



SANYO Semiconductors

DATA SHEET

2SA1011P / 2SC2344P

PNP / NPN Epitaxial Planar Silicon Transistors
**High-Voltage Switching, AF Power Amp,
 100W Output Predriver Applications**

Specifications () : 2SA1011P

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 | T _C =25°C | 30 | W |
| Junction Temperature | T _J | | 150 | °C |
| Storage Temperature | T _{stg} | | -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 =0A | | | (-)10 | μA |
| Emitter Cutoff Current | I _{EBO} | V _{EB} =(-)4V, I _C =0A | | | (-)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)23 | | pF |
| Base-to-Emitter Voltage | V _{BE} | V _{CE} =(-)5A, I _C =(-)10mA | | | (-)1.5 | V |
| Collector-to-Emitter Saturation Voltage | V _{CE(sat)} | I _C =(-)500mA, I _B =(-)50mA | | (-0.5)0.3 | | V |
| Collector-to-Base Breakdown Voltage | V _{(BR)CBO} | I _C =(-)1mA, I _E =0A | (-)180 | | | V |
| Collector-to-Emitter Breakdown Voltage | V _{(BR)CEO} | I _C =(-)1mA, R _{BE} =∞ | (-)160 | | | V |
| Emitter-to-Base Breakdown Voltage | V _{(BR)EBO} | I _E =(-)1mA, I _C =0A | (-)6 | | | V |

Continued on next page.

* : The 2SA1011P/2SC2344P are classified by 300mA h_{FE} as follows :

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

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62707DA TI IM TC-0000697 No.8522-1/4

2SA1011P / 2SC2344P

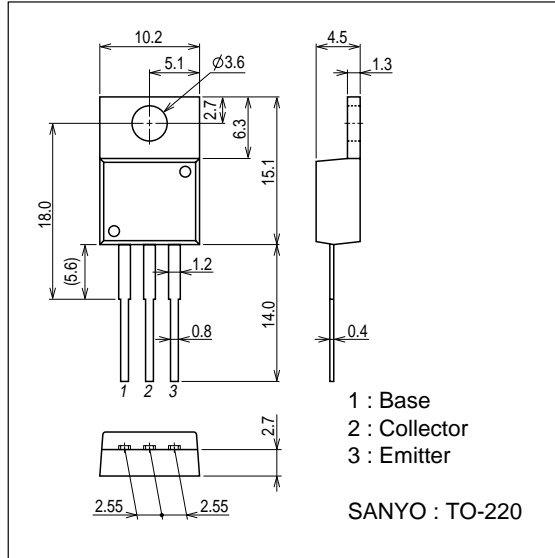
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--------------|-----------|-----------------------------|---------|------------|-----|---------|
| | | | min | typ | max | |
| Turn-On Time | t_{on} | See specified Test Circuit. | | (0.29)0.15 | | μs |
| Storage Time | t_{stg} | See specified Test Circuit. | | (0.48)0.81 | | μs |
| Fall Time | t_f | See specified Test Circuit. | | (0.19)0.48 | | μs |

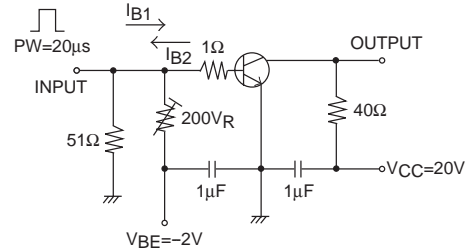
Package Dimensions

unit : mm (typ)

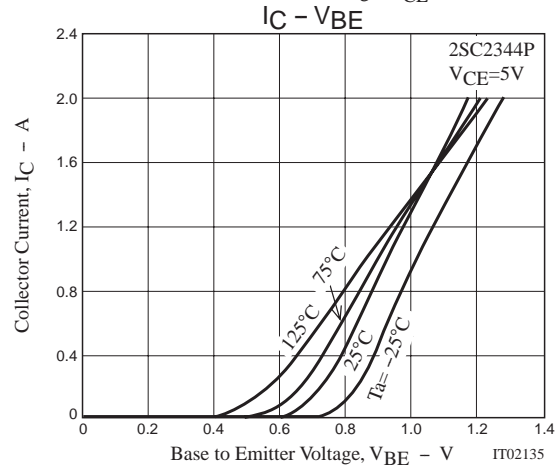
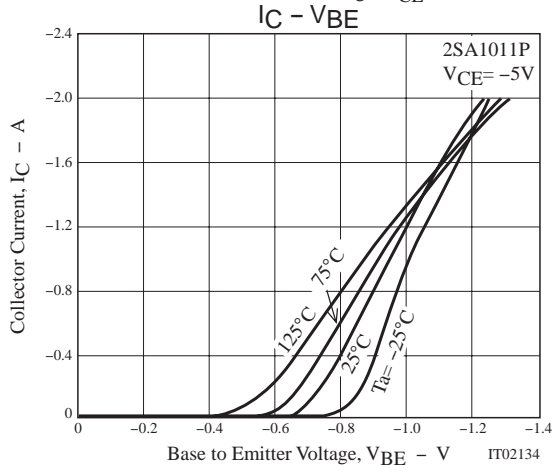
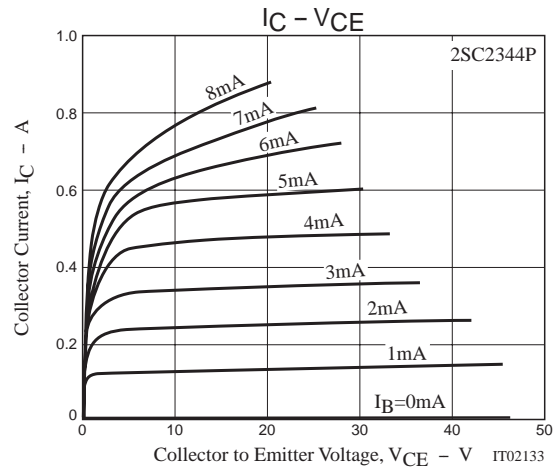
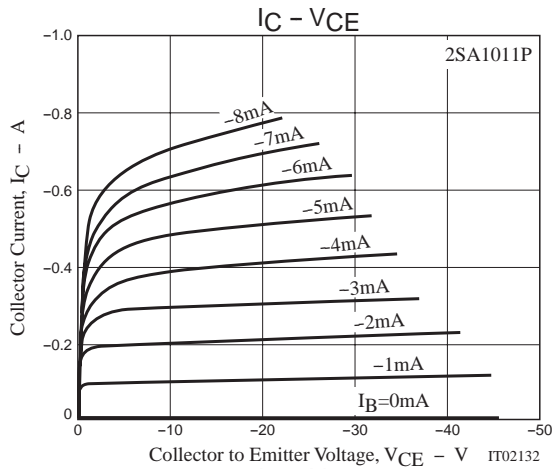
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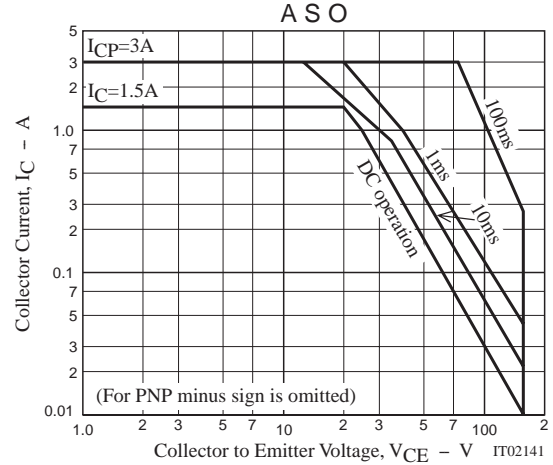
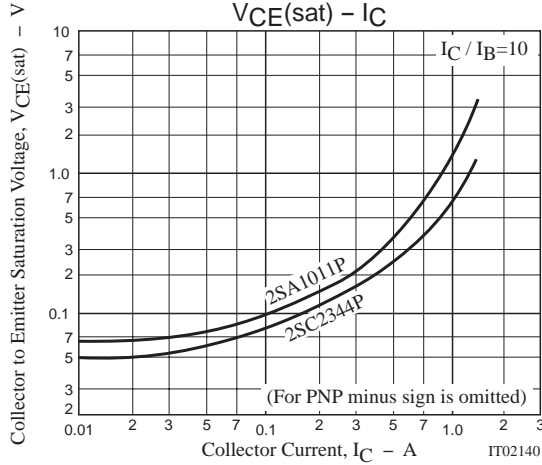
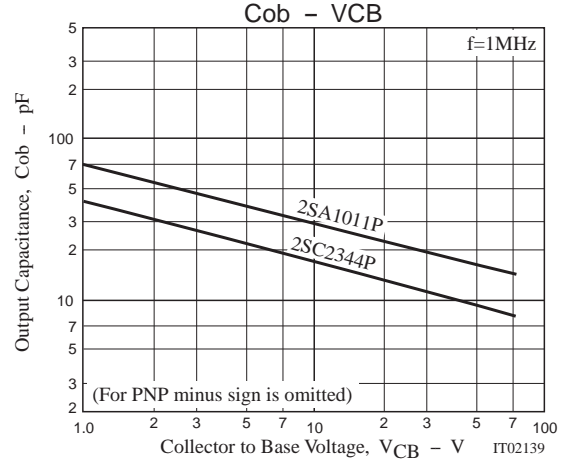
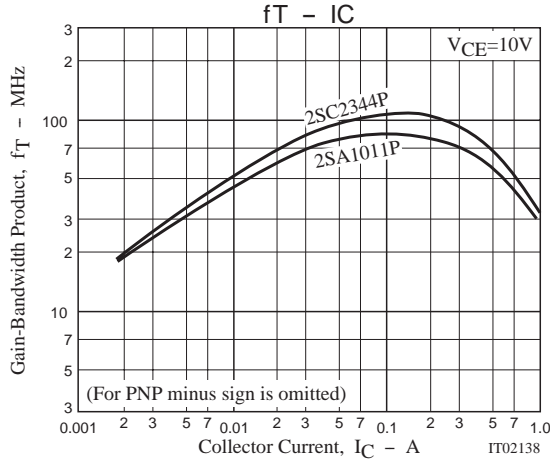
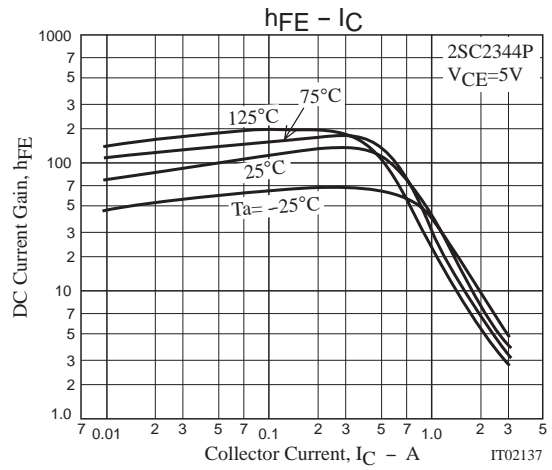
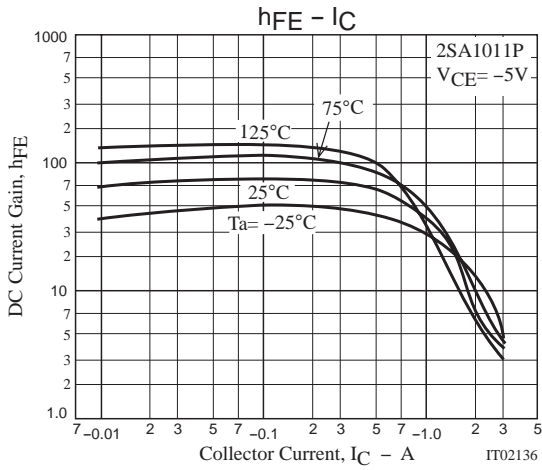
Switching Time Test Circuit



$I_C=10I_{B1}=-10I_{B2}=0.5A$
For PNP, minus sign is omitted.



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