

**SANYO**

No.3187

**2SA1745/2SC4555**

PNP/NPN Epitaxial Planar Silicon Transistor

Low-Frequency General-Purpose  
Amp Applications**Features**

- Very small-sized package permitting the 2SA1745/2SC4555-applied sets to be made small and slim
- Low collector-to-emitter saturation voltage

( ): 2SA1745

**Absolute Maximum Ratings at  $T_a = 25^\circ\text{C}$** 

|                              |           |               | unit             |
|------------------------------|-----------|---------------|------------------|
| Collector to Base Voltage    | $V_{CBO}$ | (- )20        | V                |
| Collector to Emitter Voltage | $V_{CEO}$ | (- )15        | V                |
| Emitter to Base Voltage      | $V_{EBO}$ | (- )5         | V                |
| Collector Current            | $I_C$     | (- )500       | mA               |
| Collector Current(Pulse)     | $I_{CP}$  | (- )1         | A                |
| Collector Dissipation        | $P_C$     | 150           | mW               |
| Junction Temperature         | $T_j$     | 150           | $^\circ\text{C}$ |
| Storage Temperature          | $T_{stg}$ | - 55 to + 150 | $^\circ\text{C}$ |

**Electrical Characteristics at  $T_a = 25^\circ\text{C}$** 

|                          |                  |                                                | min    | typ          | max      | unit          |
|--------------------------|------------------|------------------------------------------------|--------|--------------|----------|---------------|
| Collector Cutoff Current | $I_{CBO}$        | $V_{CB} = (-)15\text{V}, I_E = 0$              |        |              | (- )0.1  | $\mu\text{A}$ |
| Emitter Cutoff Current   | $I_{EBO}$        | $V_{EB} = (-)4\text{V}, I_C = 0$               |        |              | (- )0.1  | $\mu\text{A}$ |
| DC Current Gain          | $h_{FE}(1)$      | $V_{CE} = (-)2\text{V}, I_C = (-)10\text{mA}$  | 135*   |              | 600*     |               |
|                          | $h_{FE}(2)$      | $V_{CE} = (-)2\text{V}, I_C = (-)400\text{mA}$ | (70)80 |              |          |               |
| Gain-Bandwidth Product   | $f_T$            | $V_{CE} = (-)2\text{V}, I_C = (-)50\text{mA}$  |        | 300<br>(400) |          | MHz           |
| Output Capacitance       | $c_{ob}$         | $V_{CB} = (-)10\text{V}, f = 1\text{MHz}$      |        | (6.5)4.0     |          | pF            |
| C-E Saturation Voltage   | $V_{CE(sat)}(1)$ | $I_C = (-)5\text{mA}, I_B = (-)0.5\text{mA}$   |        | (- )15       | (- 35)30 | mV            |
|                          | $V_{CE(sat)}(2)$ | $I_C = (-)200\text{mA}, I_B = (-)10\text{mA}$  |        | 160          | 300      | mV            |
|                          |                  |                                                |        | (- 200)      | (- 360)  |               |
| B-E Saturation Voltage   | $V_{BE(sat)}$    | $I_C = (-)200\text{mA}, I_B = (-)10\text{mA}$  |        | (- )0.95     | (- )1.2  | V             |
| C-B Breakdown Voltage    | $V_{(BR)CBO}$    | $I_C = (-)10\mu\text{A}, I_E = 0$              | (- )20 |              |          | V             |
| C-E Breakdown Voltage    | $V_{(BR)CEO}$    | $I_C = (-)1\text{mA}, R_{BE} = \infty$         | (- )15 |              |          | V             |
| E-B Breakdown Voltage    | $V_{(BR)EBO}$    | $I_E = (-)10\mu\text{A}, I_C = 0$              | (- )5  |              |          | V             |

\*: The 2SA1745/2SC4555 are classified by 10mA  $h_{FE}$  as follows:

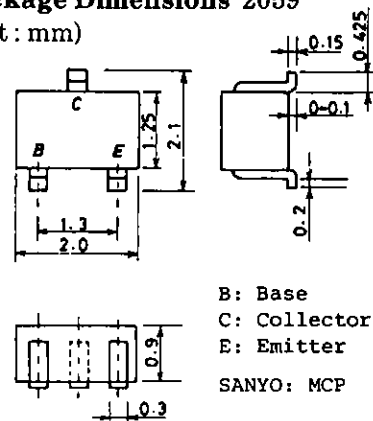
|           |           |           |
|-----------|-----------|-----------|
| 135 5 270 | 200 6 400 | 300 7 600 |
|-----------|-----------|-----------|

Marking 2SA1745 : ES

2SC4555 : UT

 $h_{FE}$  rank : 5,6,7**Package Dimensions 2059**

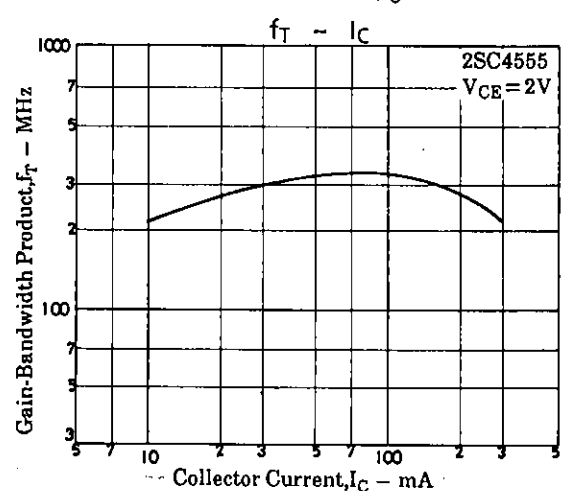
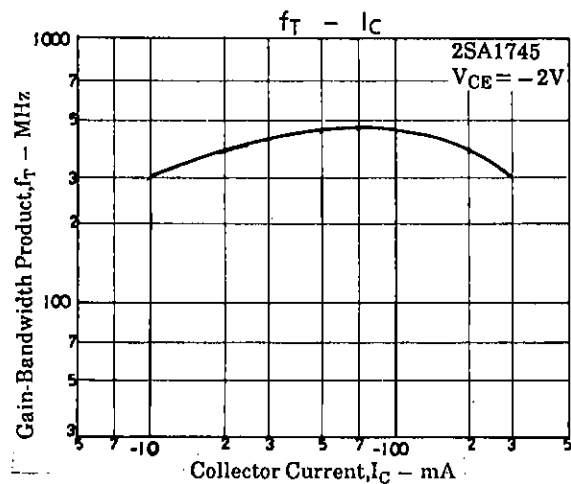
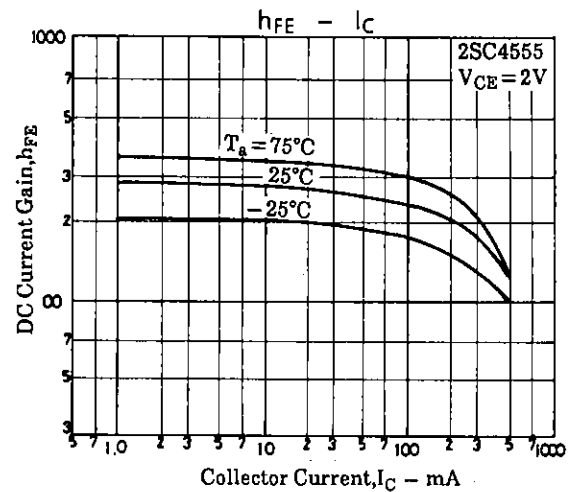
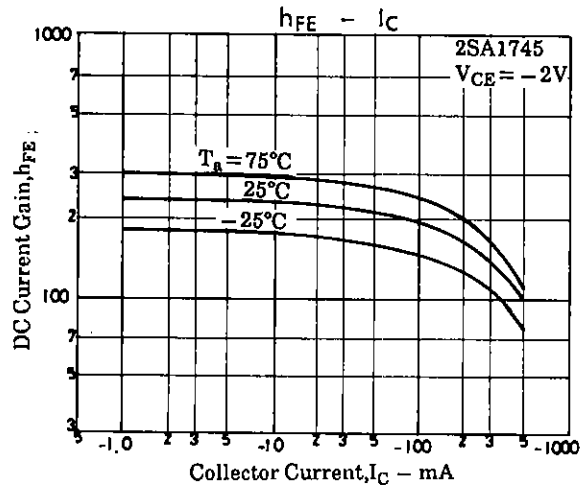
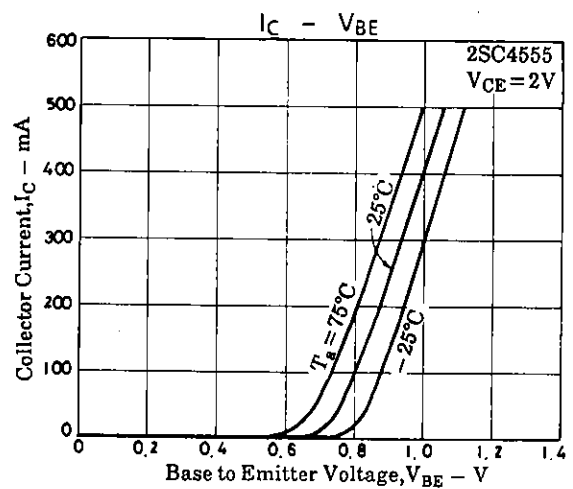
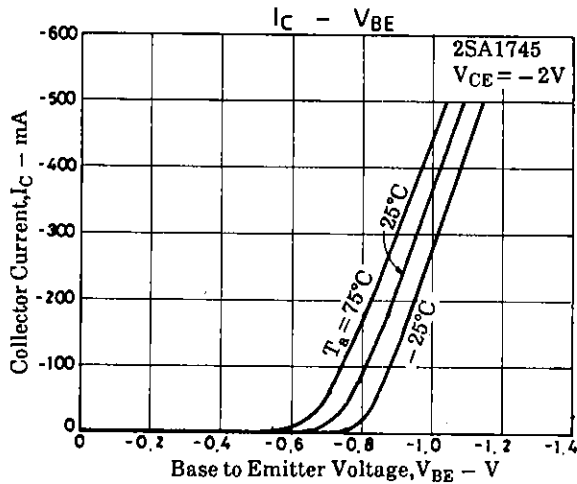
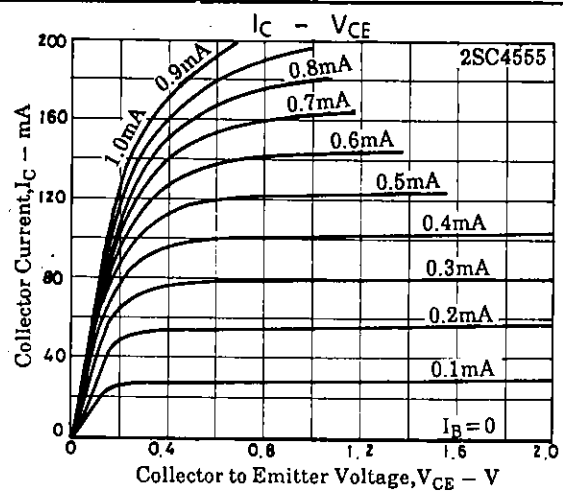
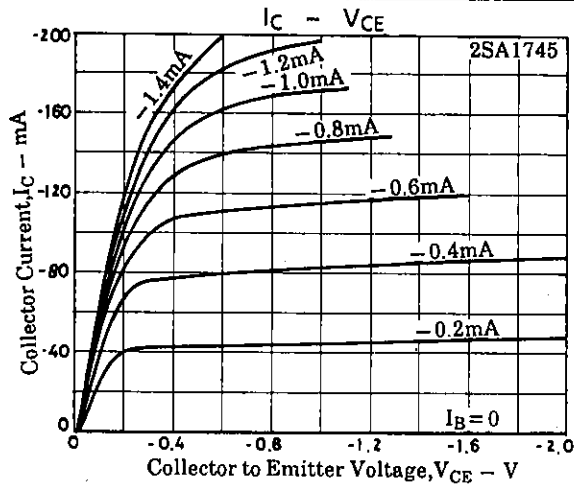
(unit: mm)

**SANYO Electric Co., Ltd. Semiconductor Business Headquarters**

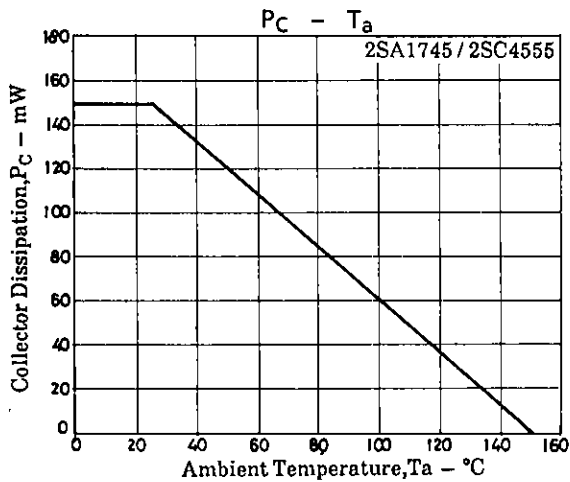
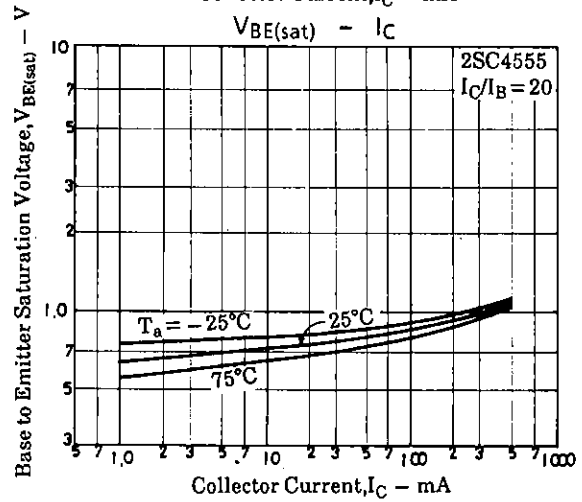
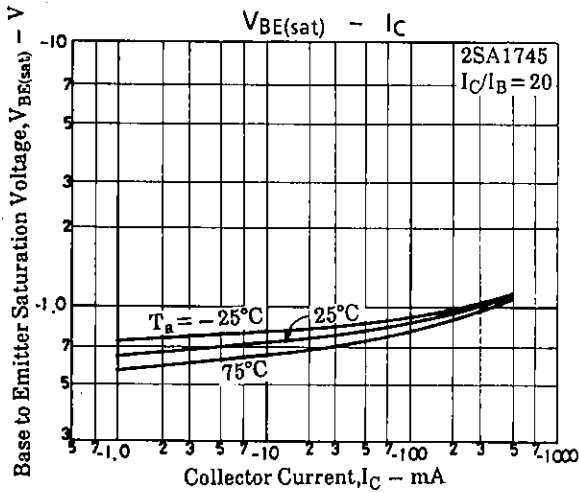
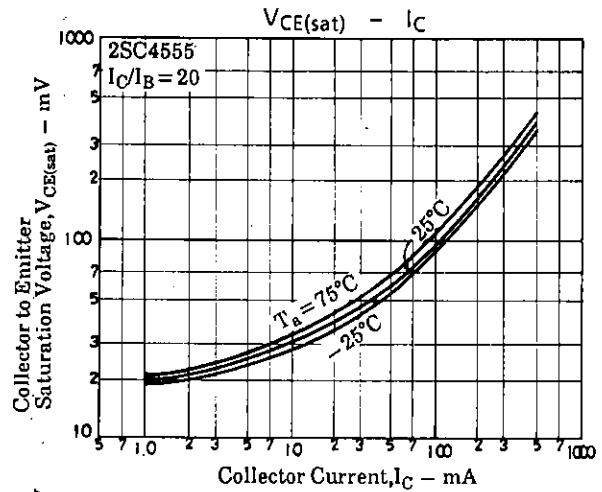
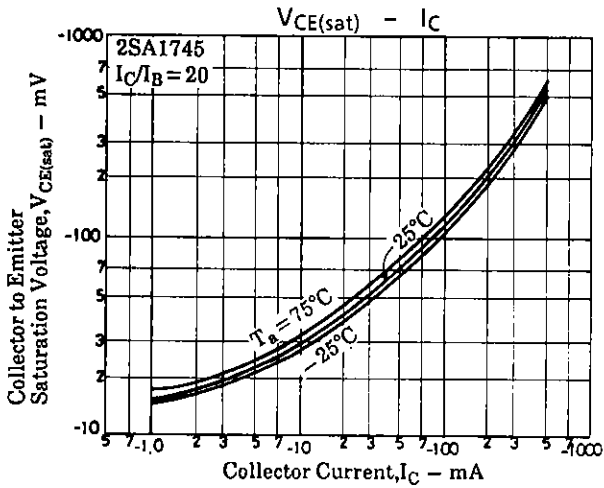
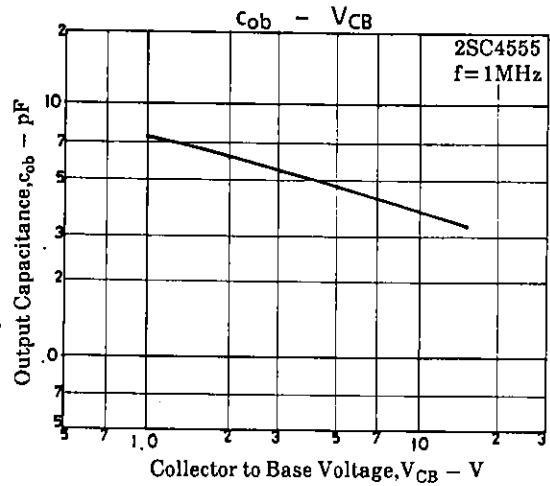
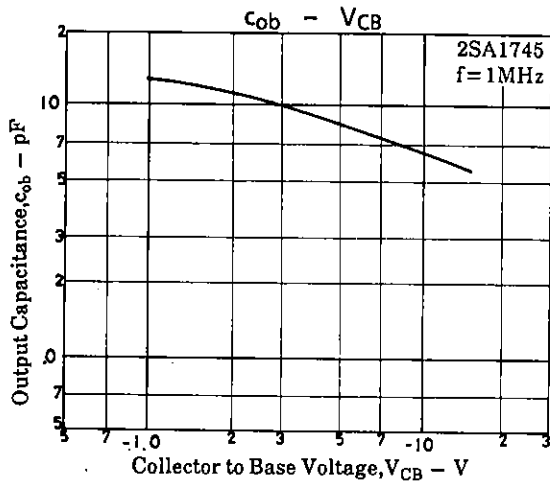
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