

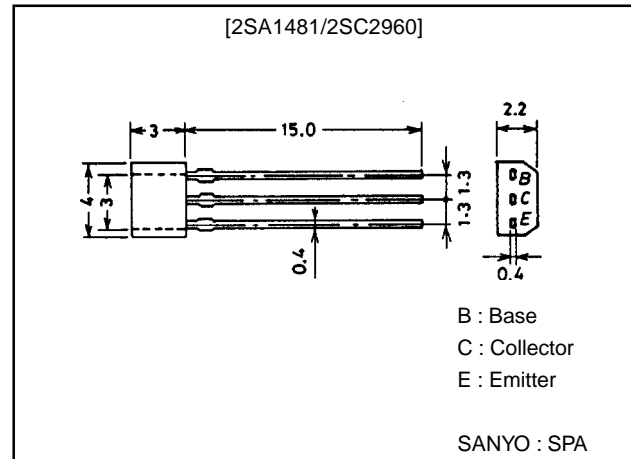
2SA1481/2SC2960**High-Speed Switching Applications****Features**

- Fast switching speed.
- High breakdown voltage.

Package Dimensions

unit:mm

2033



() : 2SA1481

Specifications**Absolute Maximum Ratings at Ta = 25°C**

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|-----------|------------|-------------|------|
| Collector-to-Base Voltage | V_{CB0} | | (-)60 | V |
| Collector-to-Emitter Voltage | V_{CEO} | | (-)50 | V |
| Emitter-to-Base Voltage | V_{EBO} | | (-)5 | V |
| Collector Current | I_C | | (-)150 | mA |
| Peak Collector Current | I_{CP} | | (-)400 | mA |
| Collector Dissipation | P_C | | 250 | mW |
| Junction Temperature | T_J | | 150 | °C |
| Storage Temperature | T_{stg} | | -55 to +150 | °C |

Electrical Characteristic at Ta = 25°C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---------------|---------------------------------|---------|---------|--------|---------|
| | | | min | typ | max | |
| Collector Cutoff Current | I_{CBO} | $V_{CB} = (-)400V, I_E = 0$ | | | (-)0.1 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB} = (-)4V, I_C = 0$ | | | (-)0.1 | μA |
| DC Current Gain | h_{FE} | $V_{CE} = (-)6V, I_C = (-)1mA$ | 100* | | 560* | |
| Gain-Bandwidth Product | f_T | $V_{CE} = (-)6V, I_C = (-)1mA$ | | 100 | | MHz |
| Output Capacitance | C_{ob} | $V_{CB} = (-)6V, f = 1MHz$ | | 2.7 | | pF |
| | | | | (4.0) | | pF |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = (-)10mA, I_B = (-)1mA$ | | (-)0.1 | (-)0.4 | V |
| Base-to-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C = (-)10mA, I_B = (-)1mA$ | | (-)0.75 | (-)1.1 | V |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C = (-)10\mu A, I_E = 0$ | (-)60 | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = (-)1mA, R_{BE} = \infty$ | (-)50 | | | V |
| Emitter-to-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E = (-)10\mu A, I_C = 0$ | (-)5 | | | V |
| Delay Time | t_d | See specified Test Circuit | | 40 | 60 | ns |
| Rise Time | t_r | See specified Test Circuit | | 80 | 130 | ns |
| | | | | (120) | (230) | ns |
| Storage Time | t_{stg} | See specified Test Circuit | | 230 | 450 | ns |
| | | | | (190) | (700) | ns |
| Fall Time | t_f | See specified Test Circuit | | 160 | 250 | ns |
| | | | | (240) | (390) | ns |

* ; The 2SA1481/2SC2960 are classified by 1mA h_{FE} as follows :

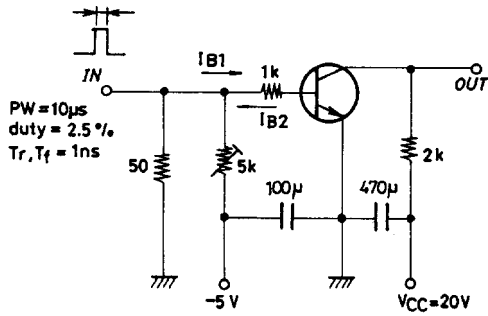
| | | | | | |
|-------|-----|-------|-----|-------|-----|
| 100 E | 200 | 160 F | 320 | 280 G | 560 |
|-------|-----|-------|-----|-------|-----|

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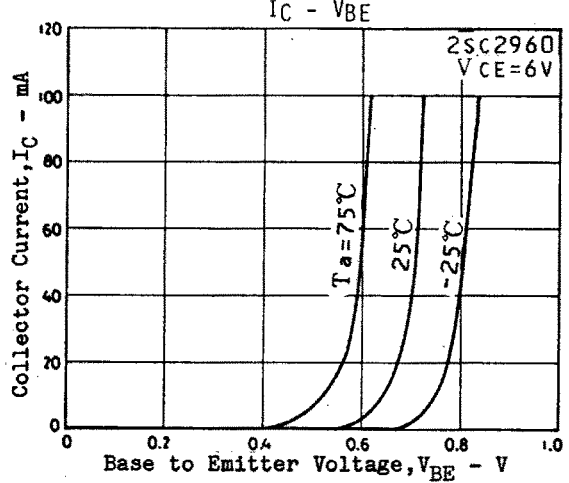
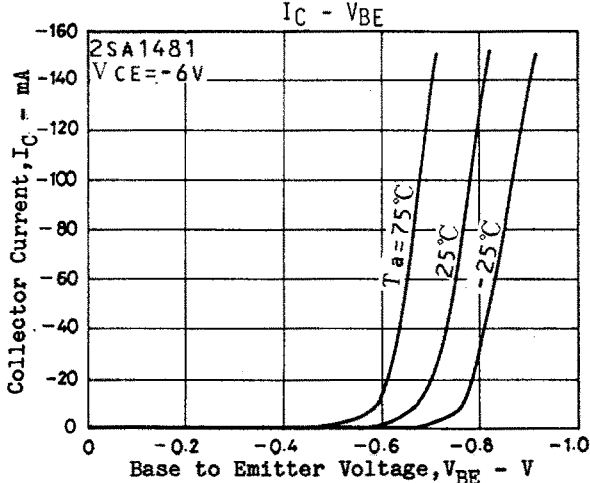
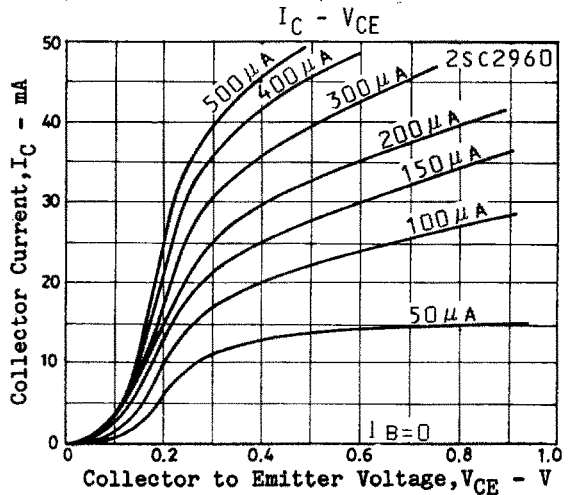
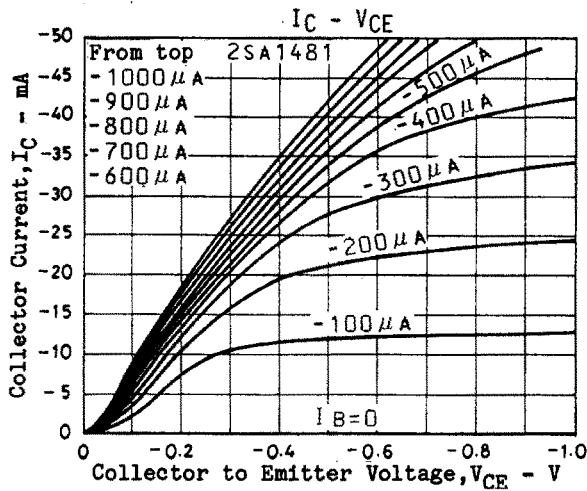
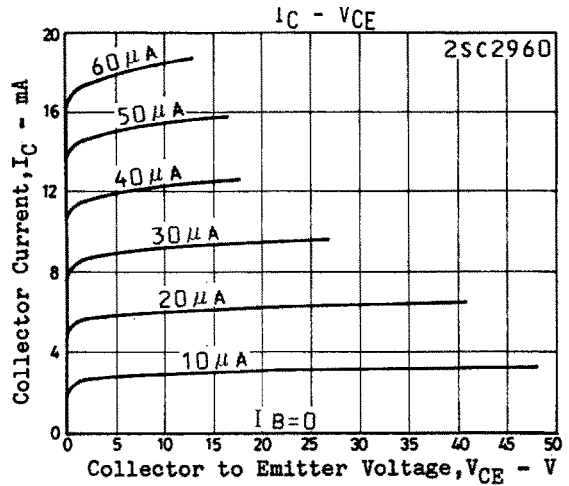
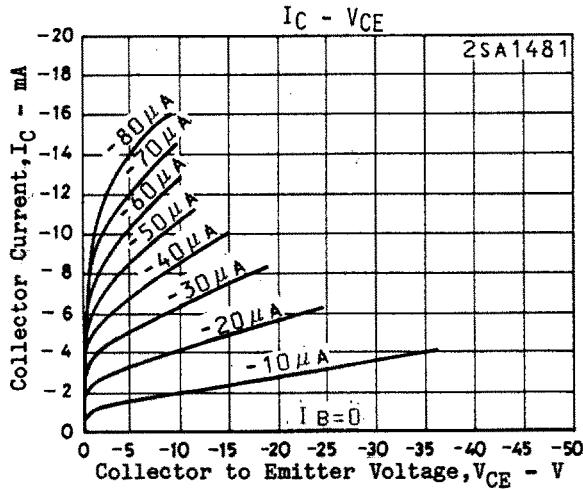
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Switching Time Test Circuit

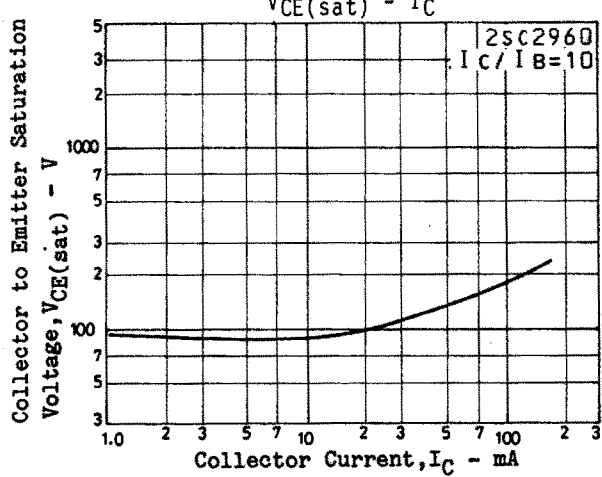
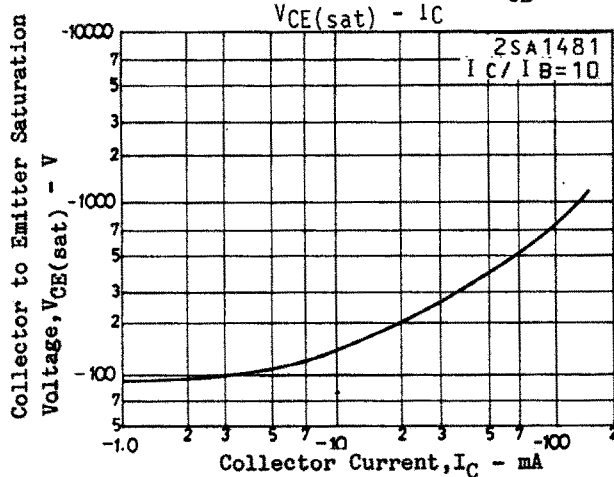
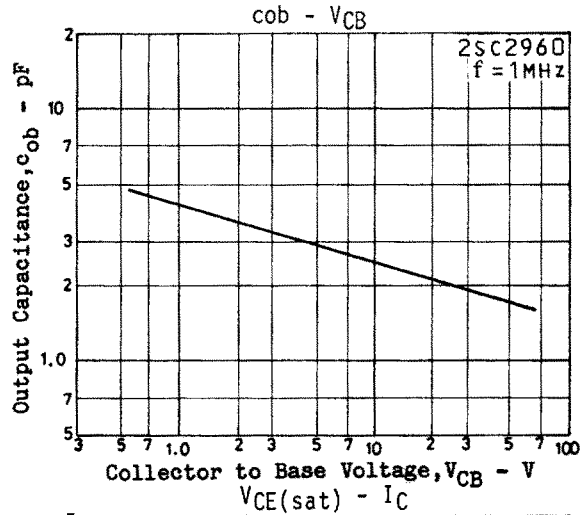
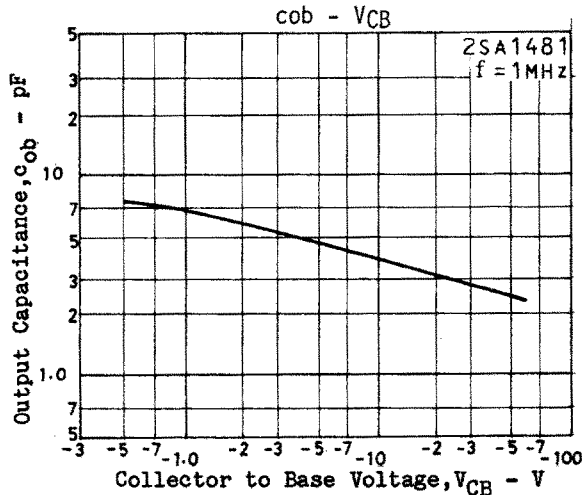
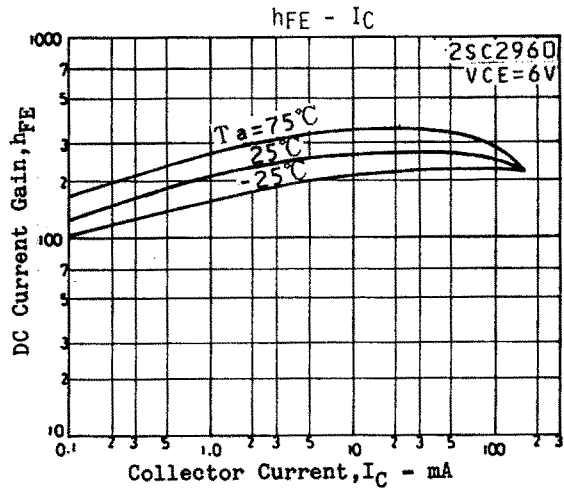
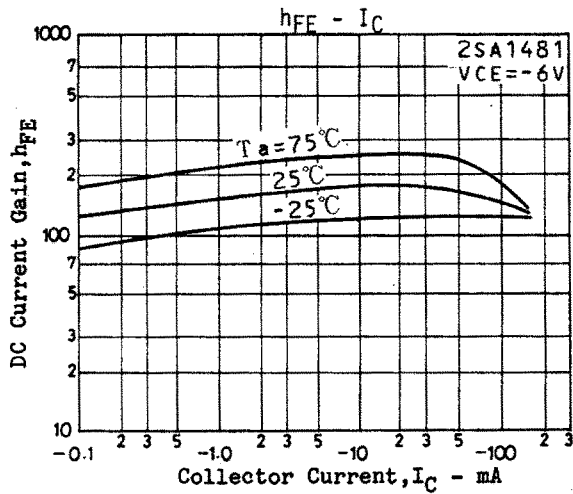
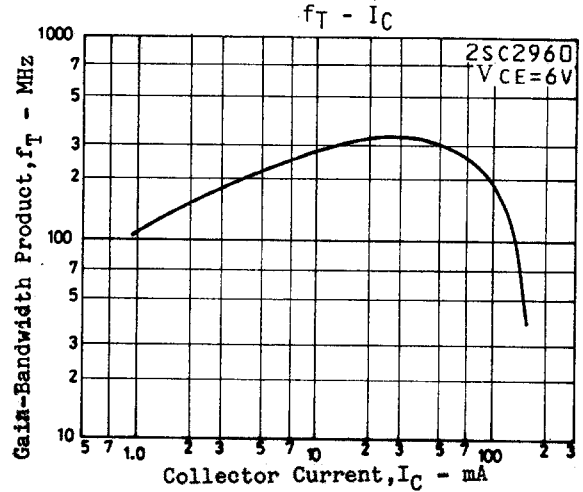
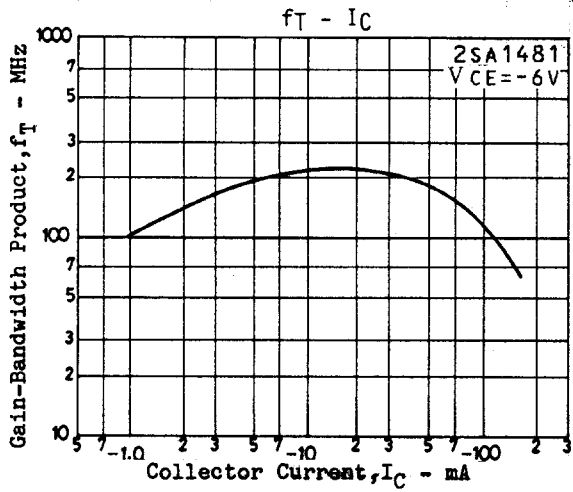
(For PNP, the polarity is reversed.)



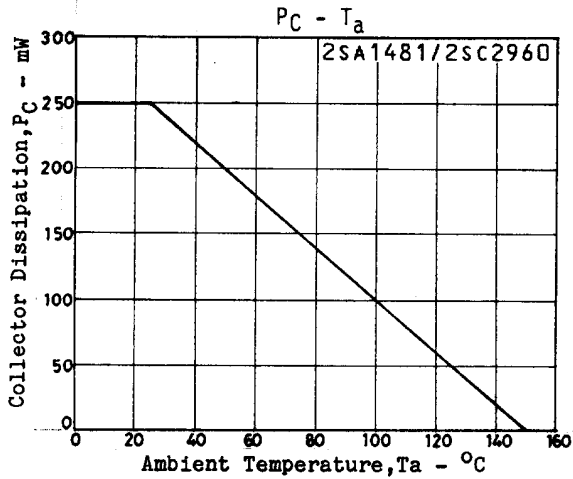
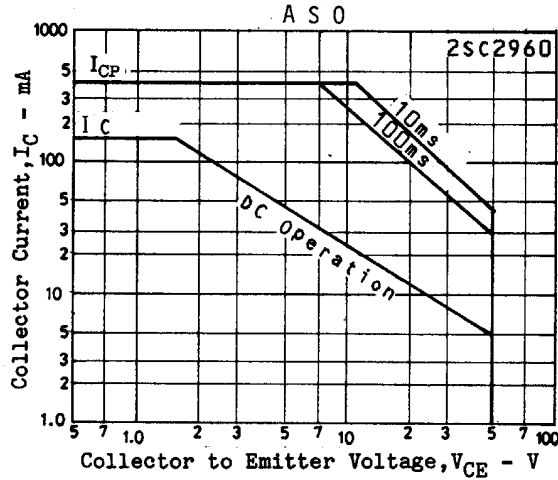
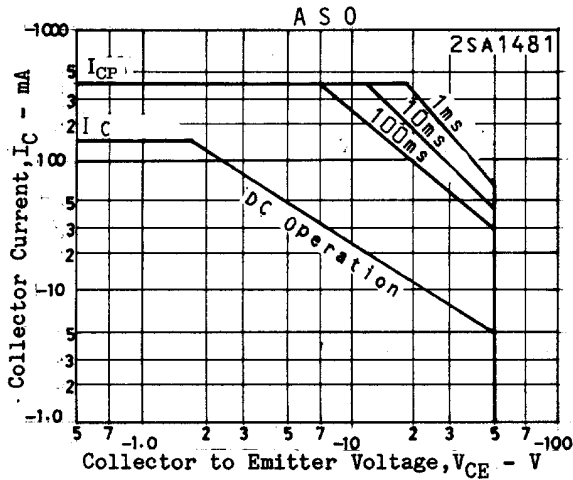
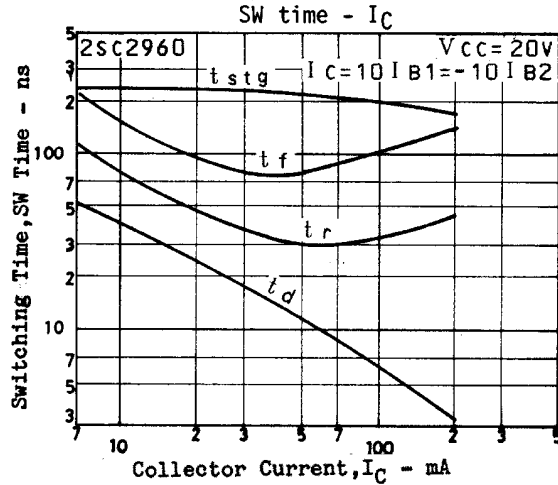
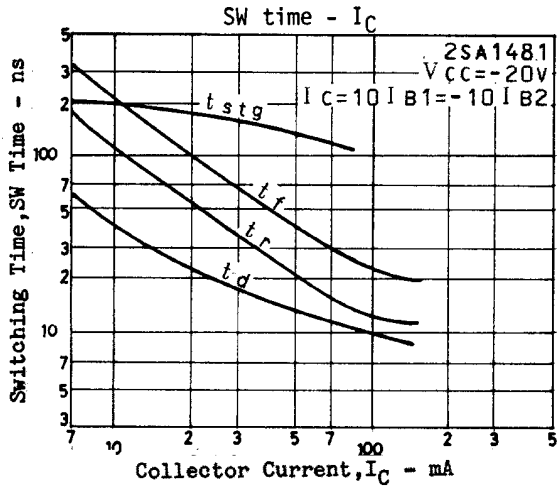
$10 I_{B1} = -10 I_{B2} = I_C = 10 \text{ mA}$
 Unit (resistance : Ω , capacitance : F)



2SA1481/2SC2960



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