

**2SC4411**

## Ultrahigh-Definition CRT Display Video Output Applications

### Applications

- Wide-band amplifiers.

### Features

- High  $f_T$  ( $f_T=1.2\text{GHz}$  typ).
- High breakdown voltage ( $V_{CBO}=100\text{V}$ ,  $V_{CEO}=80\text{V}$ ).
- Large current ( $I_C=500\text{mA}$ ).
- Small reverse transfer capacitance ( $C_{re}=3.8\text{pF}/V_{CB}=30\text{V}$ ).
- Adoption of FBET process.

### Specifications

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

| Parameter                    | Symbol    | Conditions             | Ratings     | Unit             |
|------------------------------|-----------|------------------------|-------------|------------------|
| Collector-to-Base Voltage    | $V_{CBO}$ |                        | 100         | V                |
| Collector-to-Emitter Voltage | $V_{CEO}$ |                        | 80          | V                |
| Emitter-to-Base Voltage      | $V_{EBO}$ |                        | 3           | V                |
| Collector Current            | $I_C$     |                        | 500         | mA               |
| Collector Current (Pulse)    | $I_{CP}$  |                        | 1.0         | A                |
| Collector Dissipation        | $P_C$     |                        | 1.75        | W                |
|                              |           | $T_c=25^\circ\text{C}$ | 15          | 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     | $I_{CBO}$ | $V_{CB}=80\text{V}$ , $I_E=0$            |         |     | 0.1 | $\mu\text{A}$ |
| Emitter Cutoff Current       | $I_{EBO}$ | $V_{EB}=2\text{V}$ , $I_C=0$             |         |     | 5.0 | $\mu\text{A}$ |
| DC Current Gain              | $h_{FE1}$ | $V_{CE}=10\text{V}$ , $I_C=50\text{mA}$  | 30      |     | 200 |               |
|                              | $h_{FE2}$ | $V_{CE}=10\text{V}$ , $I_C=500\text{mA}$ | 20      |     |     |               |
| Gain-Bandwidth Product       | $f_T$     | $V_{CE}=10\text{V}$ , $I_C=100\text{mA}$ |         | 1.2 |     | GHz           |
| Output Capacitance           | $C_{ob}$  | $V_{CB}=30\text{V}$ , $f=1\text{MHz}$    |         | 4.4 |     | pF            |
| Reverse Transfer Capacitance | $C_{re}$  | $V_{CB}=30\text{V}$ , $f=1\text{MHz}$    |         | 3.8 |     | pF            |

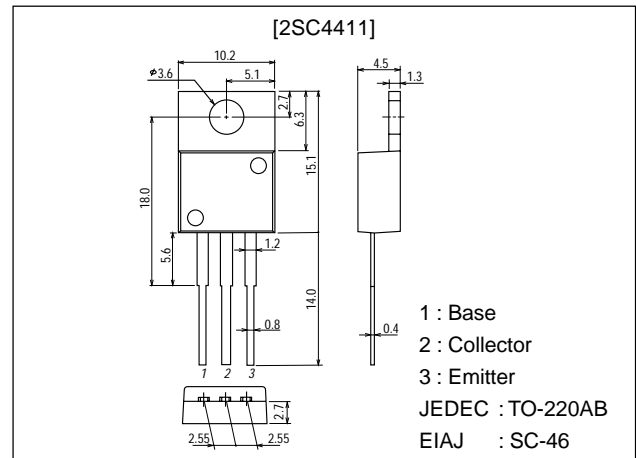
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### Package Dimensions

unit:mm

2010C



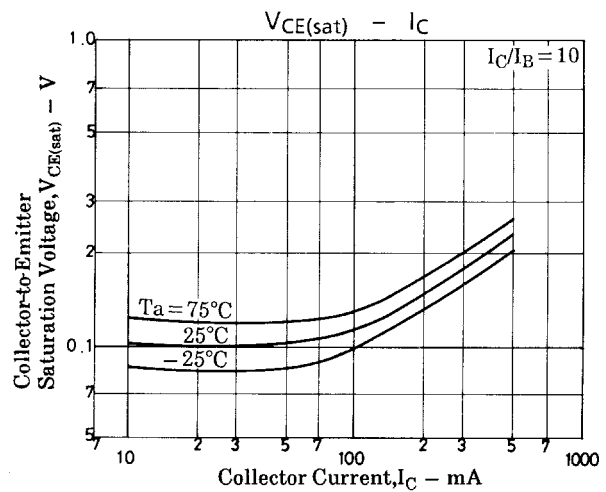
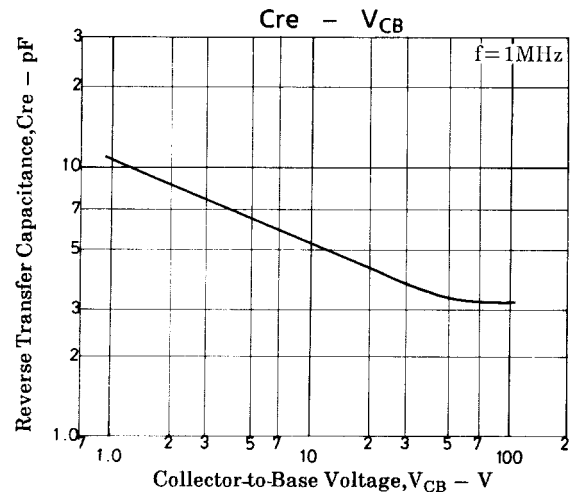
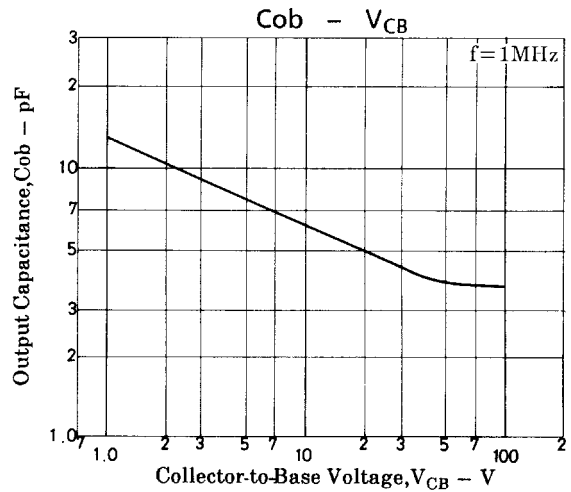
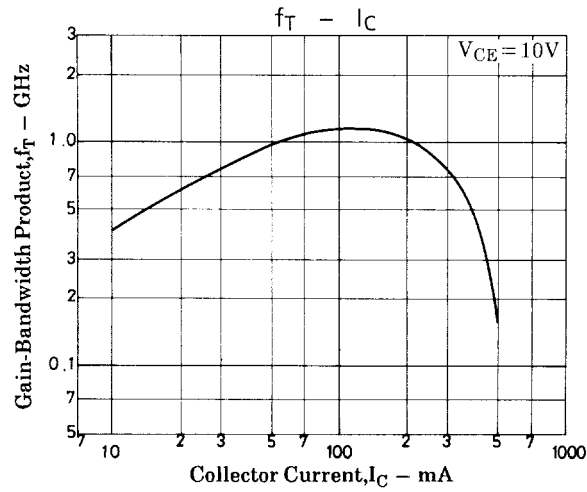
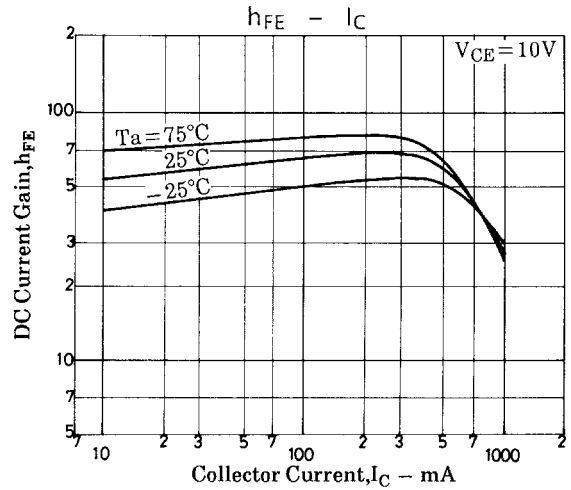
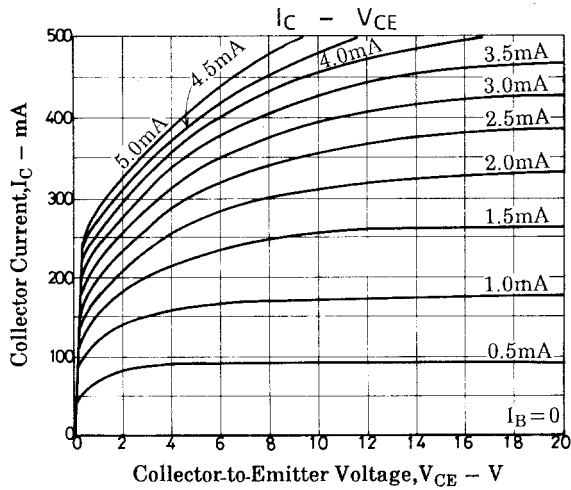
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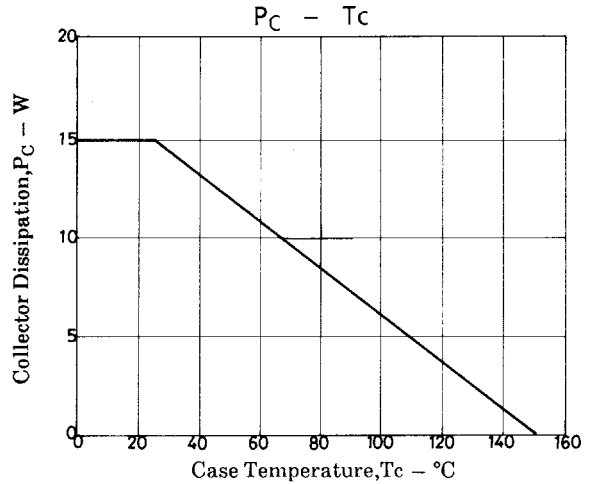
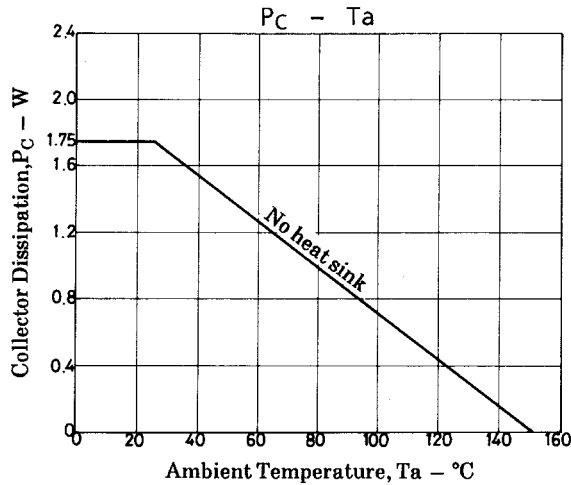
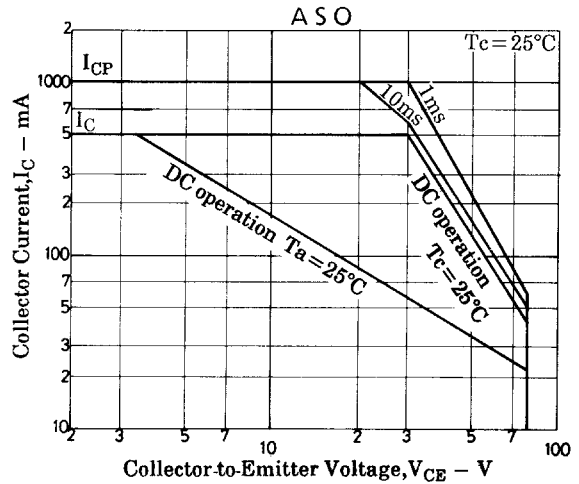
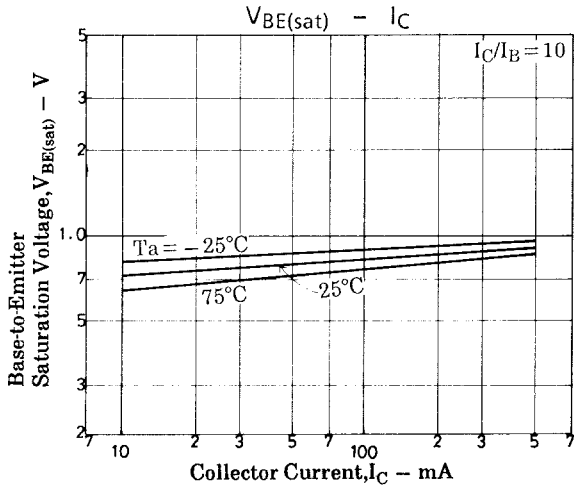
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D1598HA (KT)/4169TH (KOTO) 8-5527 No.3790-1/3

# 2SC4411

| Parameter                               | Symbol        | Conditions               | Ratings |     |     | Unit |
|---|---------------|--------------------------|---------|-----|-----|------|
|   |               |                          | min     | typ | max |      |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=300mA, I_B=30mA$    |         |     | 0.6 | V    |
| Base-to-Emitter Saturation Voltage      | $V_{BE(sat)}$ | $I_C=300mA, I_B=30mA$    |         |     | 1.2 | V    |
| Collector-to-Base Breakdown Voltage     | $V_{(BR)CBO}$ | $I_C=10\mu A, I_E=0$     | 100     |     |     | V    |
| Collector-to-Emitter Breakdown Voltage  | $V_{(BR)CEO}$ | $I_C=1mA, R_{BE}=\infty$ | 80      |     |     | V    |
| Emitter-to-Base Breakdown Voltage       | $V_{(BR)EBO}$ | $I_E=100\mu A, I_C=0$    | 3       |     |     | V    |





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