



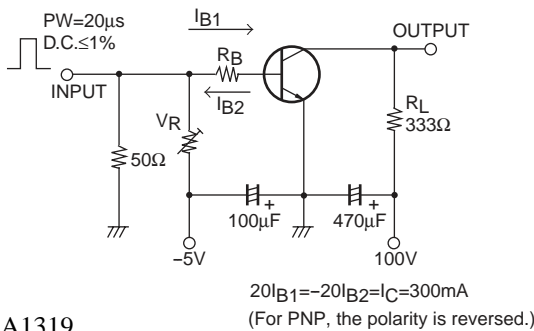
2SA1319/2SC3332

High-Voltage Switching Applications

Features

- High breakdown voltage.
- Excellent h_{FE} linearity.
- Wide ASO and highly resistant to breakdown.
- Adoption of MBIT process.

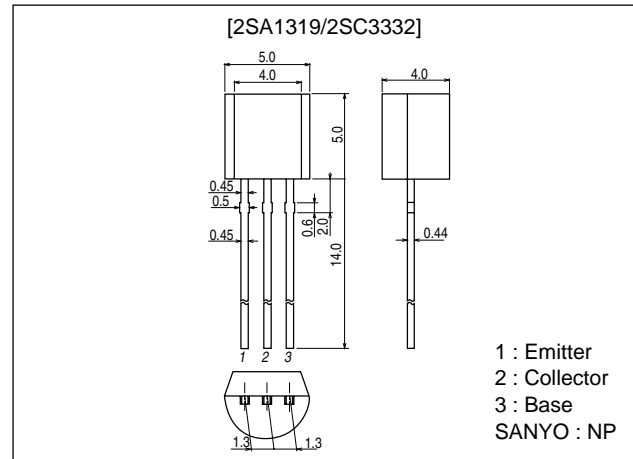
Switching Test Circuit



() : 2SA1319

Package Dimensions

unit:mm
2003B



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 | | (-)0.7 | A |
| Collector Current (Pulse) | I_{CP} | | (-)1.5 | A |
| Collector Dissipation | P_C | | 700 | mW |
| 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} | $V_{CB}=(-)120V, I_E=0$ | | | (-)0.1 | µA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB}=(-)4V, I_C=0$ | | | (-)0.1 | µA |
| DC Current Gain | h_{FE1} | $V_{CE}=(-)5V, I_C=(-)100mA$ | 100* | | 400* | |
| | h_{FE2} | $V_{CE}=(-)5V, I_C=(-)10mA$ | 80 | | | |

* : The 2SA1319/2SC3332 are classified by 100mA h_{FE} as follows :

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| Rank | R | S | T |
|----------|------------|------------|------------|
| h_{FE} | 100 to 200 | 140 to 280 | 200 to 400 |

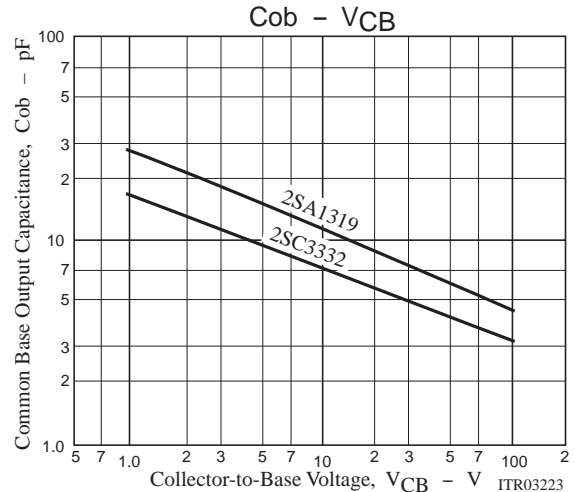
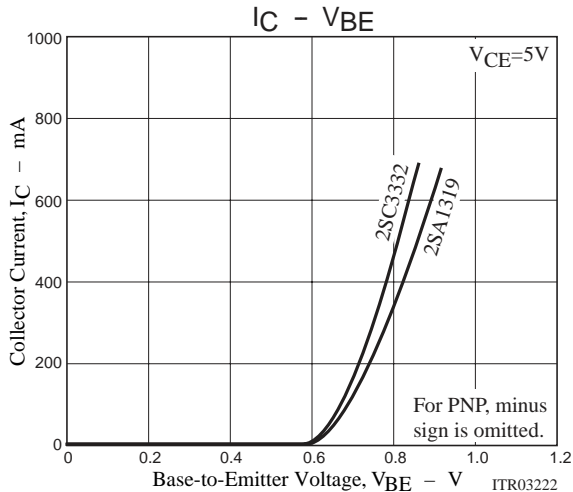
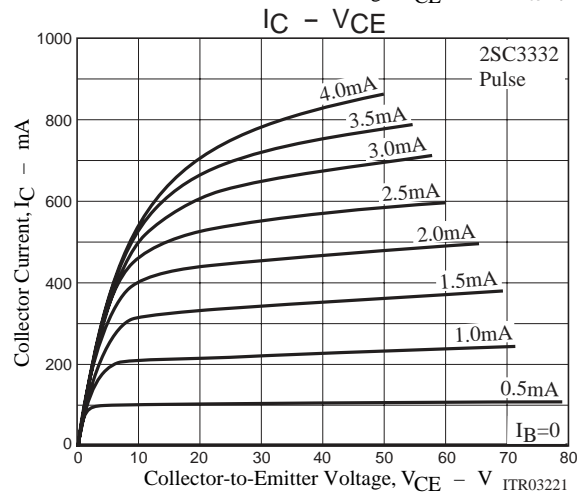
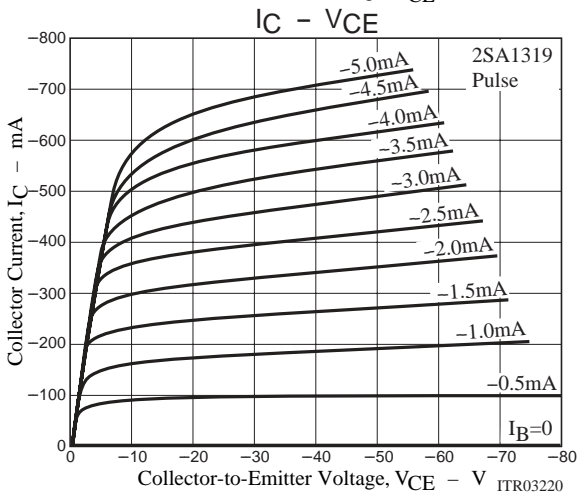
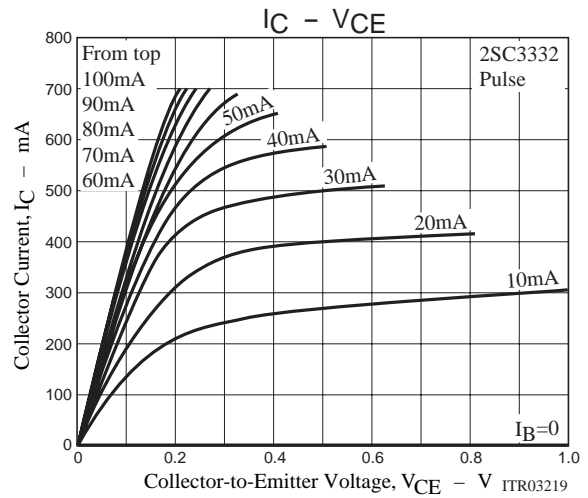
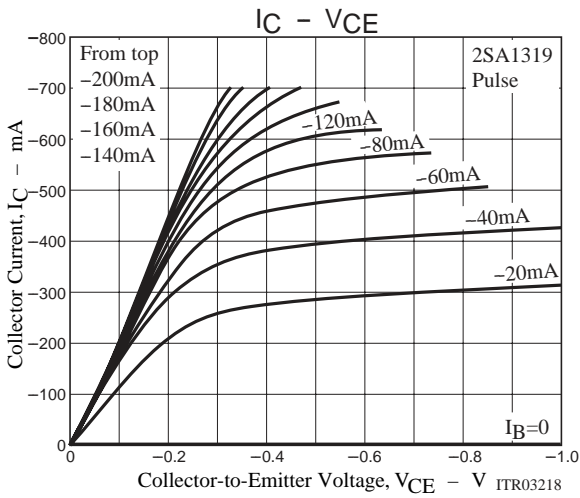
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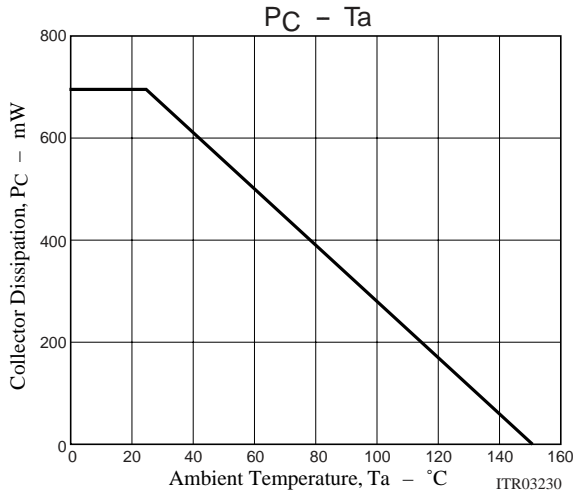
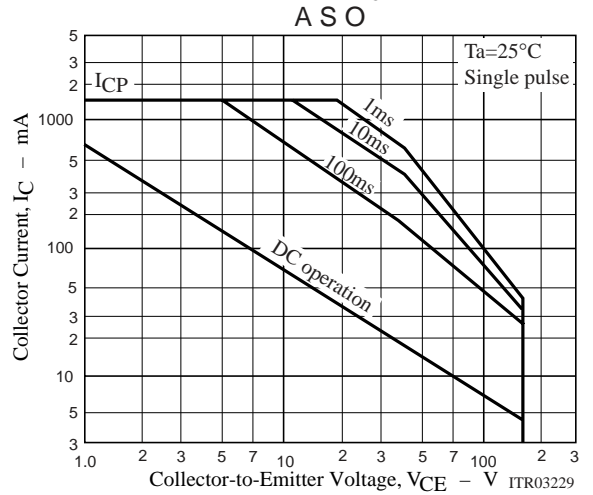
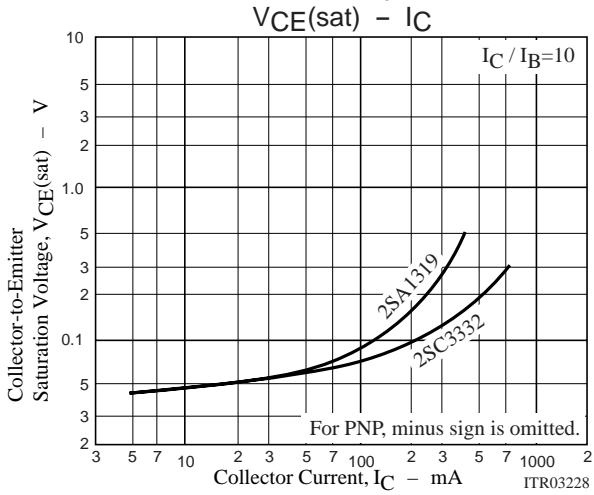
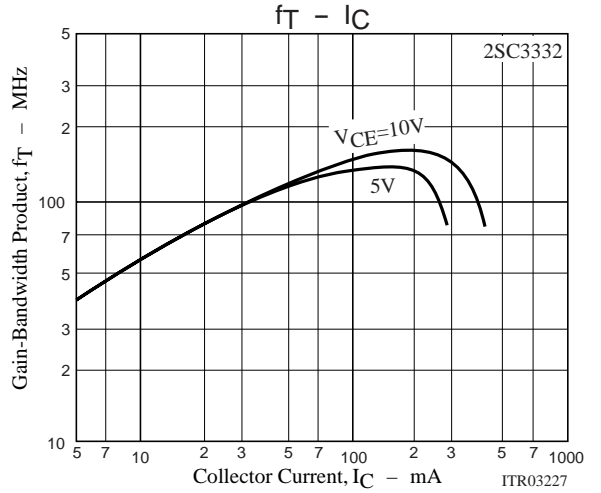
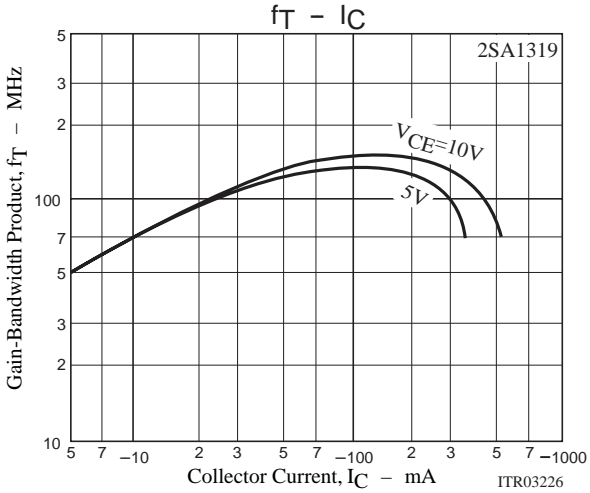
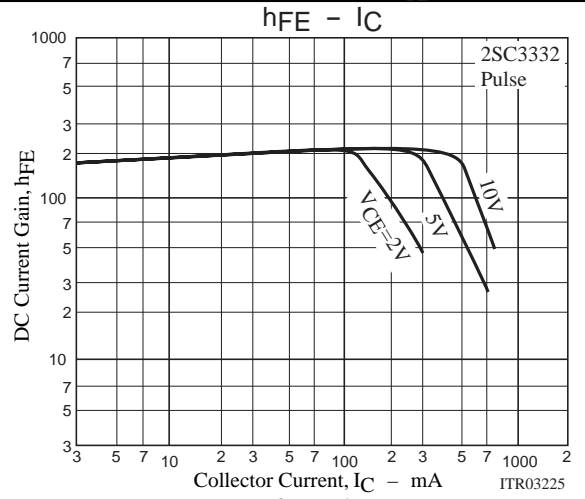
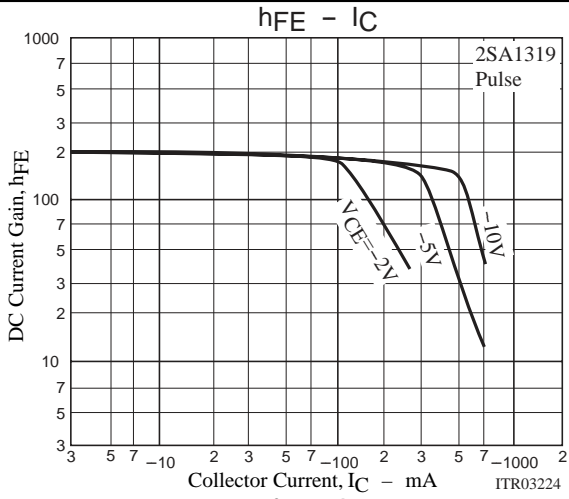
2SA1319/2SC3332

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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---------------|------------------------------|---------|----------------|--------------|------|
| | | | min | typ | max | |
| Gain Bandwidth Product | f_T | $V_{CE}=(-)10V, I_C=(-)50mA$ | | 120 | | MHz |
| Common Base Output Capacitance | C_{ob} | $V_{CB}=(-)10V$ | | (11)8 | | pF |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=(-)250mA, I_B=(-)25mA$ | | (0.20) 0.12 | (0.5) 0.4 | V |
| Base-to-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C=(-)250mA, I_B=(-)25mA$ | | (-)0.85 | (-)1.2 | V |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C=(-)10\mu A, I_E=0$ | (-)180 | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C=(-)1mA, R_{BE}=\infty$ | (-)160 | | | V |
| Emitter-to-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E=(-)10\mu A, I_C=0$ | (-)6 | | | V |
| Turn-ON Time | t_{on} | See specified Test Circuit | | (60)50 | | ns |
| Storage Time | t_{stg} | See specified Test Circuit | | (900) 1000 | | ns |
| Fall Time | t_f | See specified Test Circuit | | (60)60 | | ns |



2SA1319/2SC3332



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