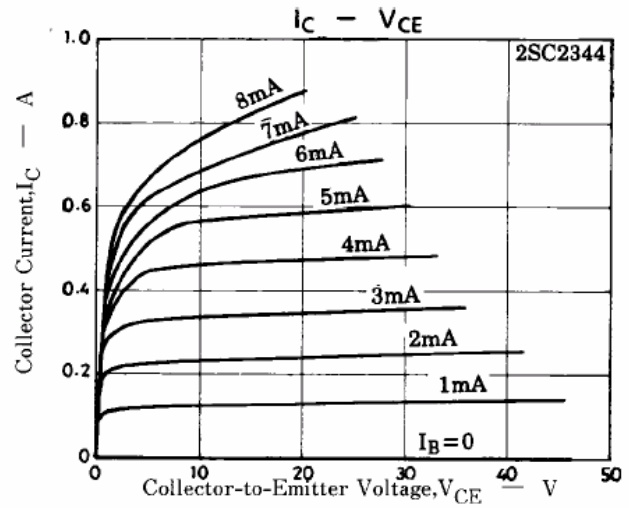
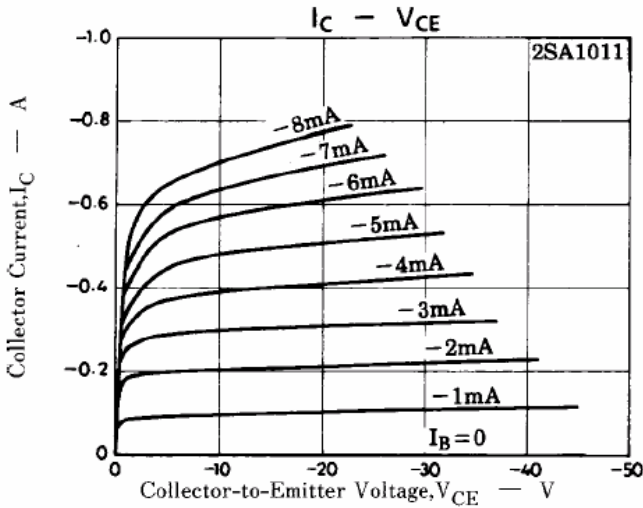
| D      | E       |
|--------|---------|
| 60—120 | 100—200 |

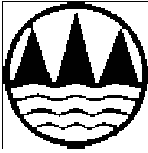


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