



2SA1352/2SC3416

Ultrahigh-Definition CRT Display Video Output Applications

Applications

- Color TV chroma output, high-voltage driver applicatons.

Features

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

() : 2SA1352

Specifications

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

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|-----------|--------------------|-------------|------------|
| Collector-to-Base Voltage | V_{CB0} | | (-)200 | V |
| Collector-to-Emitter Voltage | V_{CE0} | | (-)200 | V |
| Emitter-to-Base Voltage | V_{EB0} | | (-)5 | V |
| Collector Current | I_C | | (-)100 | mA |
| Collector Current (Pulse) | I_{CP} | | (-)200 | mA |
| Collector Dissipation | P_C | | 1.2 | W |
| | | $T_c = 25^\circ C$ | 5 | 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_{CB0} | $V_{CB} = (-)200V, I_E = 0$ | | | (-)0.1 | μA |
| Emitter Cutoff Current | I_{EB0} | $V_{EB} = (-)4V, I_C = 0$ | | | (-)0.1 | μA |
| DC Current Gain | h_{FE} | $V_{CE} = (-)10V, I_C = (-)10mA$ | 40 | | 320 | |
| Gain-Bandwidth Product | f_T | $V_{CE} = (-)30V, I_C = (-)10mA$ | | 70 | | MHz |

* : 2SA1352/2SC3416 are classified by 10mA h_{FE} as follows :

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| Rank | C | D | E | F |
|----------|----------|-----------|------------|------------|
| h_{FE} | 40 to 80 | 60 to 120 | 100 to 200 | 160 to 320 |

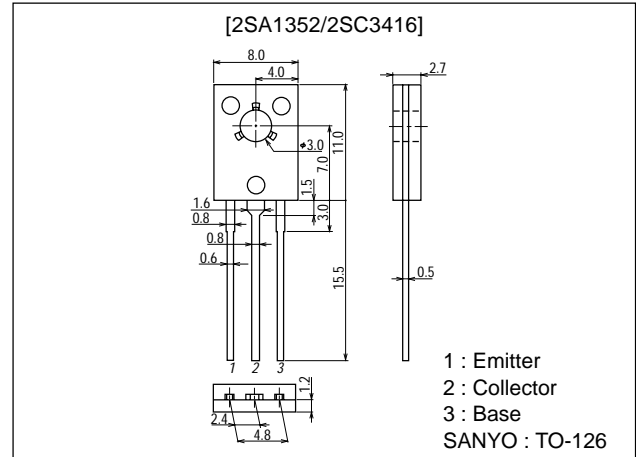
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Package Dimensions

unit:mm

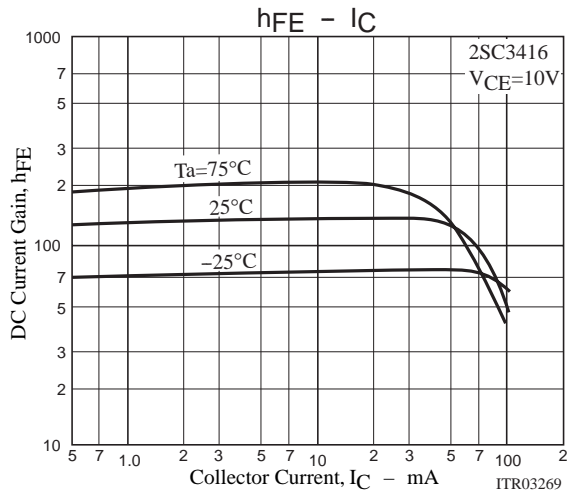
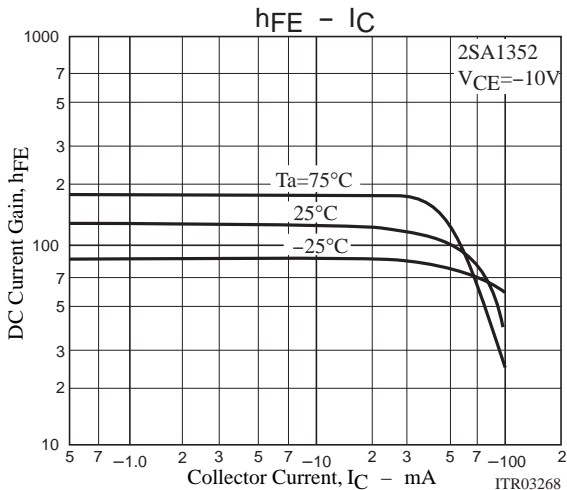
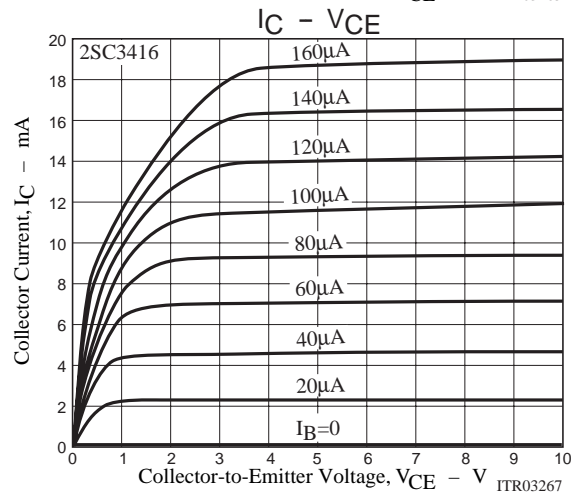
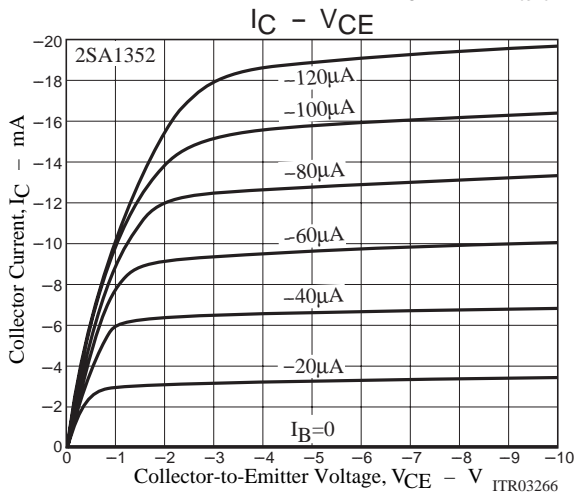
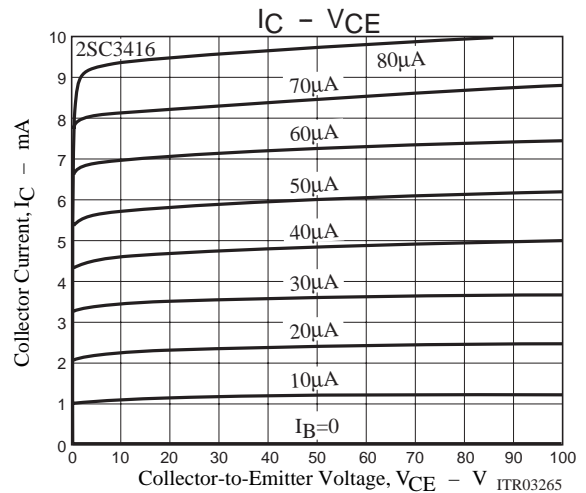
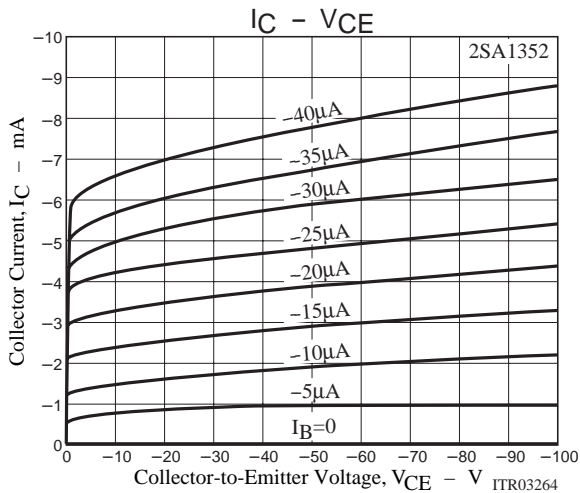
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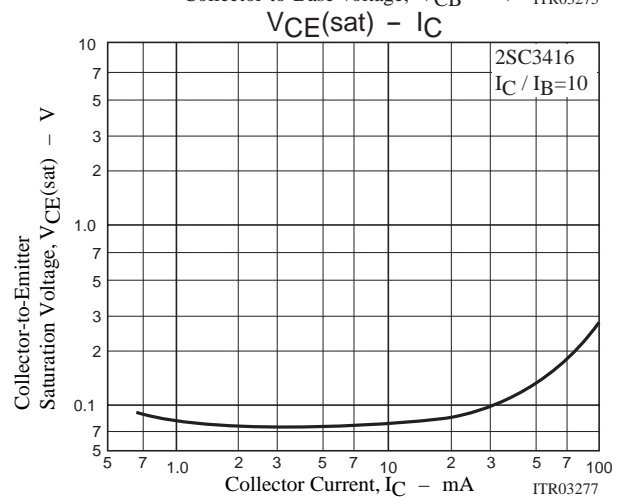
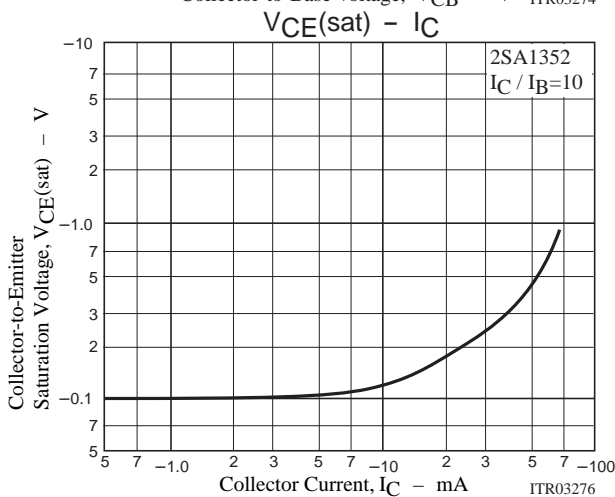
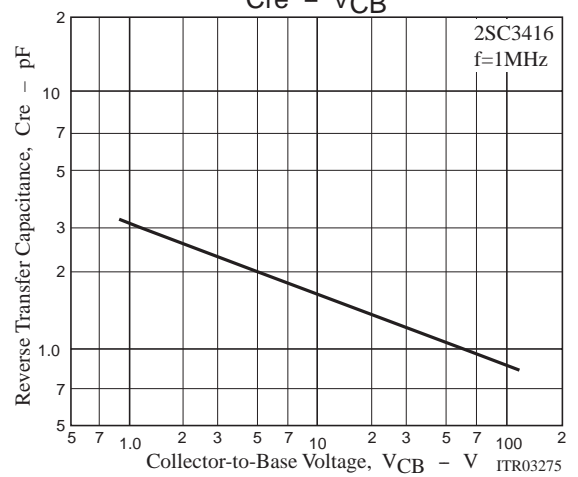
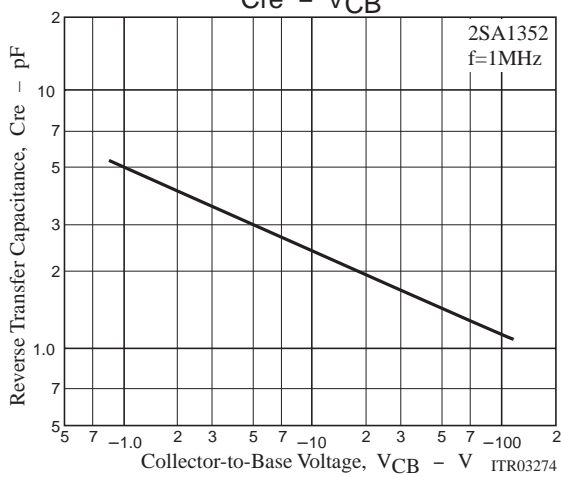
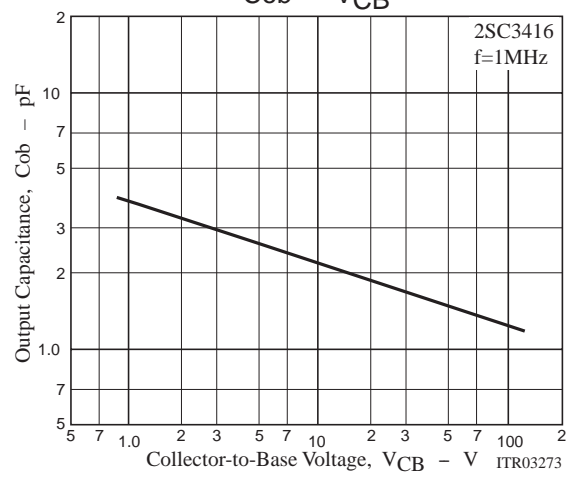
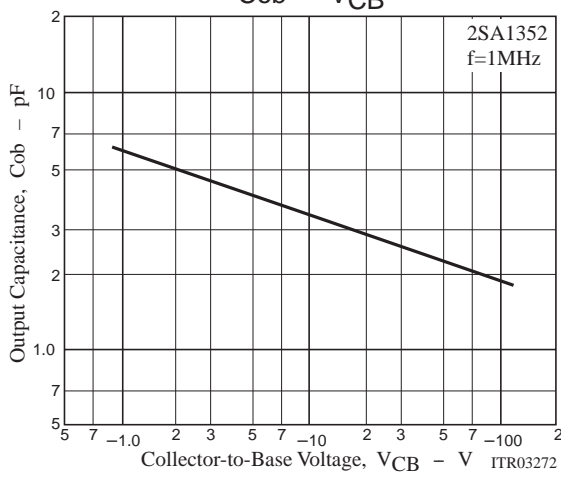
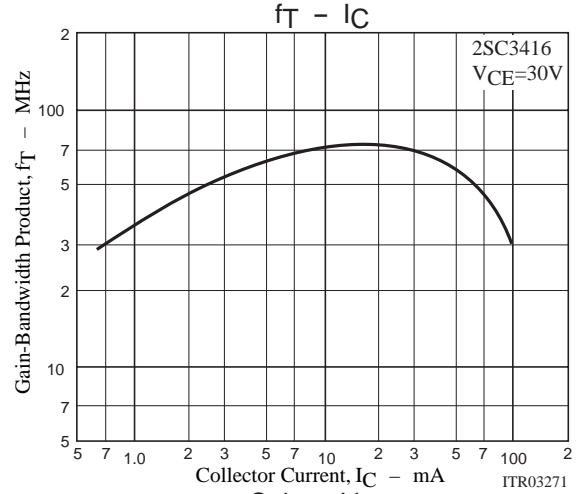
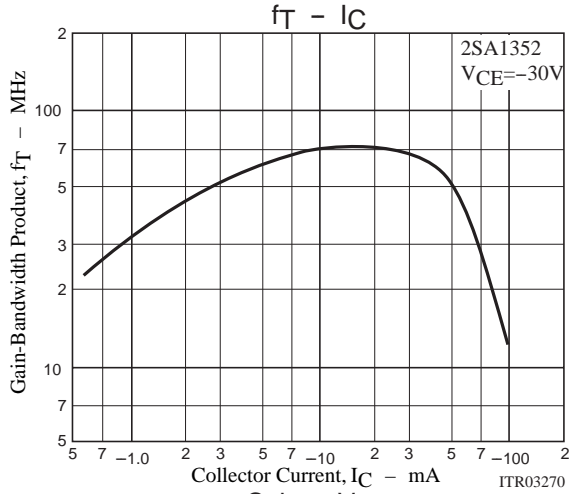
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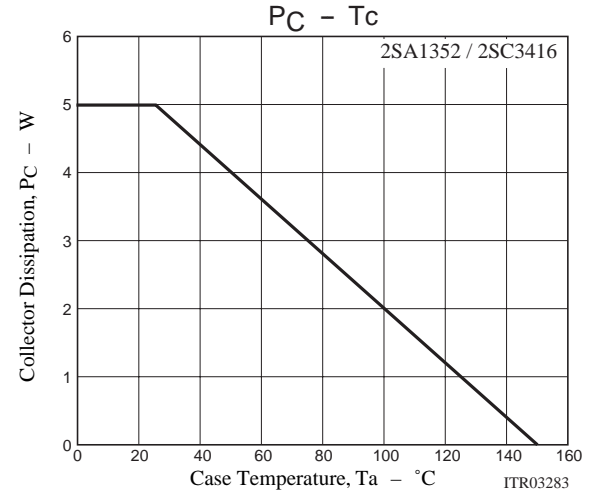
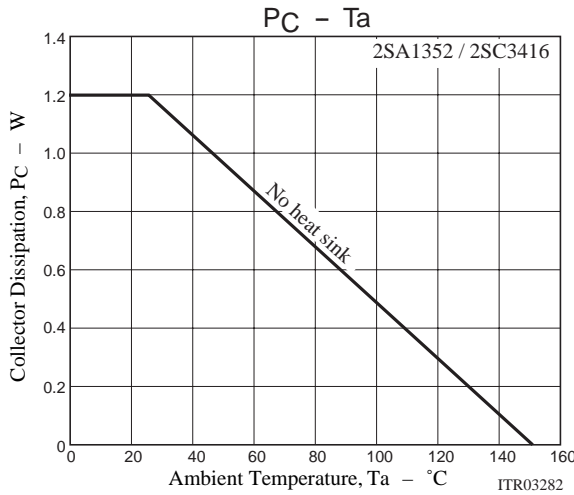
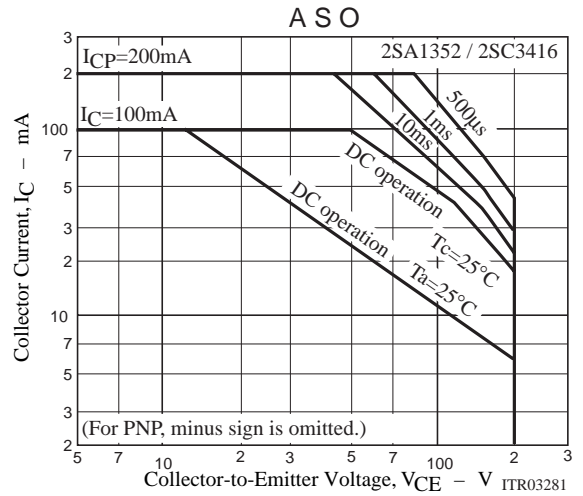
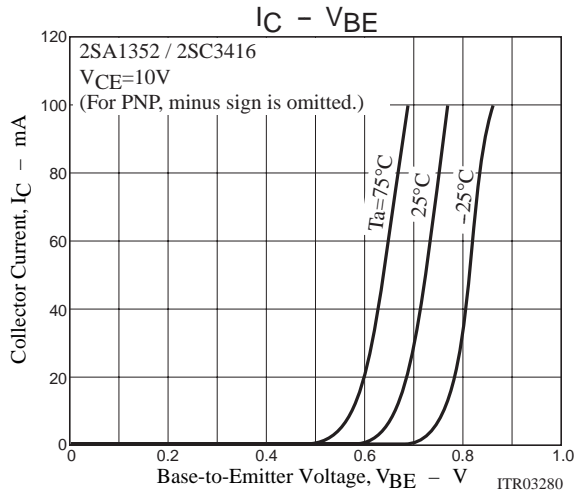
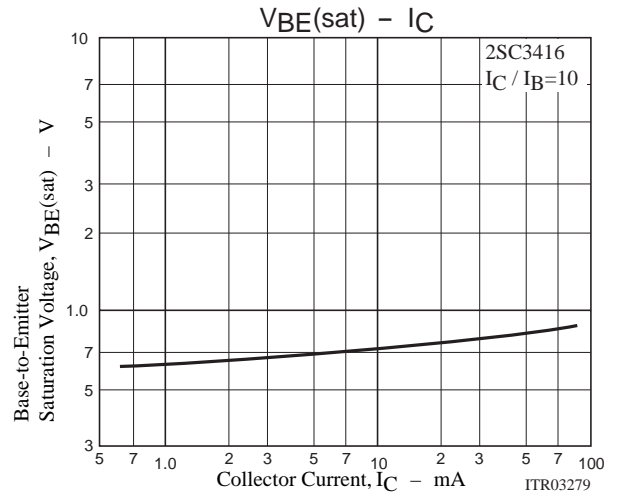
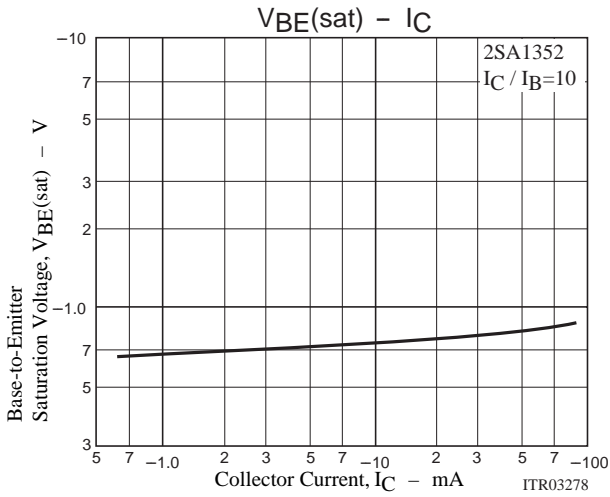
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---------------|------------------------------|---------|-------|--------|------|
| | | | min | typ | max | |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=(-)20mA, I_B=(-)2mA$ | | | (-)0.6 | V |
| Base-to-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C=(-)20mA, I_B=(-)2mA$ | | | (-)1.0 | V |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C=(-)10\mu A, I_E=0$ | (-)300 | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C=(-)1mA, R_{BE}=\infty$ | (-)300 | | | V |
| Emitter-to-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E=(-)10\mu A, I_C=\infty$ | (-)5 | | | V |
| Common Base Output Capacitance | C_{ob} | $V_{CB}=(-)30V, f=1MHz$ | | 2.6 | | pF |
| | | | | (3.1) | | pF |
| Reverse Transfer Capacitance | C_{re} | $V_{CB}=(-)30V, f=1MHz$ | | 1.8 | | pF |
| | | | | (2.3) | | pF |



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