

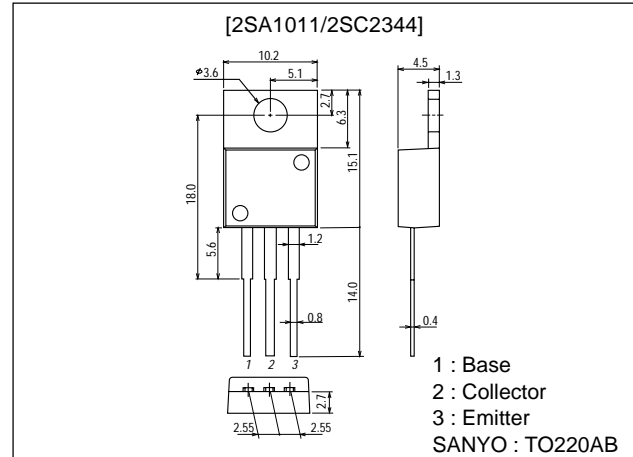


2SA1011/2SC2344

High-Voltage Switching, AF Power Amp, 100W Output Predriver Applications

Package Dimensions

unit:mm
2010C



() : 2SA1011

Specifications

Absolute Maximum Ratings at Ta = 25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|-----------|------------|-------------|------|
| Collector-to-Base Voltage | V_{CB0} | | (-)180 | V |
| Collector-to-Emitter Voltage | V_{CEO} | | (-)160 | V |
| Emitter-to-Base Voltage | V_{EBO} | | (-)6 | V |
| Collector Current | I_C | | (-)1.5 | A |
| Collector Current (Pulse) | I_{CP} | | (-)3 | A |
| Collector Dissipation | P_C | Tc=25°C | 25 | W |
| Junction Temperature | Tj | | 150 | °C |
| Storage Temperature | Tstg | | -55 to +150 | °C |

Electrical Characteristics at Ta = 25°C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--------------------------|-----------|------------------------------|---------|------|--------|------|
| | | | min | typ | max | |
| Collector Cutoff Current | I_{CBO} | $V_{CB}=(-)120V, I_E=0$ | | | (-)10 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB}=(-)4V, I_C=0$ | | | (-)10 | μA |
| DC Current Gain | h_{FE} | $V_{CE}=(-)5V, I_C=(-)300mA$ | 60* | | 200* | |
| Gain-Bandwidth Product | f_T | $V_{CE}=(-)10V, I_C=(-)50mA$ | | 100 | | MHz |
| Output Capacitance | C_{ob} | $V_{CB}=(-)10V, f=1MHz$ | | (30) | | pF |
| Base-to-Emitter Voltage | V_{BE} | $V_{CE}=(-)5V, I_C=(-)10mA$ | | | (-)1.5 | V |

* : The 2SA1011/2SC2344 are classified by 300mA h_{FE} as follows :

Continued on next page.

| Rank | D | E |
|----------|-----------|------------|
| h_{FE} | 60 to 120 | 100 to 200 |

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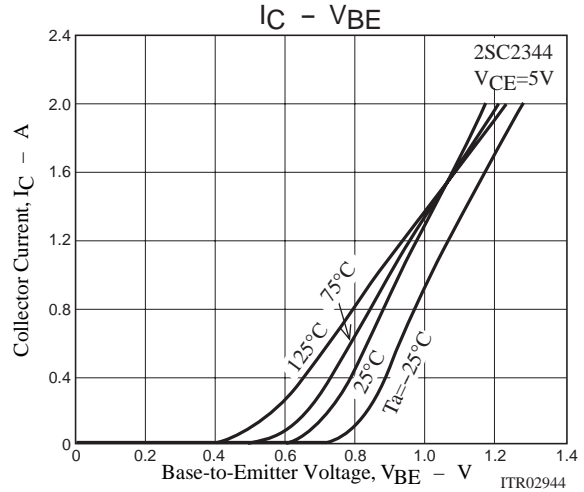
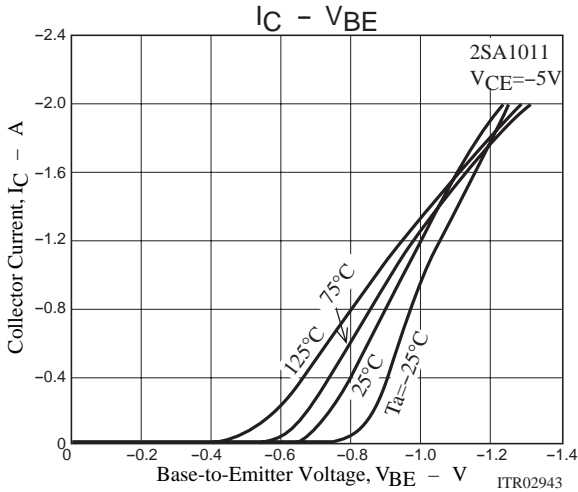
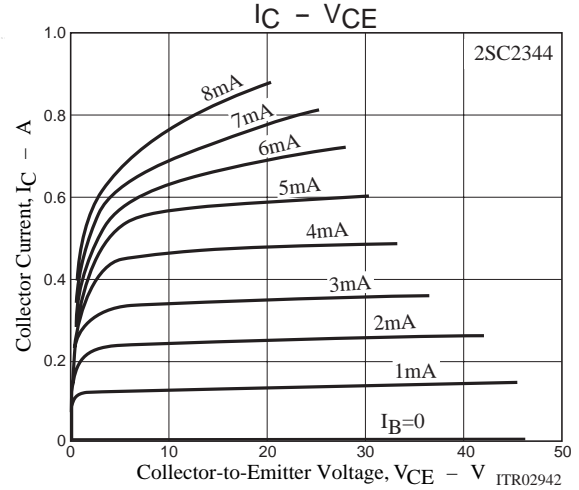
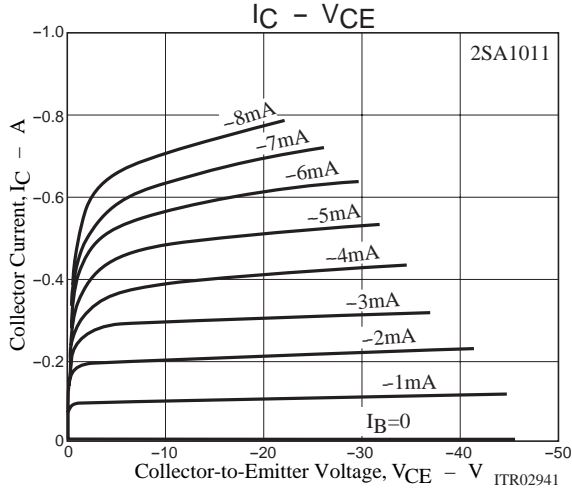
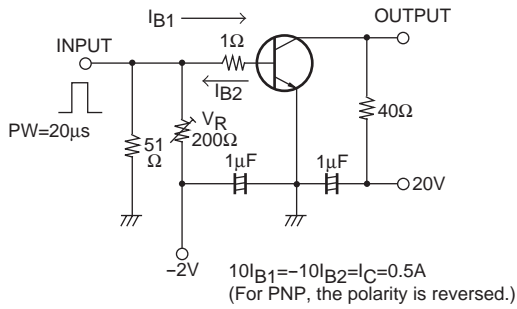
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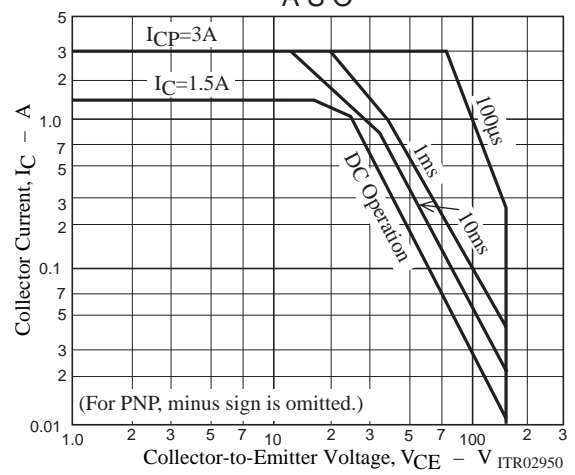
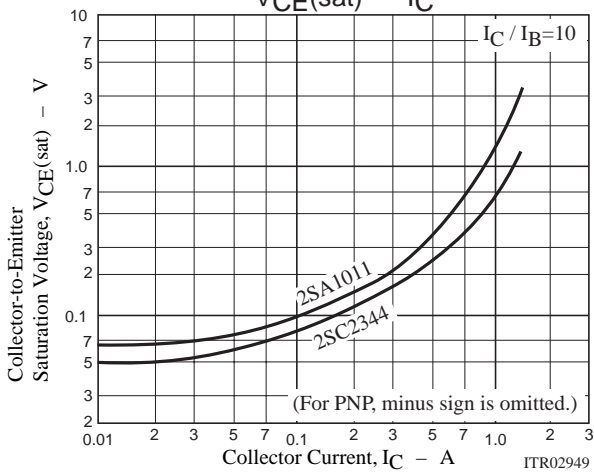
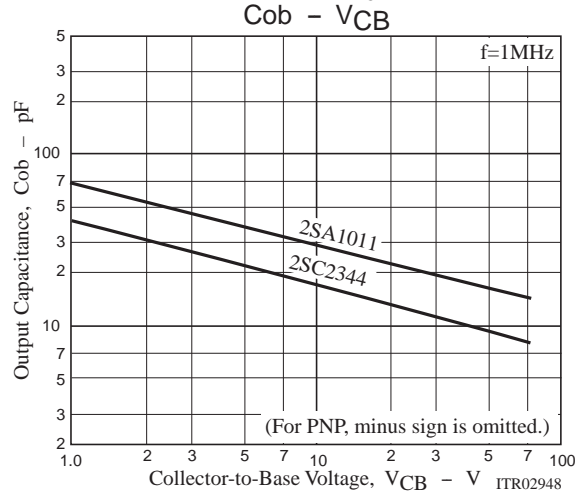
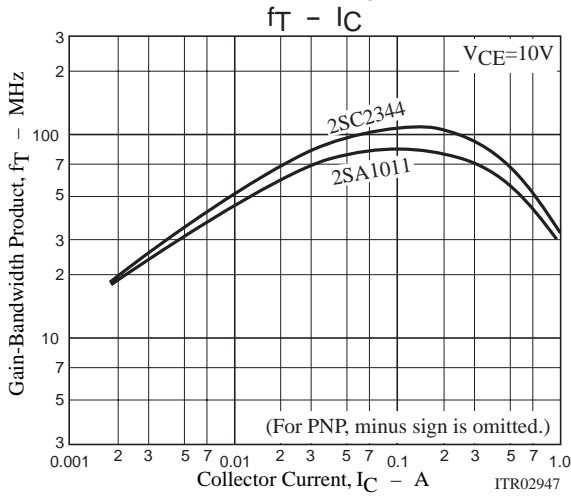
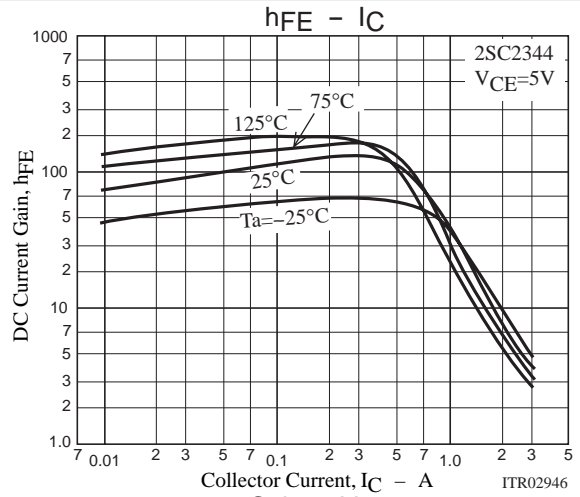
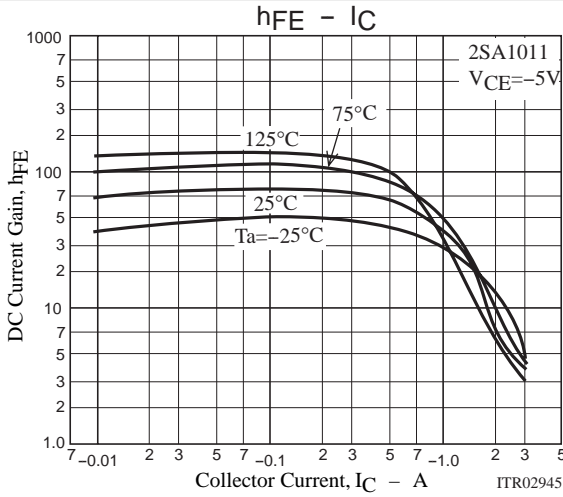
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---------------|-----------------------------|---------|----------------|-----|---------|
| | | | min | typ | max | |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=(-)500mA, I_B=(-)50mA$ | | (-0.5) | | V |
| | | | | 0.3 | | V |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C=(-)1mA, I_E=0$ | (-)180 | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C=(-)1mA, R_{BE}=\infty$ | (-)160 | | | V |
| Emitter-to-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E=(-)10mA, I_C=0$ | (-)6 | | | V |
| Turn-ON Time | t_{on} | See specified Test Circuit | | (0.29) 0.15 | | μs |
| Fall Time | t_f | See specified Test Circuit | | (0.19) 0.48 | | μs |
| Storage Time | t_{stg} | See specified Test Circuit | | (0.48) 0.81 | | μs |

Switching Time Test Circuit



2SA1011/2SC2344



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