

Ordering number:EN3581

PNP/NPN Epitaxial Planar Silicon Transistors



2SA1787/2SC4650

High-Definition CRT Display Video Output Applications

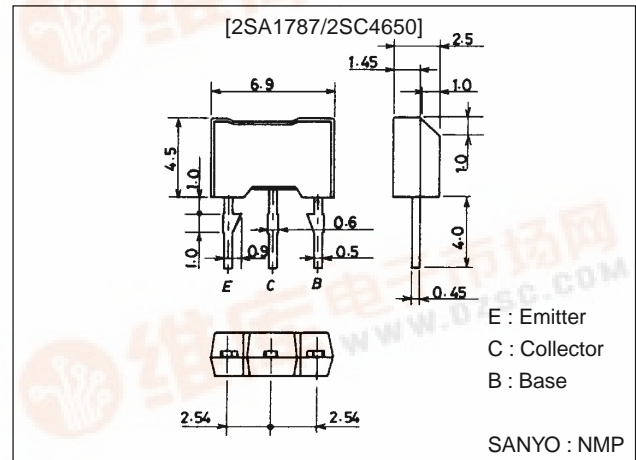
Features

- High breakdown voltage : $V_{CEO} \geq 200V$.
- Small reverse transfer capacitance and excellent high frequency characteristic:
 $C_{re} = 1.2pF$ (NPN), $1.7pF$ (PNP).
- Adoption of FBET processes.

Package Dimensions

unit:mm

2064



() : 2SA1786

Specifications

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

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|-----------|------------|-------------|------------|
| Collector-to-Base Voltage | V_{CBO} | | (-200) | V |
| Collector-to-Emitter Voltage | V_{CEO} | | (-200) | V |
| Emitter-to-Base Voltage | V_{EBO} | | (-5) | V |
| Collector Current | I_C | | (-100) | mA |
| Collector Current (Pulse) | I_{CP} | | (-200) | mA |
| Collector Dissipation | P_C | | 1.0 | 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} | $V_{CB} = (-)150V, I_E = 0$ | | | (-0.1) | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB} = (-)4V, I_C = 0$ | | | (-0.1) | μA |
| DC Current Gain | h_{FE} | $V_{CE} = (-)10V, I_C = (-)10mA$ | 60 | | 320 | |
| Gain-Bandwidth Product | f_T | $V_{CE} = (-)30V, I_C = (-)10mA$ | | 150 | | MHz |
| Output Capacitance | C_{ob} | $V_{CB} = (-)30V, f = 1MHz$ | | (2.6) | | pF |
| | | | | 1.7 | | pF |
| Reverse Transfer Capacitance | C_{re} | $V_{CB} = (-)30V, f = 1MHz$ | | (1.7) | | pF |
| | | | | 1.2 | | pF |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = (-)20mA, I_B = (-)2mA$ | | | (-0.6) | V |
| Base-to-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C = (-)20mA, I_B = (-)2mA$ | | | (-1.0) | V |

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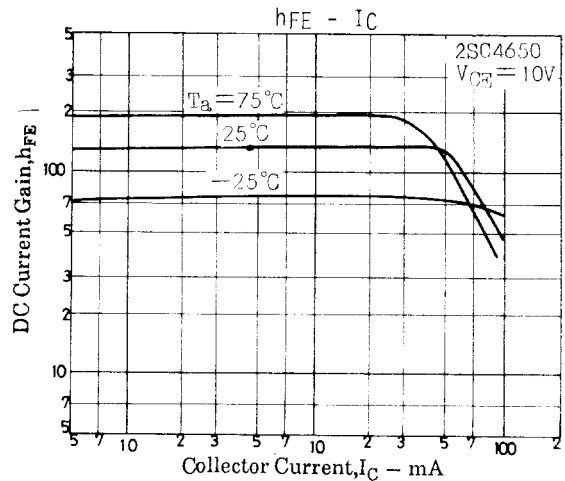
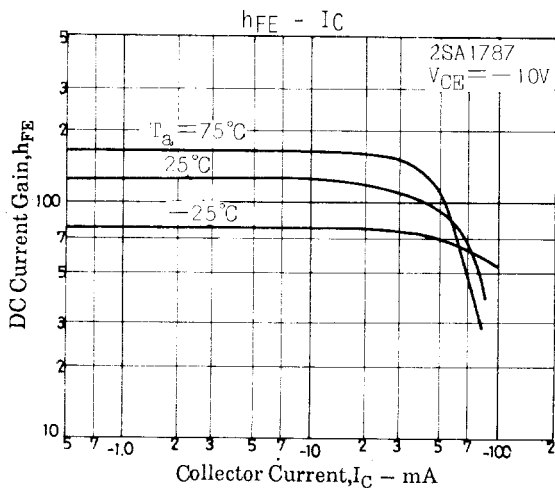
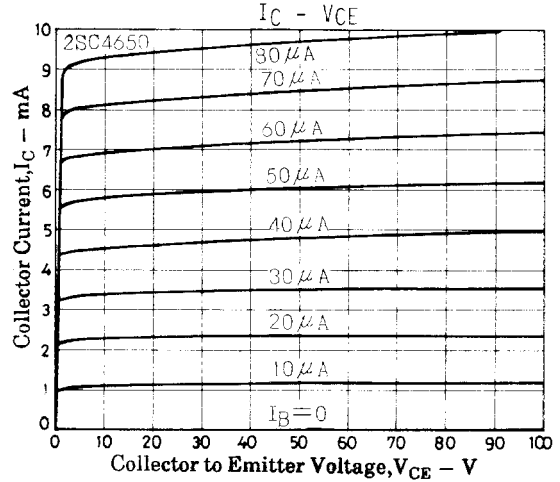
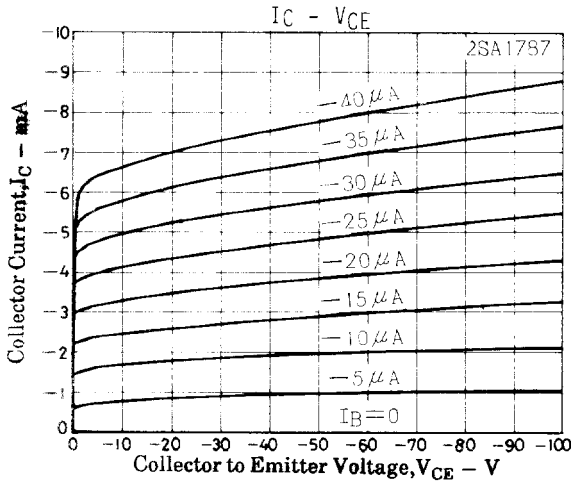
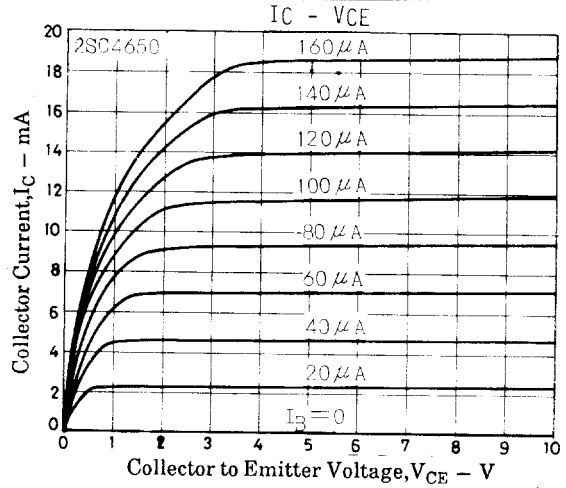
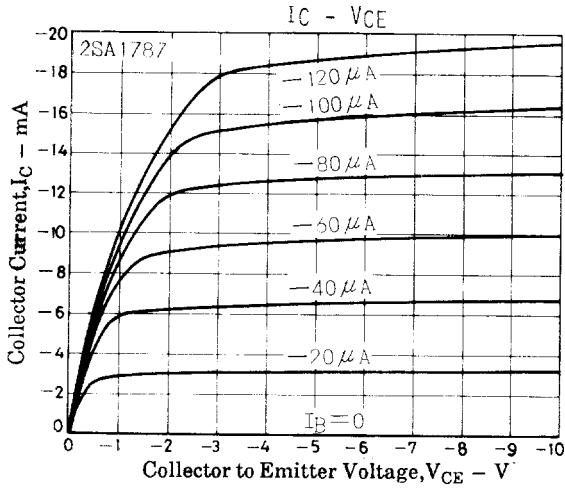


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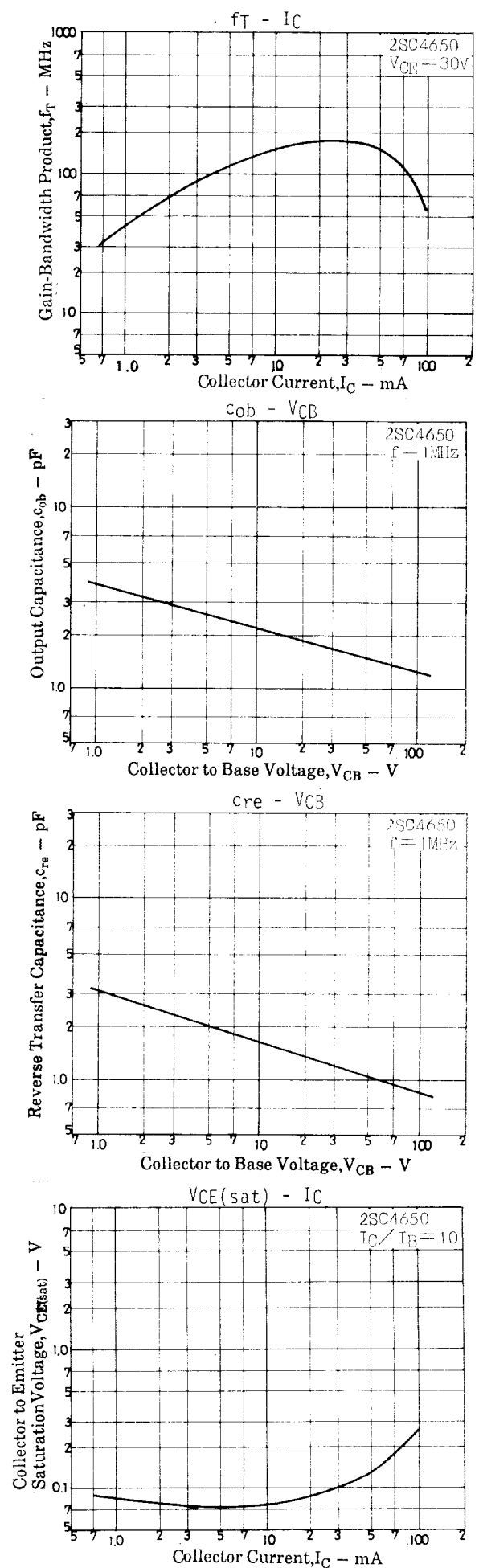
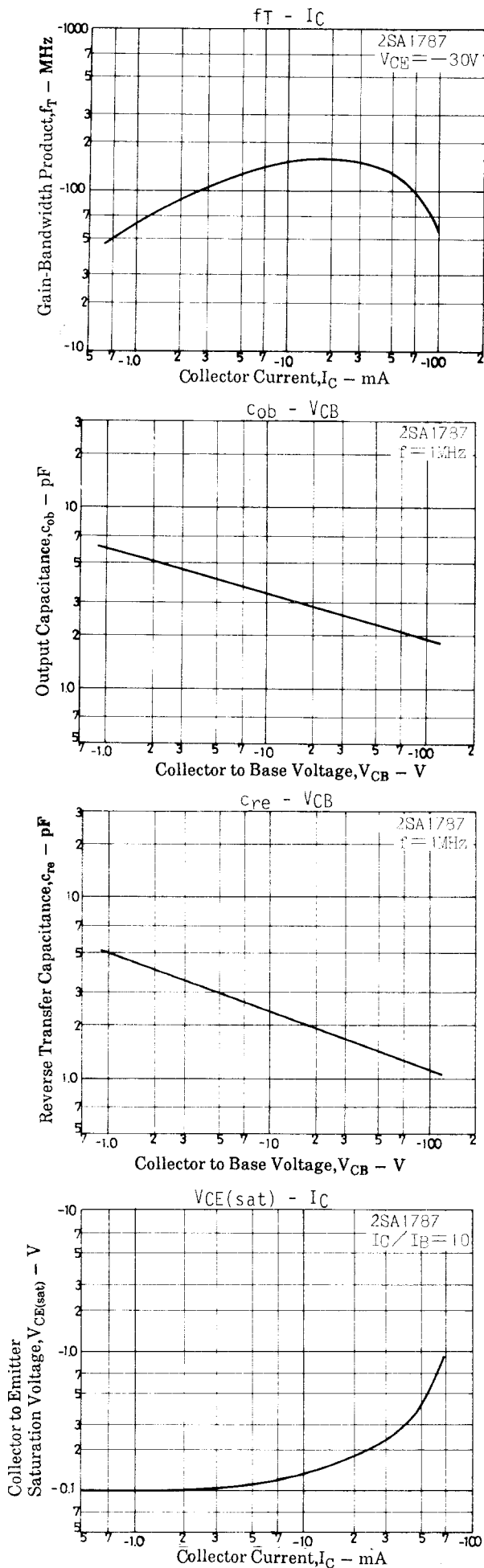
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--|---------------|---------------------------------|---------|-----|-----|------|
| | | | min | typ | max | |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C = (-)10\mu A, I_E = 0$ | (-)200 | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = (-)1mA, R_{BE} = \infty$ | (-)200 | | | V |
| Emitter-to-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E = (-)10\mu A, I_C = 0$ | (-)5 | | | V |

* : The 2SA1787/2SC4650 are classified by 10mA h_{FE} as follows :

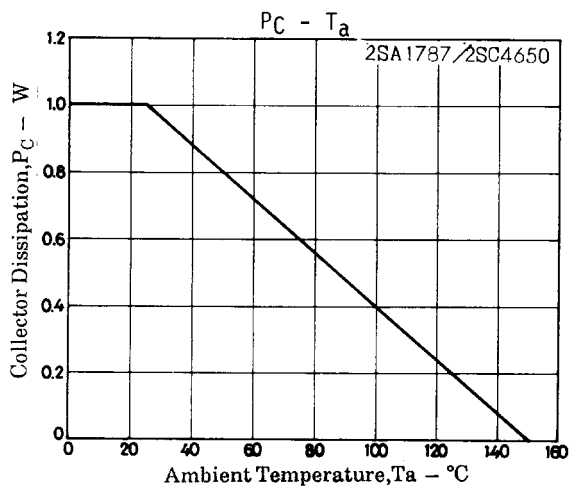
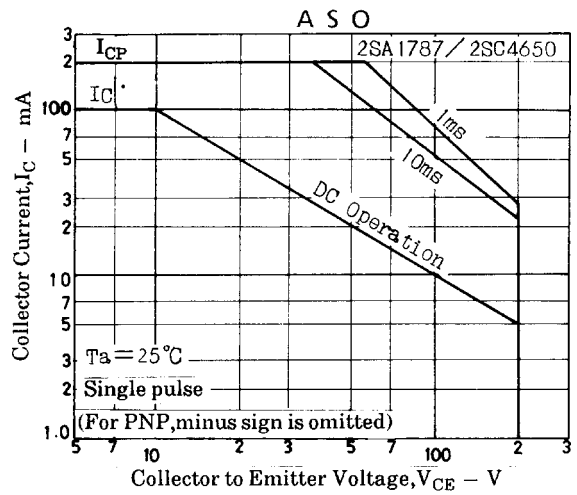
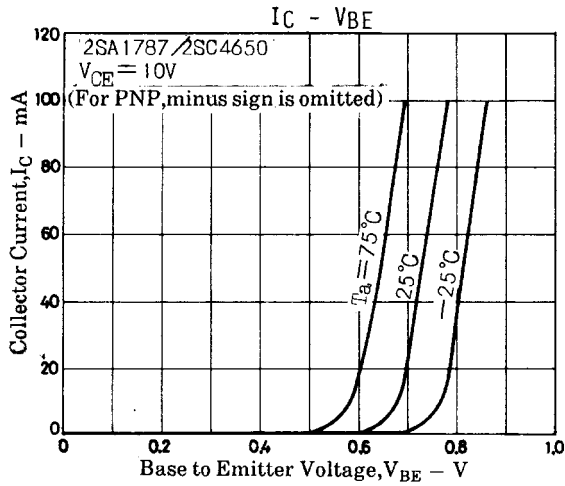
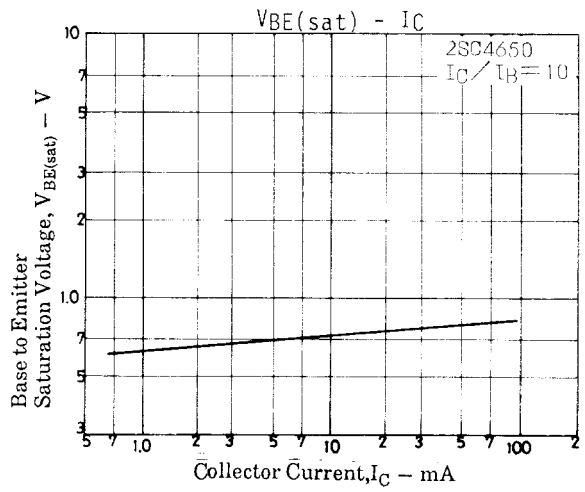
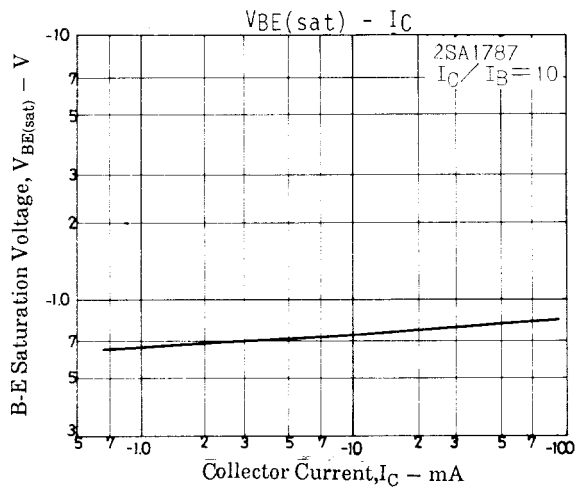
| | | |
|----------|-----------|-----------|
| 60 D 120 | 100 E 200 | 160 F 320 |
|----------|-----------|-----------|



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