

**2SC4188**

## Ultrahigh-Definition CRT Display Video Output Applications

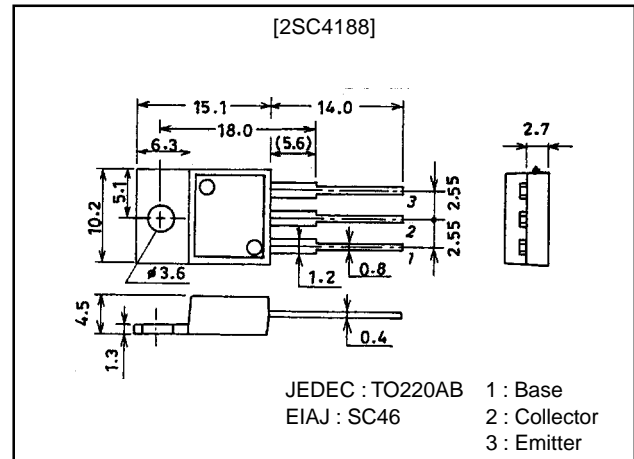
### Features

- High breakdown voltage :  $V_{CEO} \geq 200V$ .
- Small reverse transfer capacitance and excellent high frequency characteristic :  $C_{re} = 1.3pF$  typ.
- Adoption of FBET process.

### Package Dimensions

unit:mm

2010C



### 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 | $V_{CEO}$ |                    | 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        | $P_C$     |                    | 1.5         | W          |
|                              |           | $T_c = 25^\circ C$ | 10          | W          |
| Junction Temperature         | $T_j$     |                    | 150         | $^\circ C$ |
| Storage temperature          | $T_{stg}$ |                    | -55 to +150 | $^\circ C$ |

The 2SC4188 is classified by 10mA  $h_{FE}$  as follows :

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

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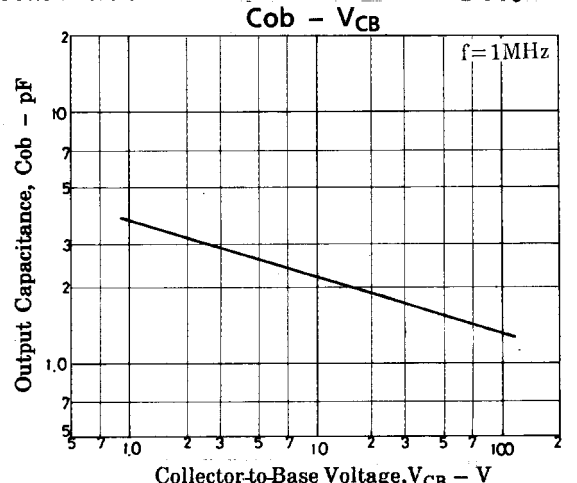
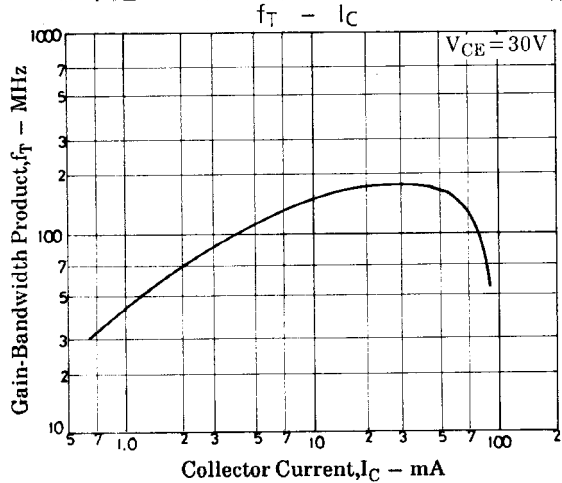
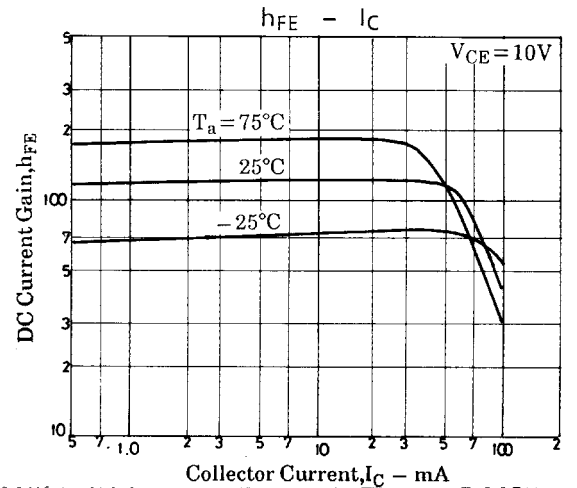
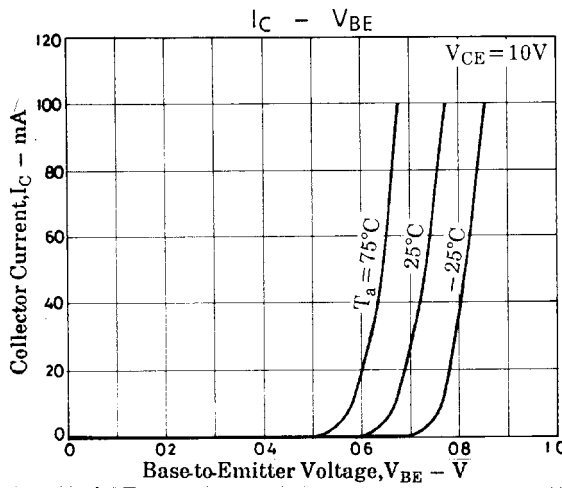
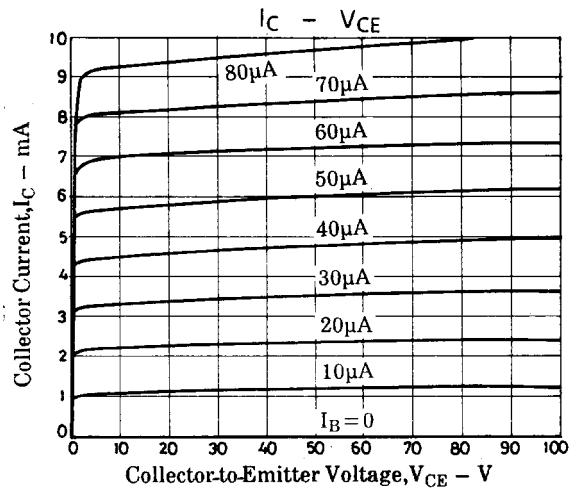
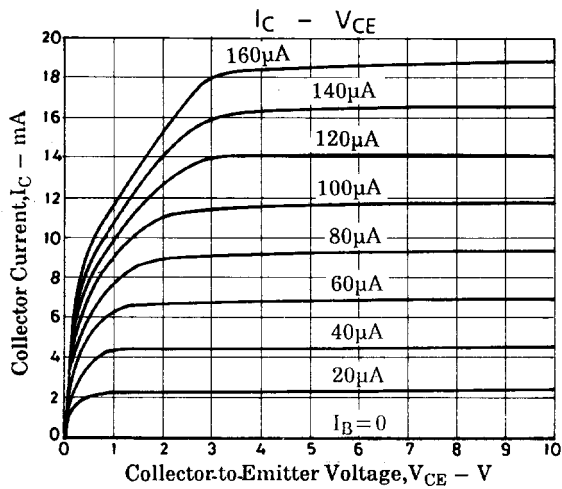
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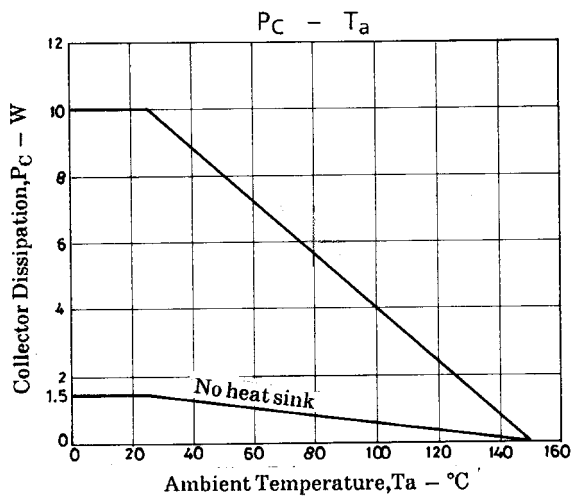
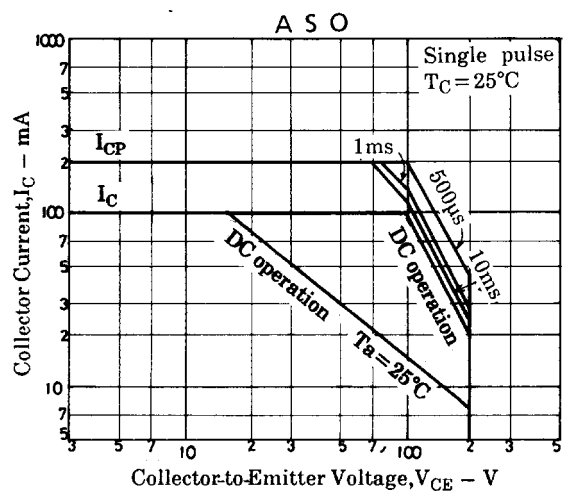
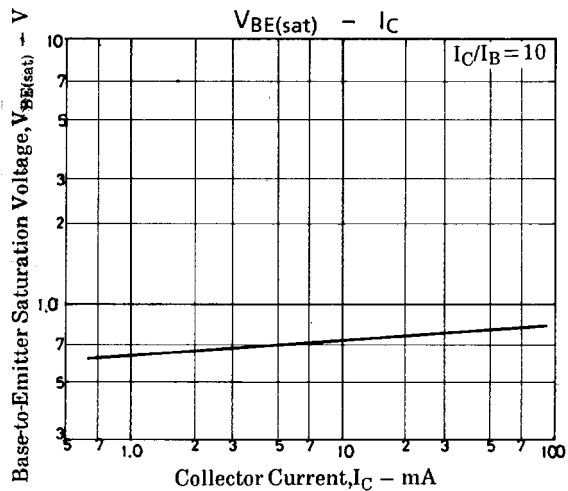
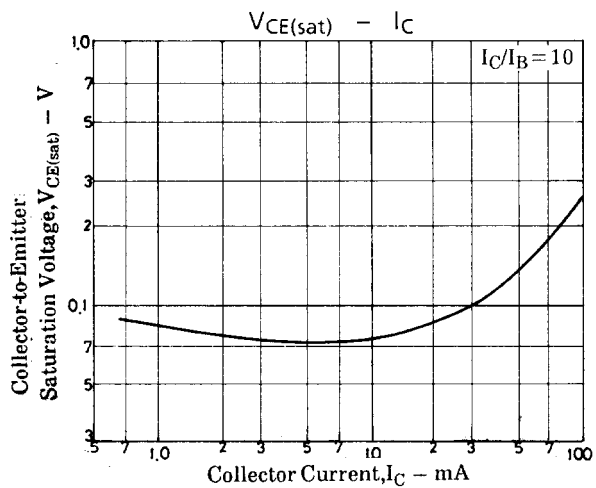
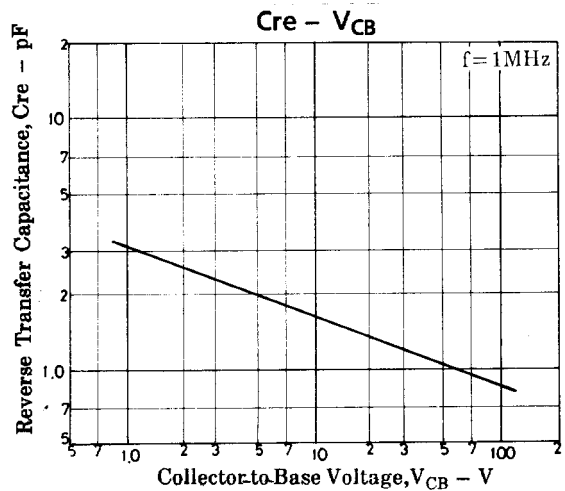
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

Electrical Characteristics at Ta = 25°C

| Parameter                               | Symbol        | Conditions               | Ratings |     |      | Unit    |
|---|---------------|--------------------------|---------|-----|------|---------|
|   |               |                          | min     | typ | max  |         |
| Collector Cutoff Current                | $I_{CBO}$     | $V_{CB}=150V, I_E=0$     |         |     | 0.1  | $\mu A$ |
| Emitter Cutoff Current                  | $I_{EBO}$     | $V_{EB}=4V, I_C=0$       |         |     | 0.1  | $\mu A$ |
| DC Current Gain                         | $h_{FE}$      | $V_{CE}=10V, I_C=10mA$   | 40*     |     | 320* |         |
| Gain-Bandwidth Product                  | $f_T$         | $V_{CE}=30V, I_C=10mA$   |         | 150 |      | MHz     |
| Output Capacitance                      | $C_{ob}$      | $V_{CB}=30V, f=1MHz$     |         | 1.8 |      | pF      |
| Reverse Transfer Capacitance            | $C_{re}$      | $V_{CB}=30V, f=1MHz$     |         | 1.3 |      | 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       |
| 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       |



# 2SC4188



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