



2SA1537/2SC3952

High-Definition CRT Display Video Output Applications

Applications

- High-definition CRT display video output, wide-band amplifier.

Features

- High f_T : $f_T=700\text{MHz}$.
- High breakdown voltage : $V_{CEO}=70\text{Vmin.}$
- Small reverse transfer capacitance and excellent high-frequency characteristic :
 $C_{re}=3.1\text{pF/NPN, } 4.8\text{pF/PNP.}$
- Complementary PNP and NPN types.
- Adoption of FBET process.
- Micaless type.

() : 2SA1537

Specifications

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

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|-----------|------------------------|-------------|------------------|
| Collector-to-Base Voltage | V_{CBO} | | (-80) | V |
| Collector-to-Emitter Voltage | V_{CEO} | | (-70) | V |
| Emitter-to-Base Voltage | V_{EBO} | | (-3) | V |
| Collector Current | I_C | | (-500) | mA |
| Peak Collector Current | I_{CP} | | (-1000) | mA |
| Collector Dissipation | P_C | $T_c=25^\circ\text{C}$ | 1.3 | W |
| | | | 10 | W |
| Junction Temperature | T_j | | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | | -55 to +150 | $^\circ\text{C}$ |

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

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---------------|--|---------|-------|--------|---------------|
| | | | min | typ | max | |
| Collector Cutoff Current | I_{CBO} | $V_{CB}=(-)60\text{V, } I_E=0$ | | | (-0.1) | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB}=(-)2\text{V, } I_C=0$ | | | (-1.0) | μA |
| DC Current Gain | h_{FE1} | $V_{CE}=(-)10\text{V, } I_C=(-)50\text{mA}$ | 40* | | 320* | |
| | h_{FE2} | $V_{CE}=(-)10\text{V, } I_C=(-)300\text{mA}$ | 60 | | | |
| Gain-Bandwidth Product | f_T | $V_{CE}=(-)10\text{V, } I_C=(-)100\text{mA}$ | | 700 | | MHz |
| Output Capacitance | C_{ob} | $V_{CB}=(-)30\text{V, } f=1\text{MHz}$ | | 3.6 | | pF |
| | | | | (5.4) | | pF |
| Reverse Transfer Capacitance | C_{re} | $V_{CB}=(-)30\text{V, } f=1\text{MHz}$ | | 3.1 | | pF |
| | | | | (4.8) | | pF |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=(-)70\text{mA, } I_B=(-)7\text{mA}$ | | | (-1.0) | V |
| Emitter-to-Base Saturation Voltage | $V_{BE(sat)}$ | $I_C=(-)70\text{mA, } I_B=(-)7\text{mA}$ | | | (-1.0) | V |

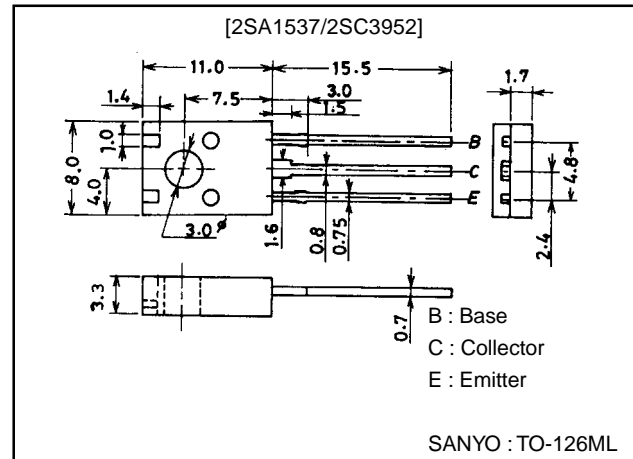
* h_{FE1} : The 2SA1537/2SC3952 are classified by 50mA h_{FE} as follows :

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

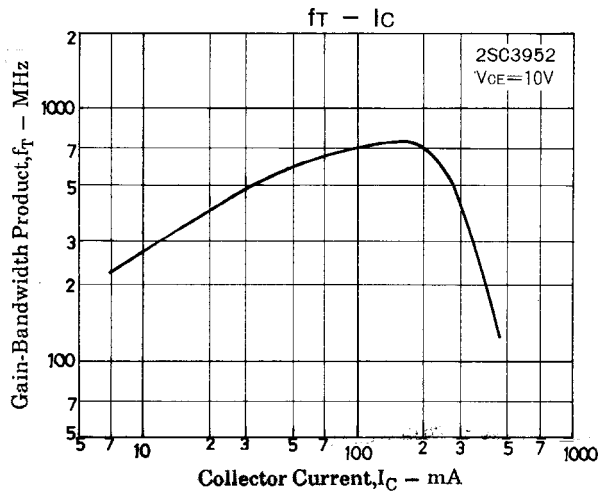
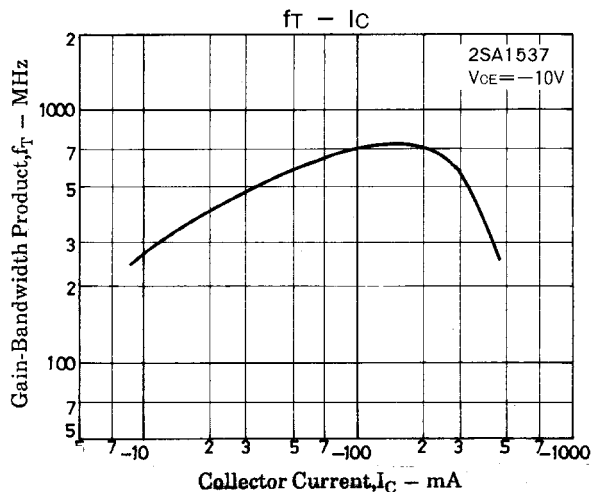
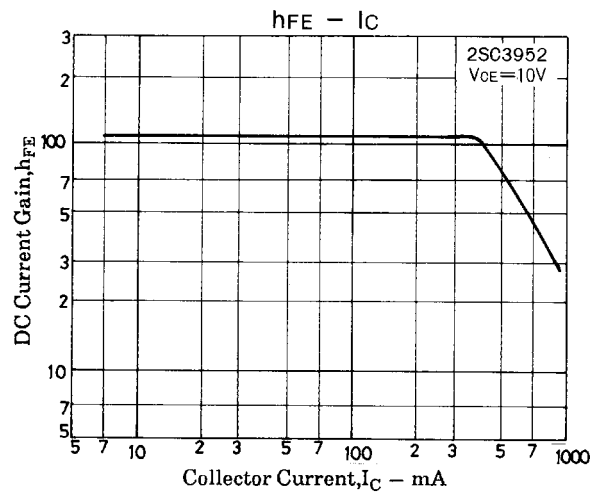
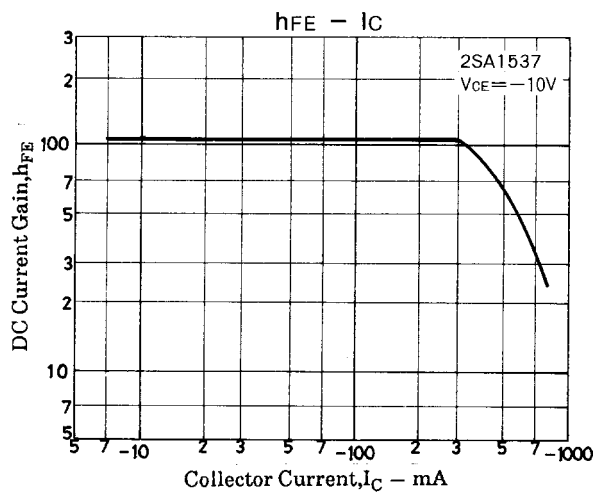
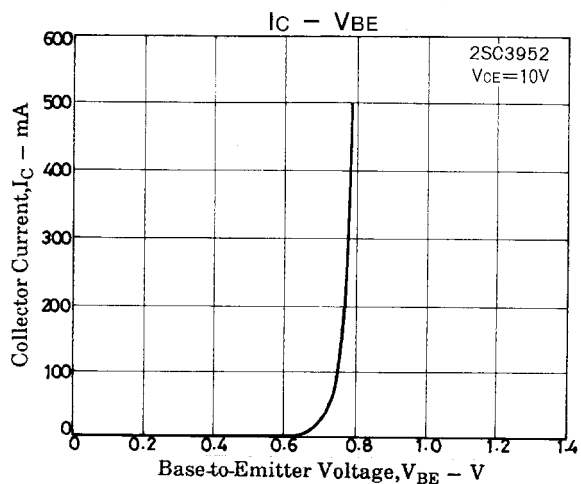
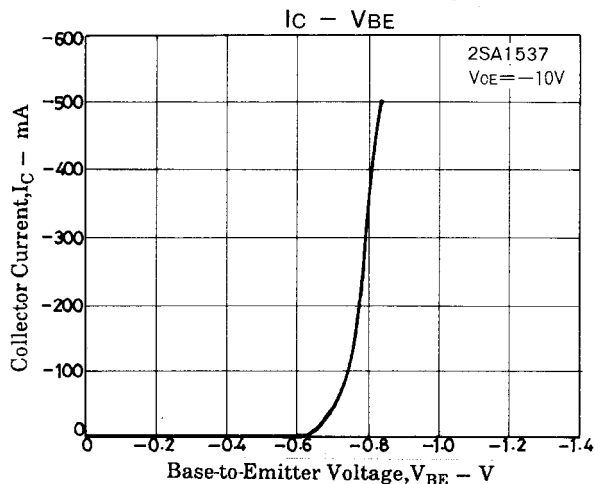
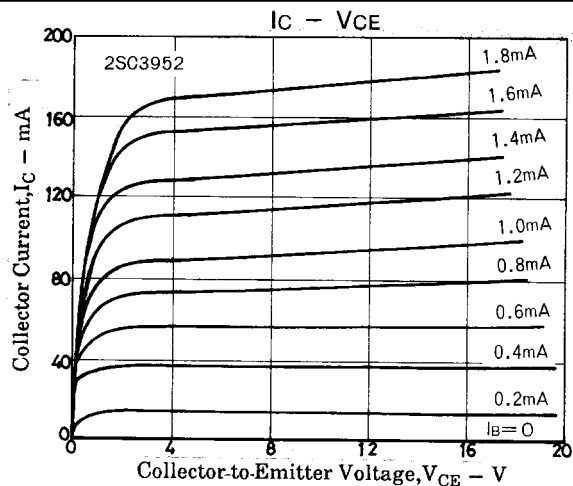
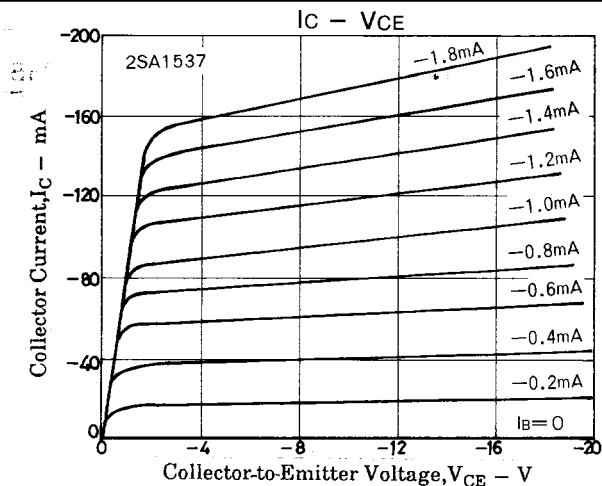
Package Dimensions

unit:mm

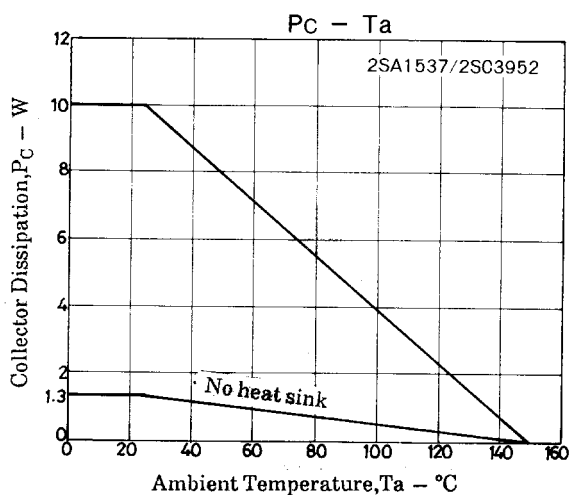
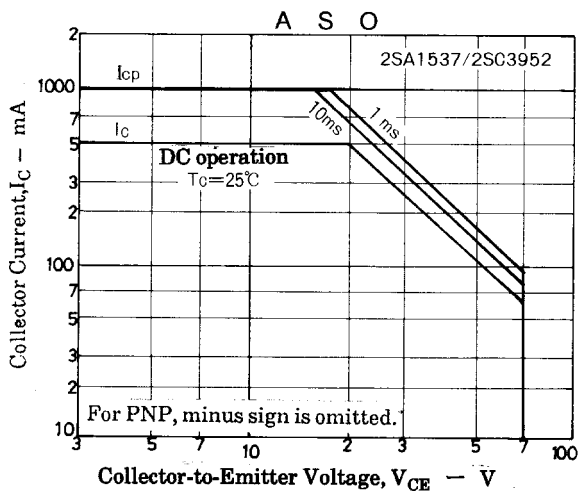
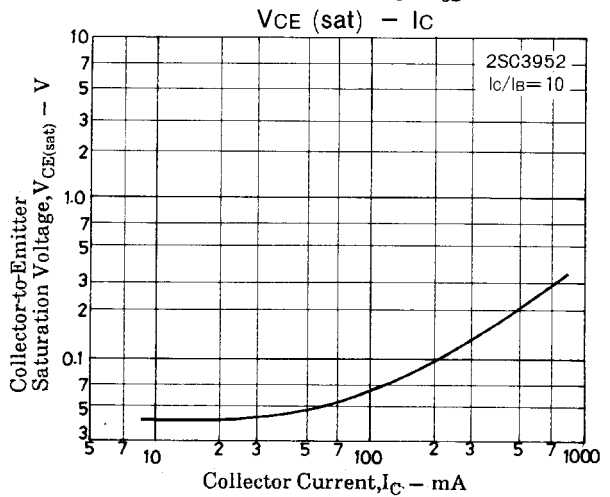
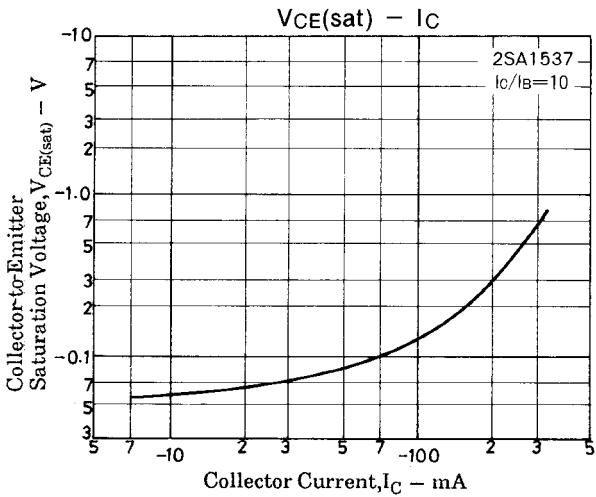
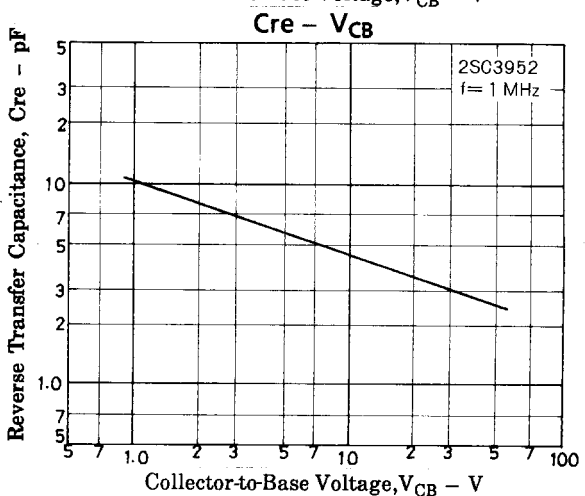
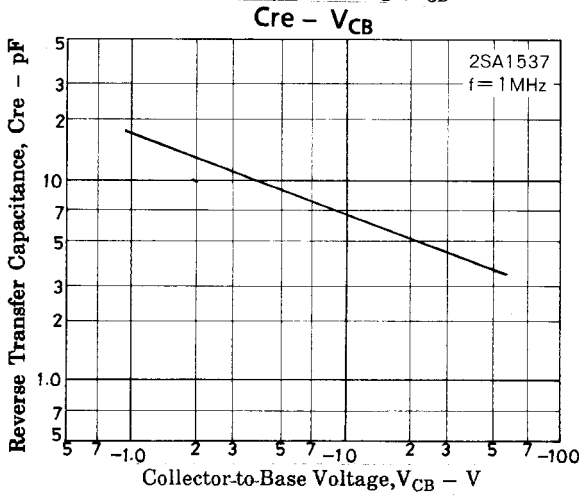
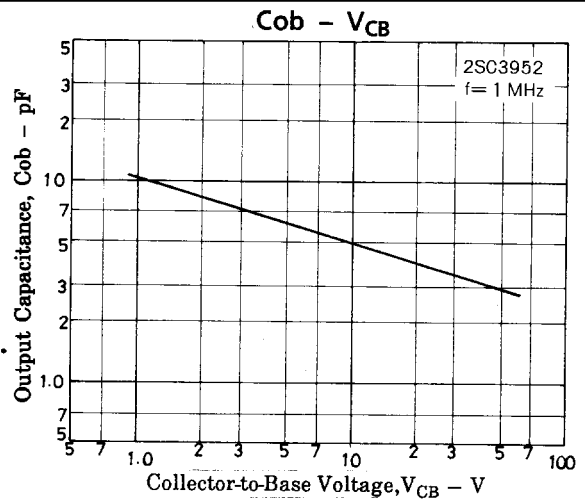
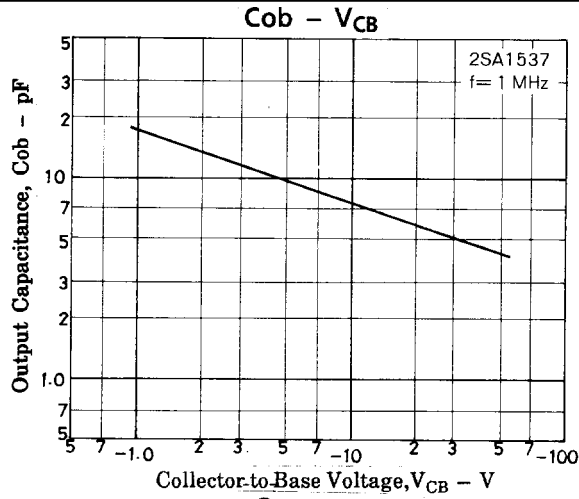
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