

**SANYO**

No.1600A

**2SA1318/2SC3331**

PNP/NPN Epitaxial Planar Silicon Transistors

AF Amp Applications

**Use**

- Capable of being used in the low frequency to high frequency range.

**Features**

- Large current capacity and wide ASO.

( ): 2SA1318

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

|                              |           |             | unit |
|------------------------------|-----------|-------------|------|
| Collector to Base Voltage    | $V_{CB0}$ | (-)60       | V    |
| Collector to Emitter Voltage | $V_{CEO}$ | (-)50       | V    |
| Emitter to Base Voltage      | $V_{EBO}$ | (-)6        | V    |
| Collector Current            | $I_C$     | (-)200      | mA   |
| Collector Current (Pulse)    | $I_{CP}$  | (-)400      | mA   |
| Collector Dissipation        | $P_C$     | 500         | mW   |
| Junction Temperature         | $T_J$     | 150         | °C   |
| Storage Temperature          | $T_{stg}$ | -55 to +150 | °C   |

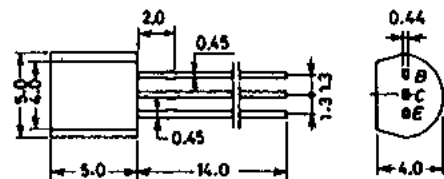
**Electrical Characteristics at Ta=25°C**

|                          |             |                              | min   | typ | max    | unit    |
|--------------------------|-------------|------------------------------|-------|-----|--------|---------|
| Collector Cutoff Current | $I_{CBO}$   | $V_{CB}=(-)40V, I_E=0$       |       |     | (-)0.1 | $\mu A$ |
| Emitter Cutoff Current   | $I_{EBO}$   | $V_{EB}=(-)5V, I_C=0$        |       |     | (-)0.1 | $\mu A$ |
| DC Current Gain          | $h_{FE}(1)$ | $V_{CE}=(-)6V, I_C=(-)1mA$   | 100*  |     | 800*   |         |
|                          |             |                              | (100) |     | (560)  |         |
| Gain-Bandwidth Product   | $f_T$       | $V_{CE}=(-)6V, I_C=(-)0.1mA$ | 70    |     |        |         |
|                          |             |                              |       |     | 200    | MHz     |
| Output Capacitance       | $C_{ob}$    | $V_{CB}=(-)6V, f=1MHz$       |       |     | 3.0    | pF      |
|                          |             |                              |       |     | (4.5)  |         |

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\* The 2SA1318/2SC3331 are classified by 1mA  $h_{FE}$  as follows:

|         |       |     |       |     |       |     |       |     |           |
|---------|-------|-----|-------|-----|-------|-----|-------|-----|-----------|
| 2SA1318 | 100 R | 200 | 140 S | 280 | 200 T | 400 | 280 U | 560 |           |
| 2SC3331 | 100 R | 200 | 140 S | 280 | 200 T | 400 | 280 U | 560 | 400 V 800 |

**Case Outline 2003A**  
(unit:mm)JEDEC: TO-92  
EIAJ: SC-43  
SANYO: NPB. Base  
C. Collector  
E. Emitter

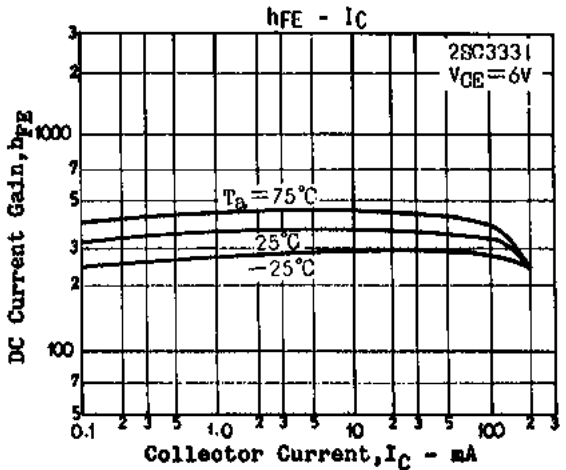
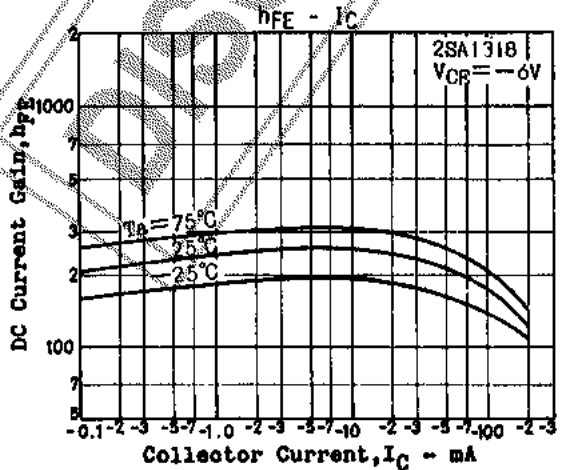
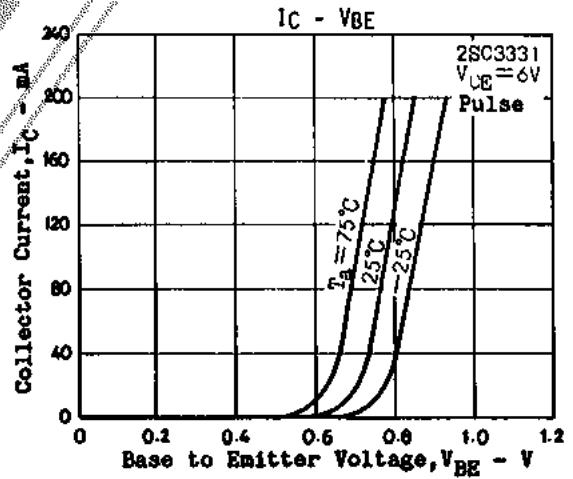
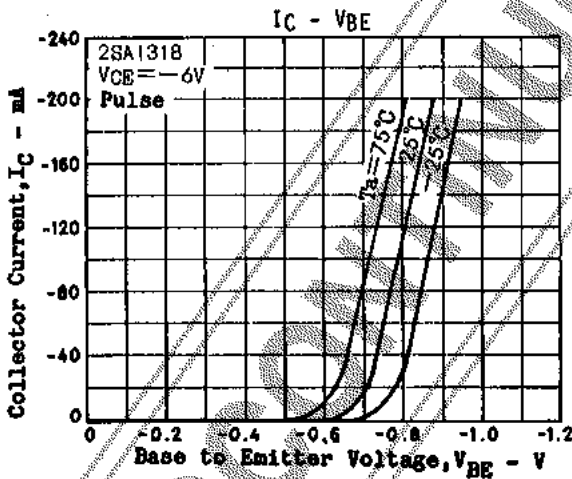
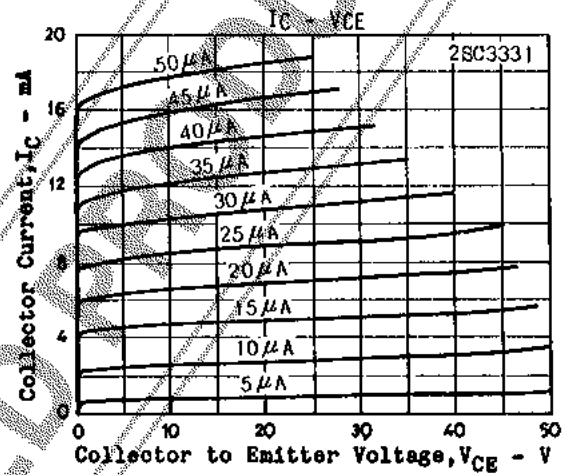
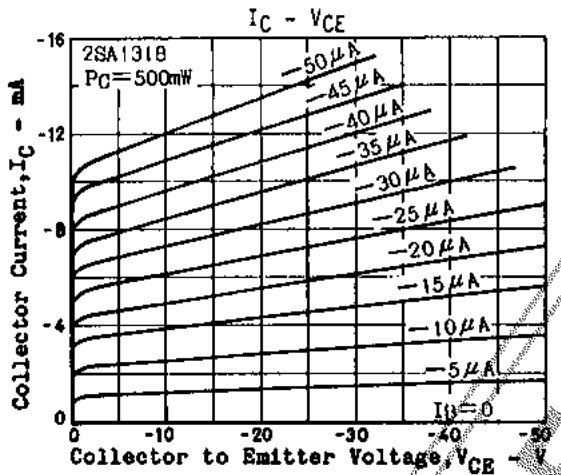
Specifications and information herein are subject to change without notice.

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|   |               |                                 | min   | typ | max    | unit |
|---|---------------|---------------------------------|-------|-----|--------|------|
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = (-)100mA, I_B = (-)10mA$ |       |     | (-)0.3 | V    |
| Base to Emitter Saturation Voltage      | $V_{BE(sat)}$ | $I_C = (-)100mA, I_B = (-)10mA$ |       |     | (-)1.0 | 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       | $V_{(BR)EBO}$ | $I_E = (-)10\mu A, I_C = 0$     | (-)6  |     |        | V    |



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