

Ordering number:EN1763B

勝特力材料 886-3-5753170
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PNP/NPN Epitaxial Planar Silicon Transistors

2SA1404/2SC3598

Ultrahigh-Definition CRT Display Video Output Applications

Applications

- Ultrahigh-definition CRT display.
- Video output.
- Color TV chroma output.
- Wide-band amp.

Features

- High f_T : f_T typ=500MHz.
- High breakdown voltage : $V_{CEO} \geq 120V$.
- Small reverse transfer capacitance and excellent high-frequency characteristic
 : $C_{re} = 1.6pF$ (NPN), $2.1pF$ (PNP).
- Complementary pair with the 2SA1404/2SC3598.
- Adoption of FBET process.

() : 2SA1404

Specifications

Absolute Maximum Ratings at $T_a = 25^\circ C$

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|-----------|--------------------|-------------|------------|
| Collector-to-Base Voltage | V_{CBO} | | (-120) | V |
| Collector-to-Emitter Voltage | V_{CEO} | | (-120) | V |
| Emitter-to-Base Voltage | V_{EBO} | | (-4) | V |
| Collector Current | I_C | | (-200) | mA |
| Collector Current (Pulse) | I_{CP} | | (-400) | mA |
| Collector Dissipation | P_C | | 1.2 | W |
| | | $T_c = 25^\circ C$ | 8 | W |
| Junction Temperature | T_j | | 150 | $^\circ C$ |
| Storage Temperature | T_{stg} | | -55 to +150 | $^\circ C$ |

Electrical Characteristics at $T_a = 25^\circ C$

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---------------|-----------------------------------|---------|-------|--------|---------|
| | | | min | typ | max | |
| Collector Cutoff Current | I_{CBO} | $V_{CB} = (-)80V, I_E = 0$ | | | (-0.1) | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB} = (-)2V, I_C = 0$ | | | (-0.1) | μA |
| DC Current Gain | h_{FE1} | $V_{CE} = (-)10V, I_C = (-)10mA$ | 40* | | 320* | |
| | h_{FE2} | $V_{CE} = (-)10V, I_C = (-)150mA$ | 20 | | | |
| Gain-Bandwidth Product | f_T | $V_{CE} = (-)10V, I_C = (-)50mA$ | | 500 | | MHz |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = (-)50mA, I_B = (-)5mA$ | | | 0.6 | V |
| | | | | | (-0.8) | V |
| Base-to-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C = (-)50mA, I_B = (-)5mA$ | | | (-1.0) | V |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C = (-)10\mu A, I_E = 0$ | (-120) | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = (-)1mA, R_{BE} = \infty$ | (-120) | | | V |
| Emitter-to-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E = (-)100\mu A, I_C = 0$ | (-4) | | | V |
| Output Capacitance | C_{ob} | $V_{CB} = (-)30V, f = 1MHz$ | | 2.0 | | pF |
| | | | | (2.7) | | pF |
| Reverse Transfer Capacitance | C_{re} | $V_{CB} = (-)30V, f = 1MHz$ | | 1.6 | | pF |
| | | | | (2.1) | | pF |

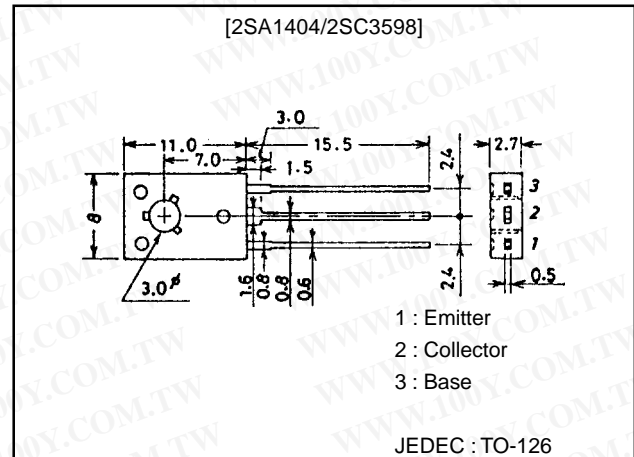
* : The 2SA1404/2SC3598 are classified by 10mA h_{FE} as follows :

| | | | | | | | | | | | |
|----|---|----|----|---|-----|-----|---|-----|-----|---|-----|
| 40 | C | 80 | 60 | D | 120 | 100 | E | 200 | 160 | F | 320 |
|----|---|----|----|---|-----|-----|---|-----|-----|---|-----|

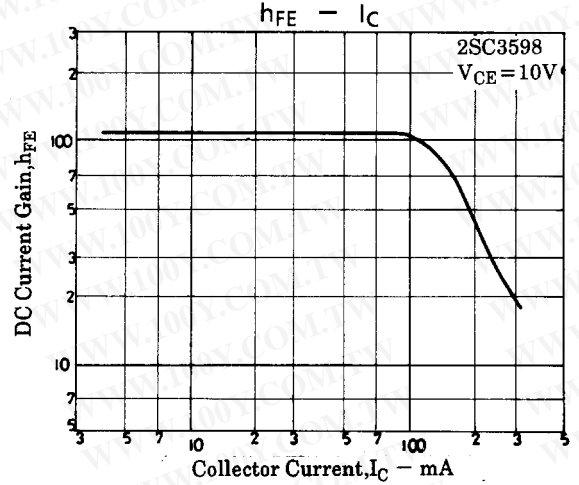
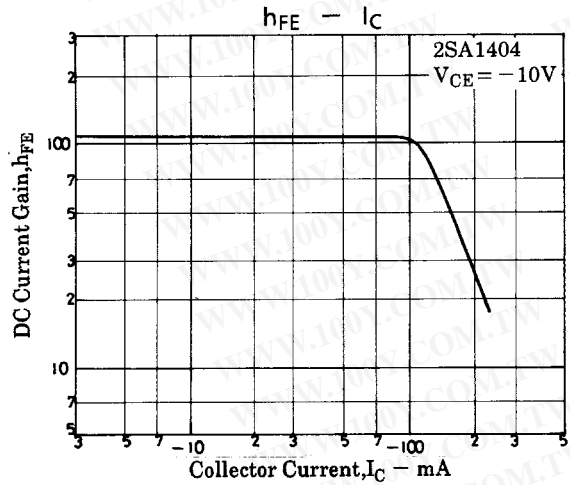
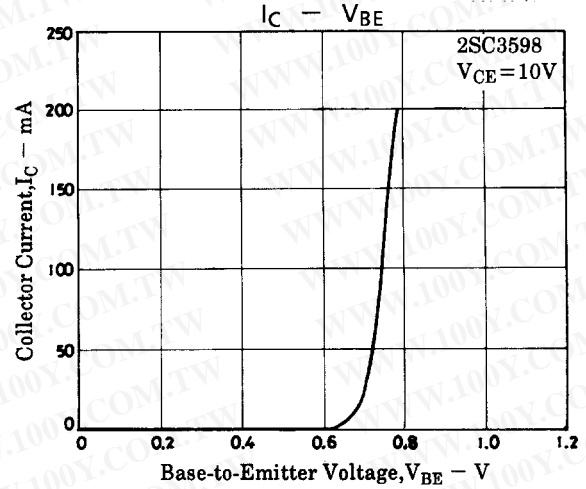
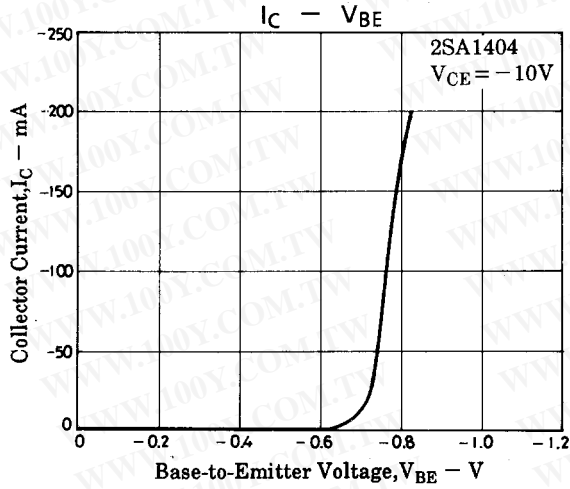
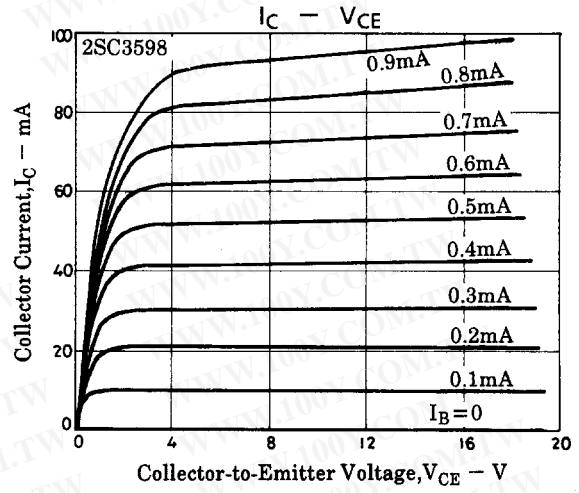
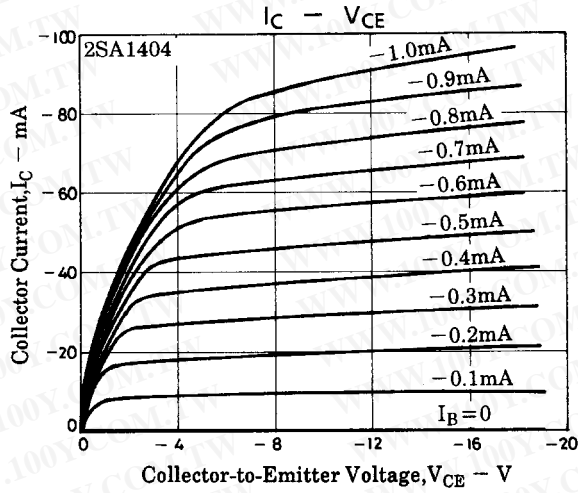
Package Dimensions

unit:mm

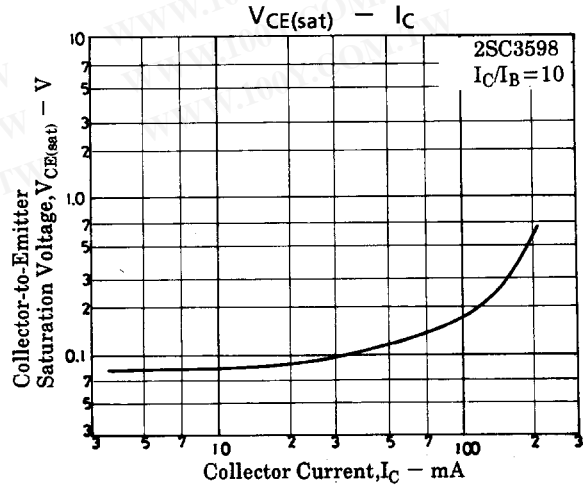
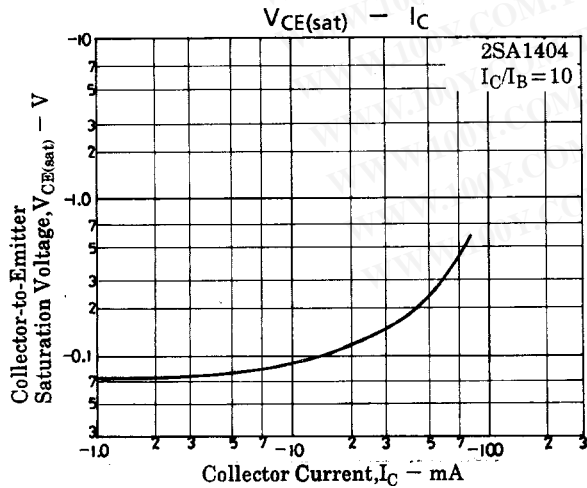
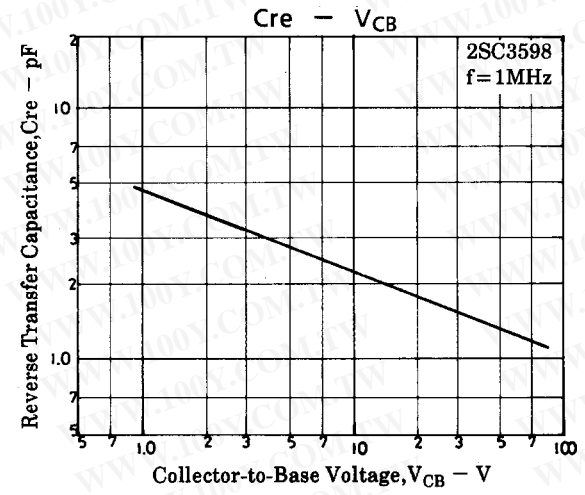
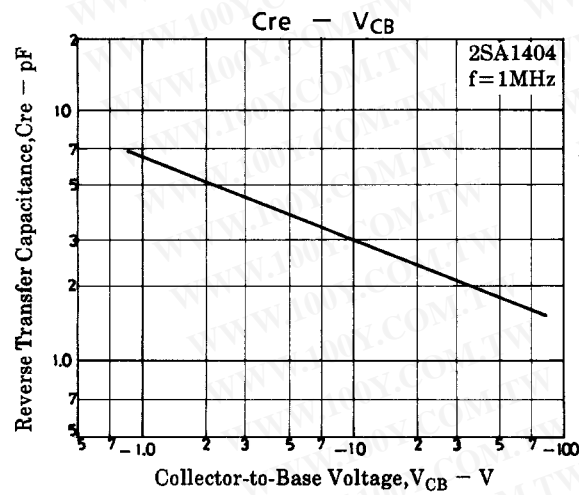
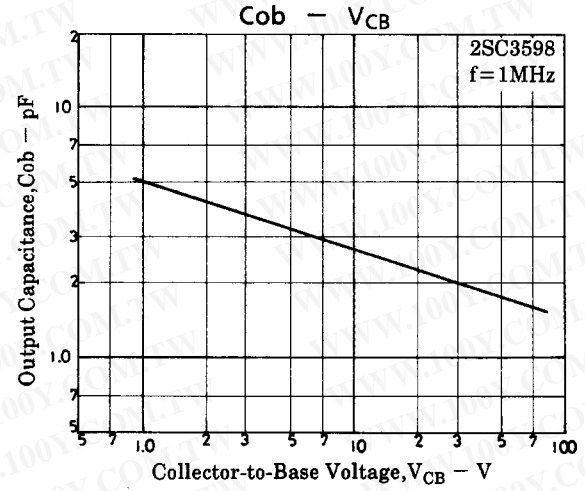
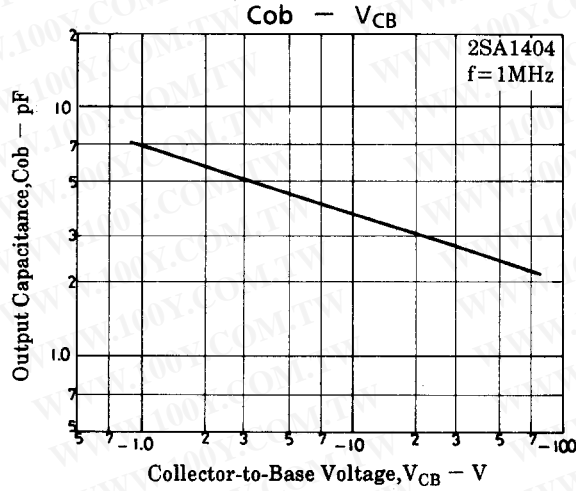
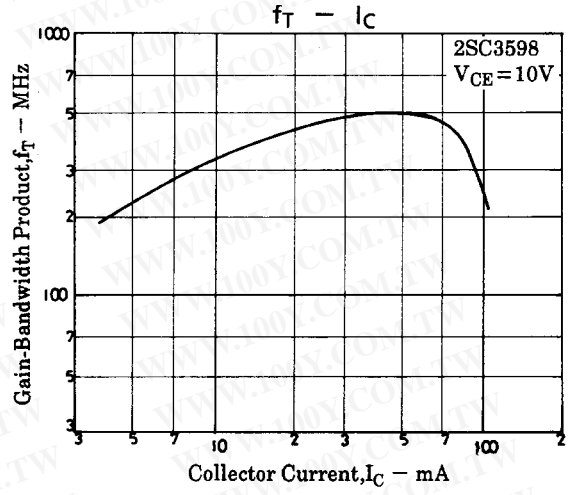
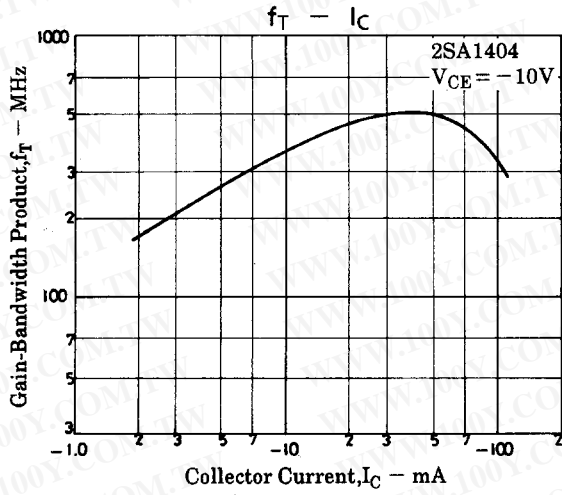
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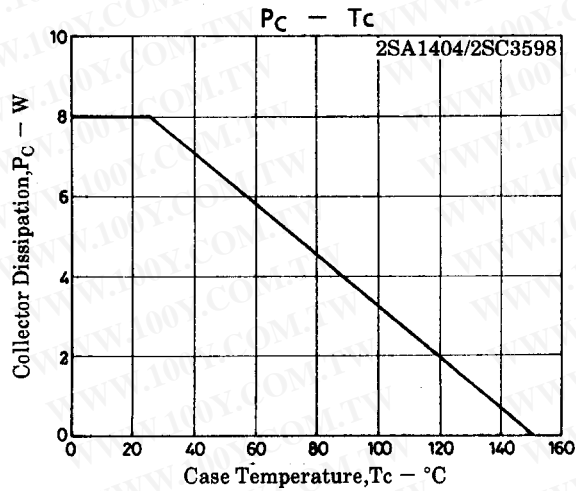
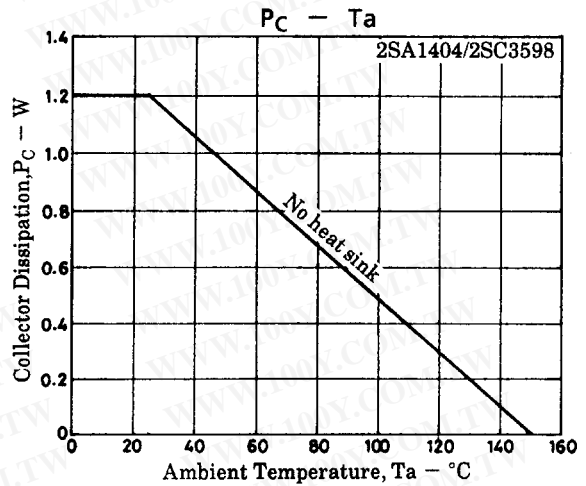
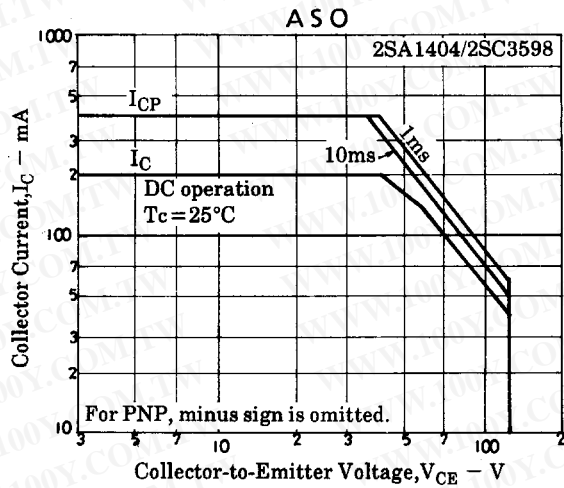
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